



Greenhouse Gas Analysis Report City of Barstow 2020 General Plan Update

Prepared for:
City of Barstow
Planning Department
220 East Mountain View Street, Suite A
Barstow, CA, 92311
760.255.5152

Contact: Gaither Loewenstein
Economic Development and Planning Manager

Prepared by:
FirstCarbon Solutions
621 E. Carnegie Drive
San Bernardino, CA 92408
909.884.2255

Contact: Dave Mitchell, Air Quality Services Manager

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Table of Contents

Section 1: Executive Summary	1
1.1 - Purpose and Analysis Approach	1
1.2 - Project Summary	1
1.3 - Summary of Analysis Results	2
1.4 - Mitigation Measures Applied to the Project	2
1.4.1 - Communication, Cooperation, and Regional Coordination	28
1.4.2 - Education and Community Outreach	28
1.4.3 - Congestion Management and Transportation Control Measures	29
1.4.4 - Public Facilities and Operations	30
1.4.5 - Environmental Assessment	31
1.4.6 - Energy Efficiency and Conservation	31
1.4.7 - Integrated Land Use and Transportation	32
1.4.8 - Onsite Combustion Sources	33
Section 2: Project Description	37
2.1.1 - Project Location and Setting	37
2.1.2 - Project Characteristics	37
Section 3: Environmental and Regulatory Setting	43
3.1 - Environmental Setting	43
3.1.1 - Greenhouse Gases	45
3.1.2 - Emissions Inventories	48
3.2 - Regulatory Setting	49
3.2.1 - International	49
3.2.2 - National	50
3.2.3 - California	53
3.2.4 - Southern California Association of Governments	60
3.2.5 - Mojave Desert Air Quality Management District	61
Section 4: Modeling Parameters and Assumptions	62
4.1 - Modeling Guidance	62
4.2 - Greenhouse Gas Emissions	62
4.2.1 - Construction	62
4.2.2 - Operation	63
Section 5: Greenhouse Gas Impact Analysis	69
5.1 - CEQA Guidelines	69
5.2 - Impact Analysis	69
Greenhouse Gas Inventory	70
Greenhouse Gas Reduction Plans	75
Section 6: Acronyms and Abbreviations	79
Section 7: References	81

Appendix A: CalEEMod Modeling Output

List of Tables

Table 1: Mitigation Measures Overview.....27

Table 2: Projected Development Area – Existing Conditions38

Table 3: Projected Development Areas Land Uses40

Table 4: Description of Greenhouse Gases46

Table 5: Land Use and Trip Generation Rates for Modeling Input64

Table 6: Energy Intensity Factors.....67

Table 7: Project Operational Greenhouse Gases.....71

Table 8: City of Barstow 2020 Business as Usual and Regulated Greenhouse Gas Emissions73

Table 9: RTP/SCS Consistency Analysis.....75

List of Figures

Figure 1: Historical Temperature Changes43

Figure 2: Carbon Dioxide Concentrations 1960 to 201345

Figure 3: Greenhouse Gas Emissions Trends48

Figure 4: Greenhouse Gas Emission Trends by Sector in California49

List of Exhibits

Exhibit 1: Regional Location Map.....3

Exhibit 2: Local Vicinity Map – Aerial Base5

Exhibit 3: General Plan Land Use Designations.....7

Exhibit 4: Projected Development Areas9

Exhibit 5: Project Development Area 111

Exhibit 6: Project Development Areas 2 and 1213

Exhibit 7: Project Development Areas 3 and 4.....15

Exhibit 8: Project Development Area 517

Exhibit 9: Project Development Area 619

Exhibit 10: Project Development Area 721

Exhibit 11: Project Development Area 823

Exhibit 12: Project Development Areas 9, 10 and 11.....25

SECTION 1: EXECUTIVE SUMMARY

1.1 - Purpose and Analysis Approach

The following greenhouse gas analysis was prepared to evaluate the impacts of implementing the 2020 General Plan Update.

No specific physical development is proposed in conjunction with the 2020 General Plan Update. However, future development would occur as a result of the adoption of the 2020 General Plan Update; therefore, this document contains an analysis of environmental impacts attributable to or which could result from the proposed project, including subsequent projects that are developed consistent with the 2020 General Plan Update. The analysis is intended to provide sufficient detail regarding potential air quality and greenhouse gas impacts of development anticipated through the 2020 milestone year, and identify mitigation measures to reduce impacts. In addition, this analysis is structured to allow tiering for subsequent projects that are consistent with the 2020 General Plan Update and Master Environmental Impact Report (MEIR).

The methodology follows Mojave Desert Air Quality Management District (MDAQMD) recommendations for quantification of emissions and evaluation of potential impacts to air resources. The MDAQMD prepared its California Environmental Quality Act and Federal Conformity Guidelines in 2011 (MDAQMD 2011).

The growth projected between the base year (2010) and the milestone year (2020) is the basis of the analysis. The emissions generated from development anticipated to occur during this period is compared to thresholds of significant impact.

1.2 - Project Summary

The City of Barstow is located in western San Bernardino County (Exhibit 1). The City of Barstow General Plan Update (project) consists of an update to the City's General Plan, including the General Plan goals, policies, objectives, and scheduled programs for the preservation, improvement, and development of housing. The City, in adopting its General Plan, must consider economic, environmental, and fiscal factors, as well as community goals as set forth in the General Plan, in compliance with California Government Code Section 65580, et seq. A General Plan is the local government's long-term blueprint for development.

The City of Barstow General Plan Update includes assumptions regarding the amount and location of development anticipated to occur prior to 2020 within the existing City limits. Specifically, development is anticipated to occur within 12 distinct development sites. A series of maps showing the General Plan planning area and the individual growth areas are provided in Exhibits 4 through 12. A detailed project description is provided in Section 2.

1.3 - Summary of Analysis Results

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions that would not result in a significant impact on the environment.

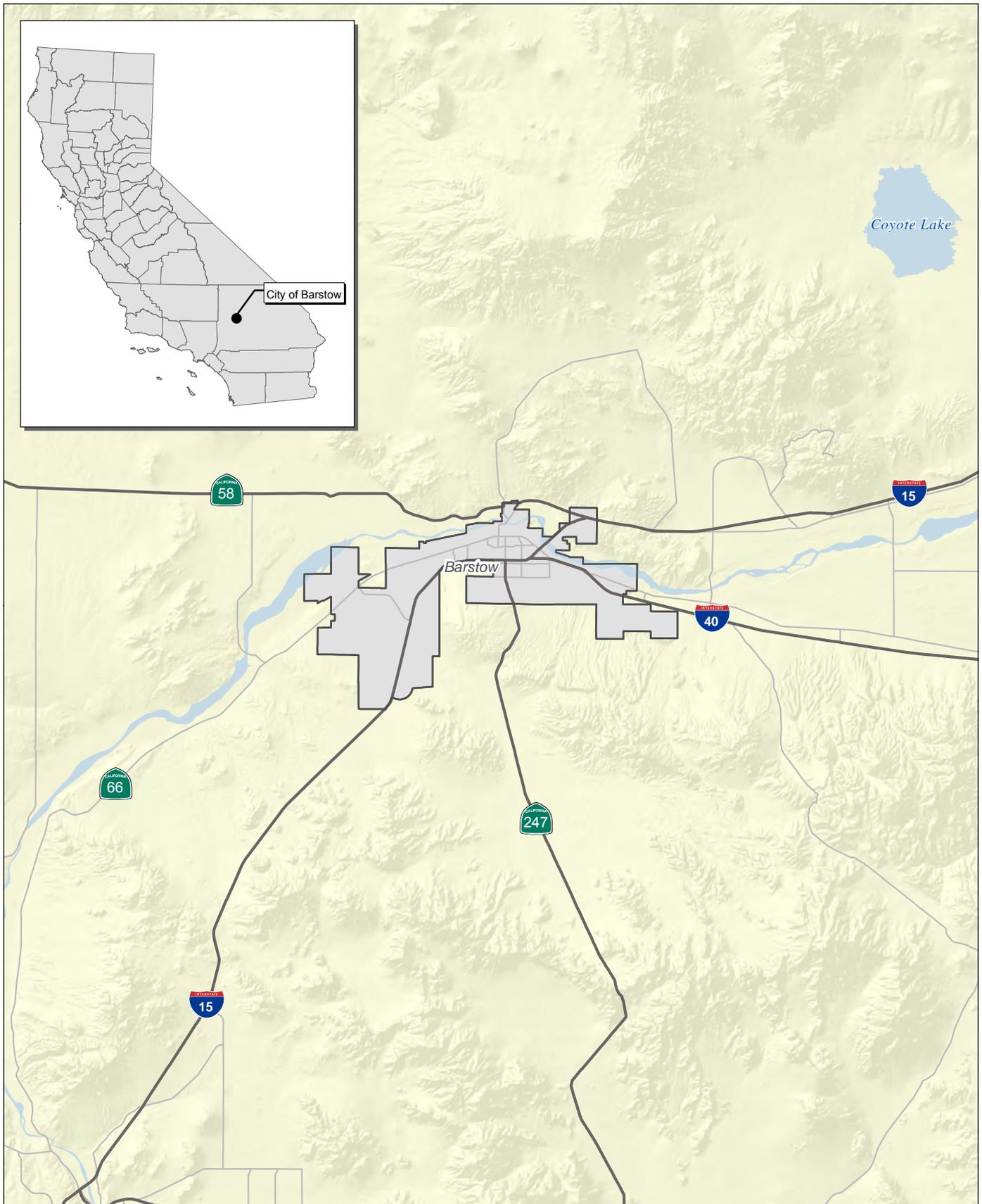
Less than significant impact with mitigation.

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Less than significant impact with mitigation.

1.4 - Mitigation Measures Applied to the Project

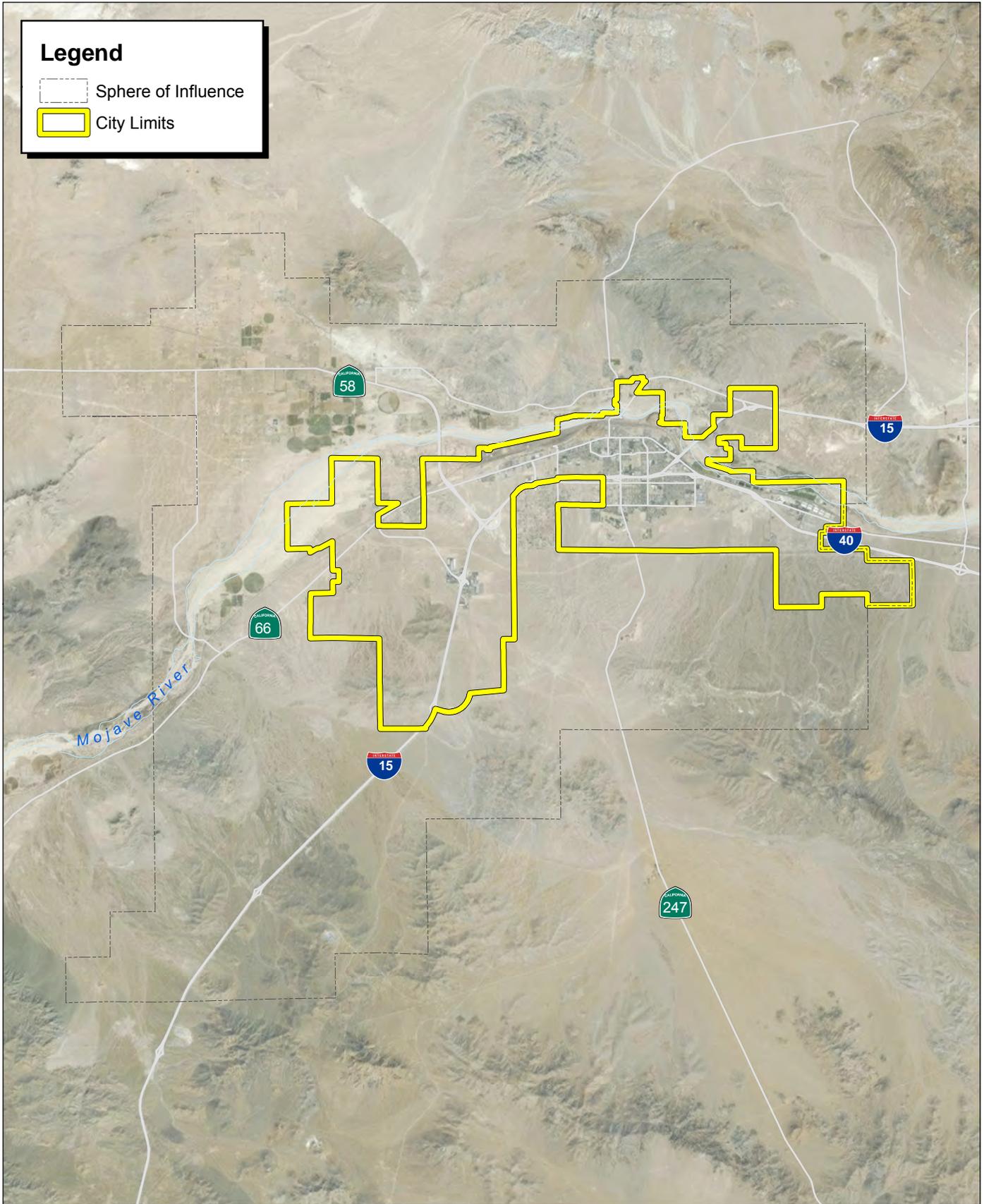
Mitigation is applied to the project in the form of recommended General Plan Greenhouse Gas Element Goals and Policies. Table 1 provides an overview of the mitigation categories. Goal and policy details are provided below. Measures that reduce air pollutant generation, such as measures that reduce vehicle miles traveled, also result in a greenhouse gas emission reduction. Therefore, many of the Goals and Policies provided herein are identical or substantially similar to mitigation recommended in the Air Quality Analysis report for the project.



Source: Census 2000 Data, The CaSIL, ESRI

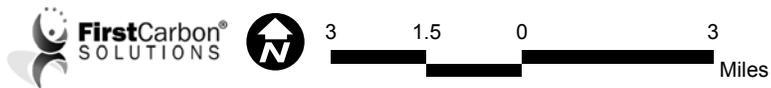


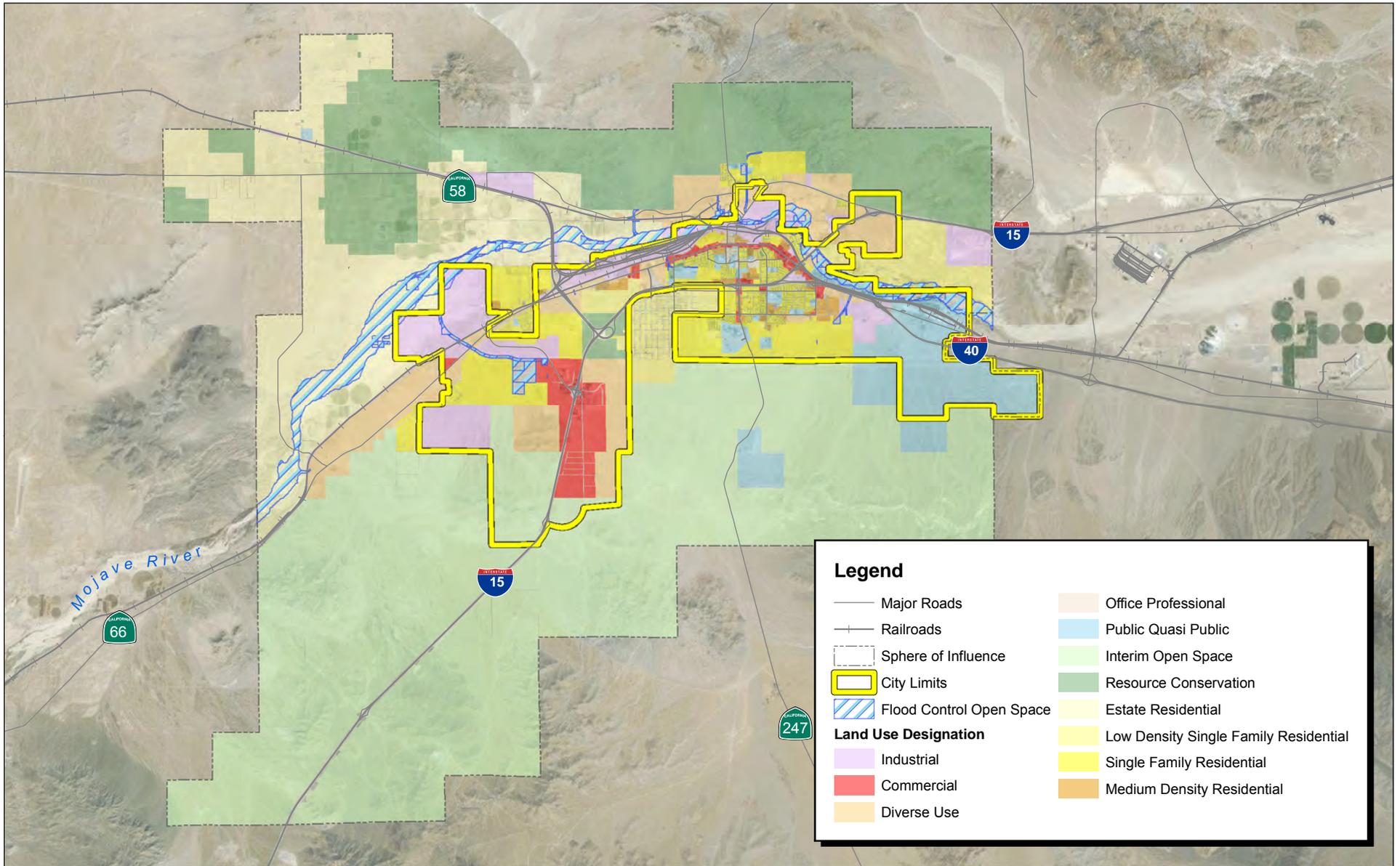
Exhibit 1 Regional Location Map



Source: ESRI Imagery, City of Barstow

Exhibit 2
Local Vicinity Map
Aerial Base

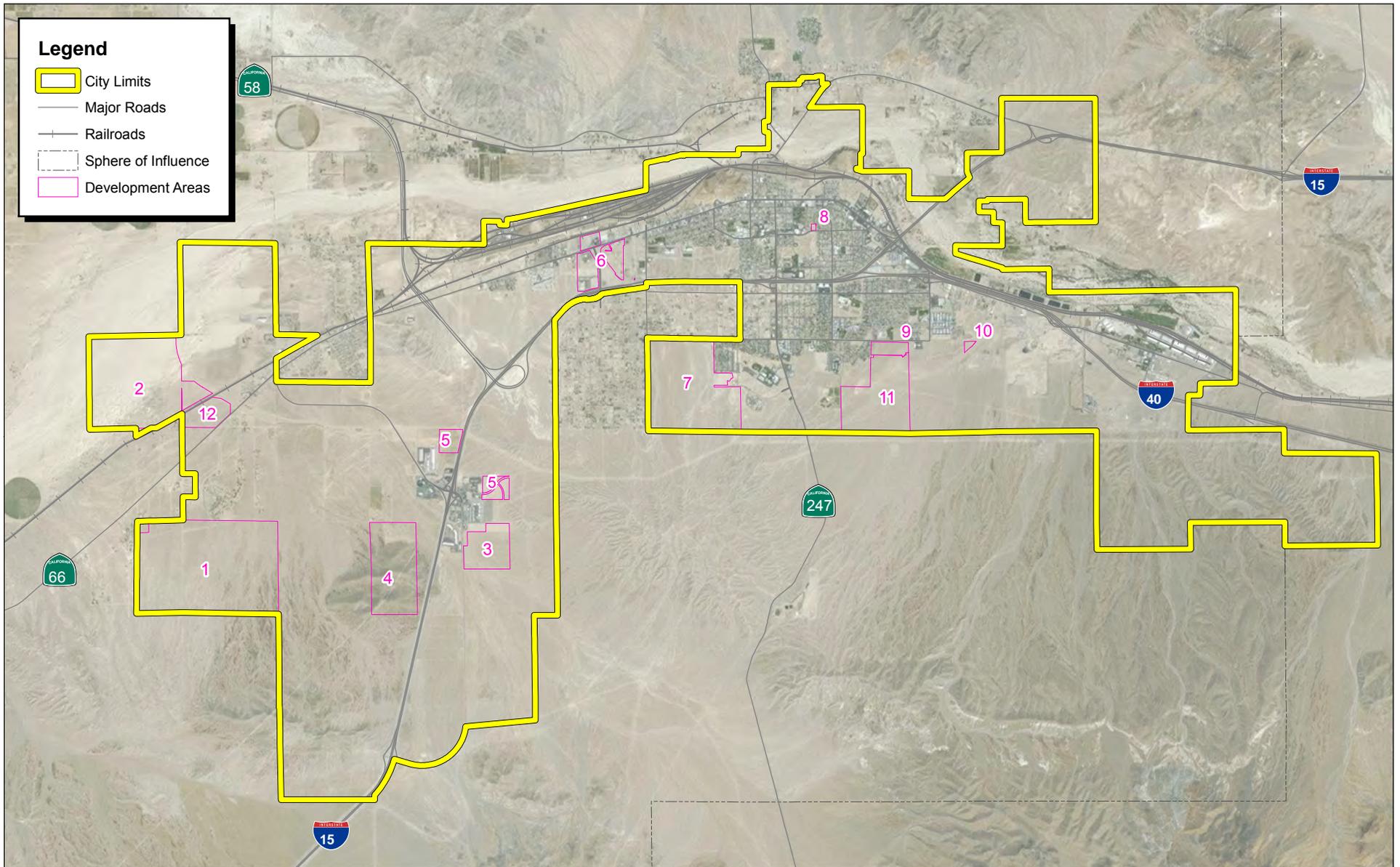




Source: ESRI, City of Barstow



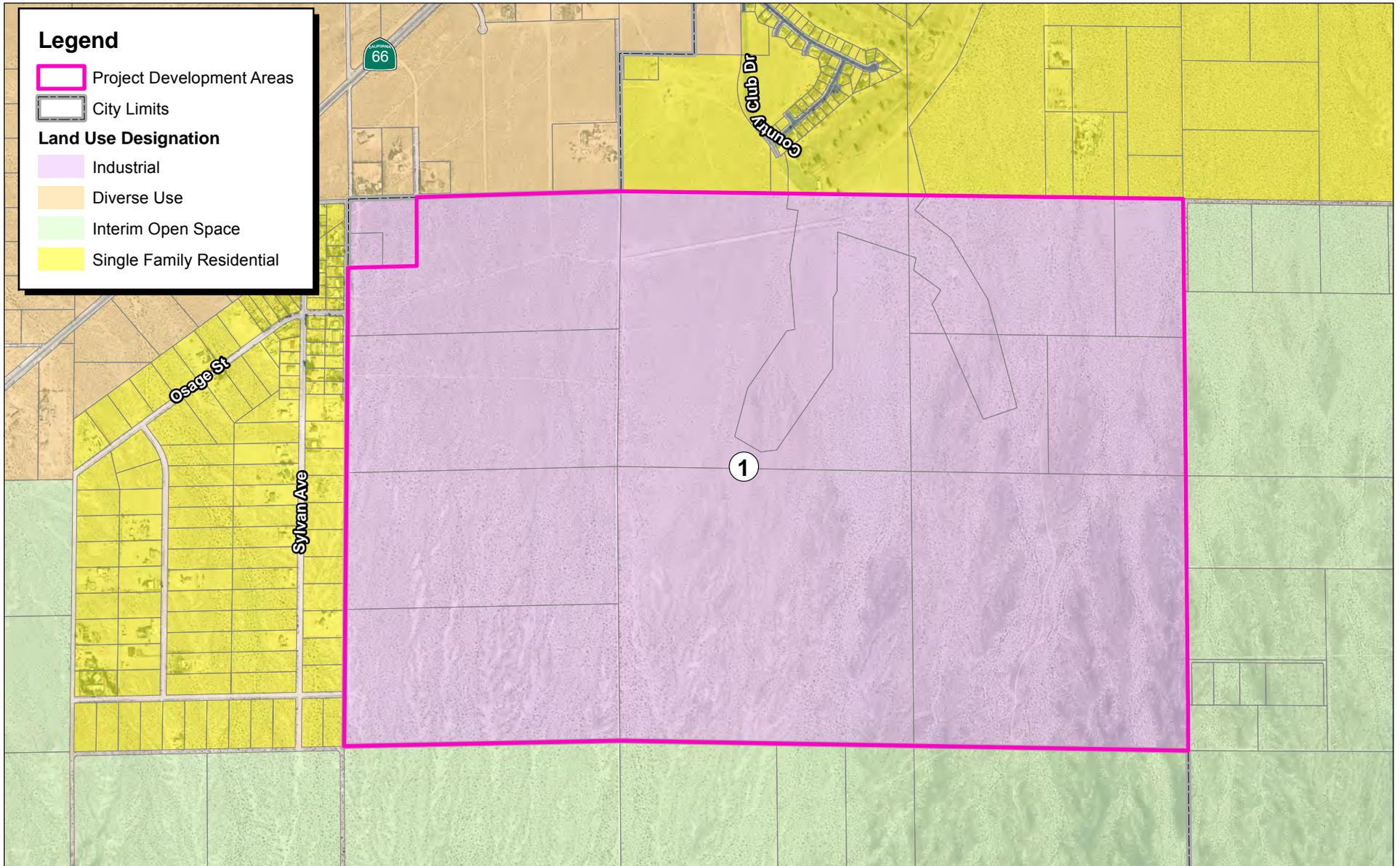
Exhibit 3 General Plan Land Use Designations



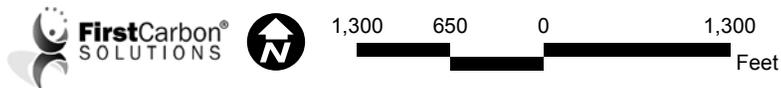
Source: ESRI, City of Barstow

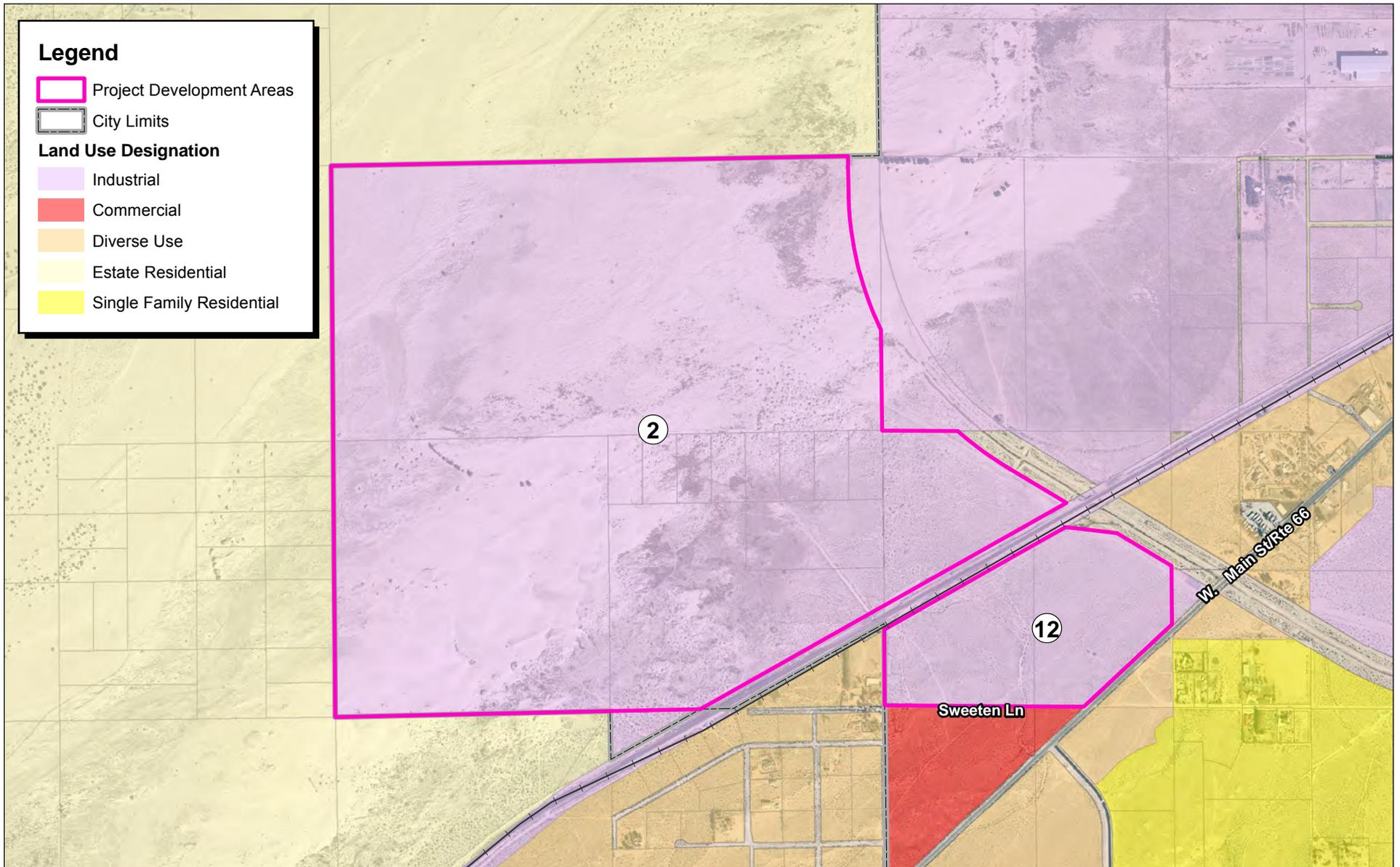


Exhibit 4 Project Development Areas



Source: City of Barstow, San Bernardino County





Source: City of Barstow, San Bernardino County

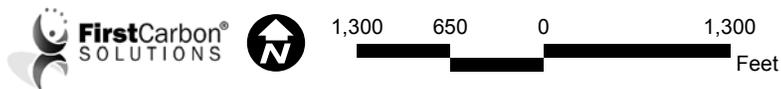
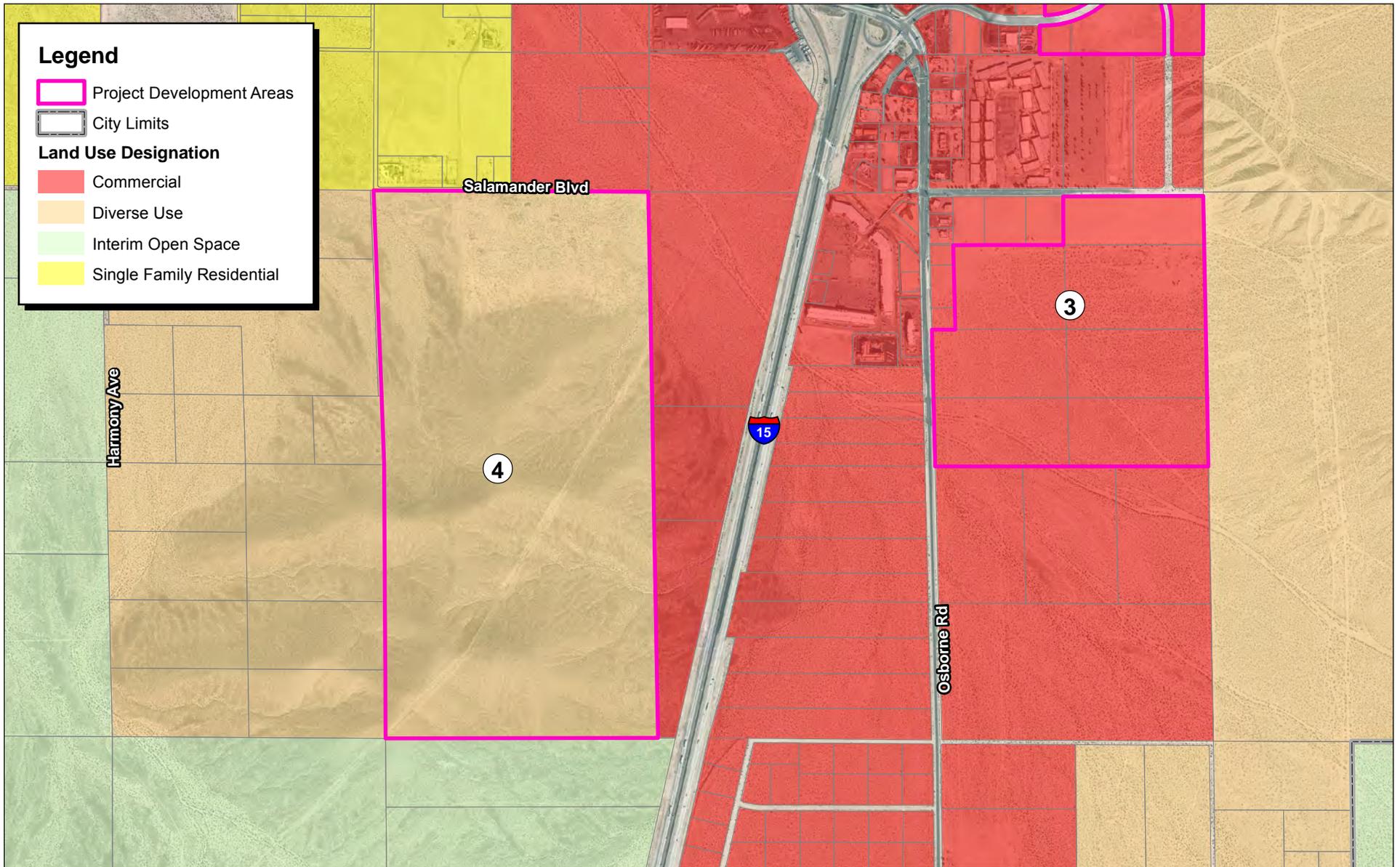


Exhibit 6 Project Development Areas 2 and 12



Source: City of Barstow, San Bernardino County

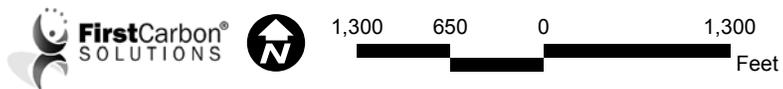
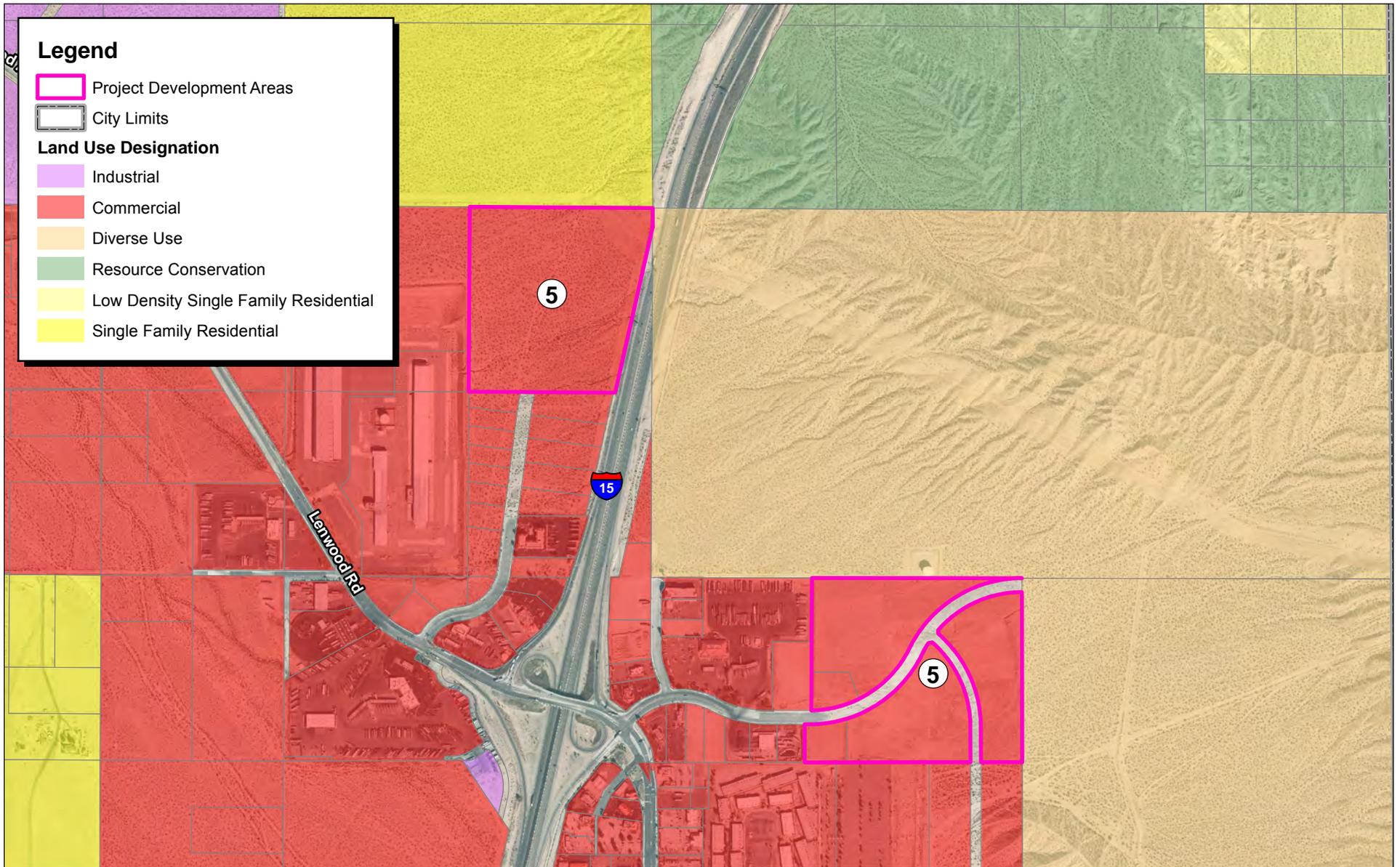
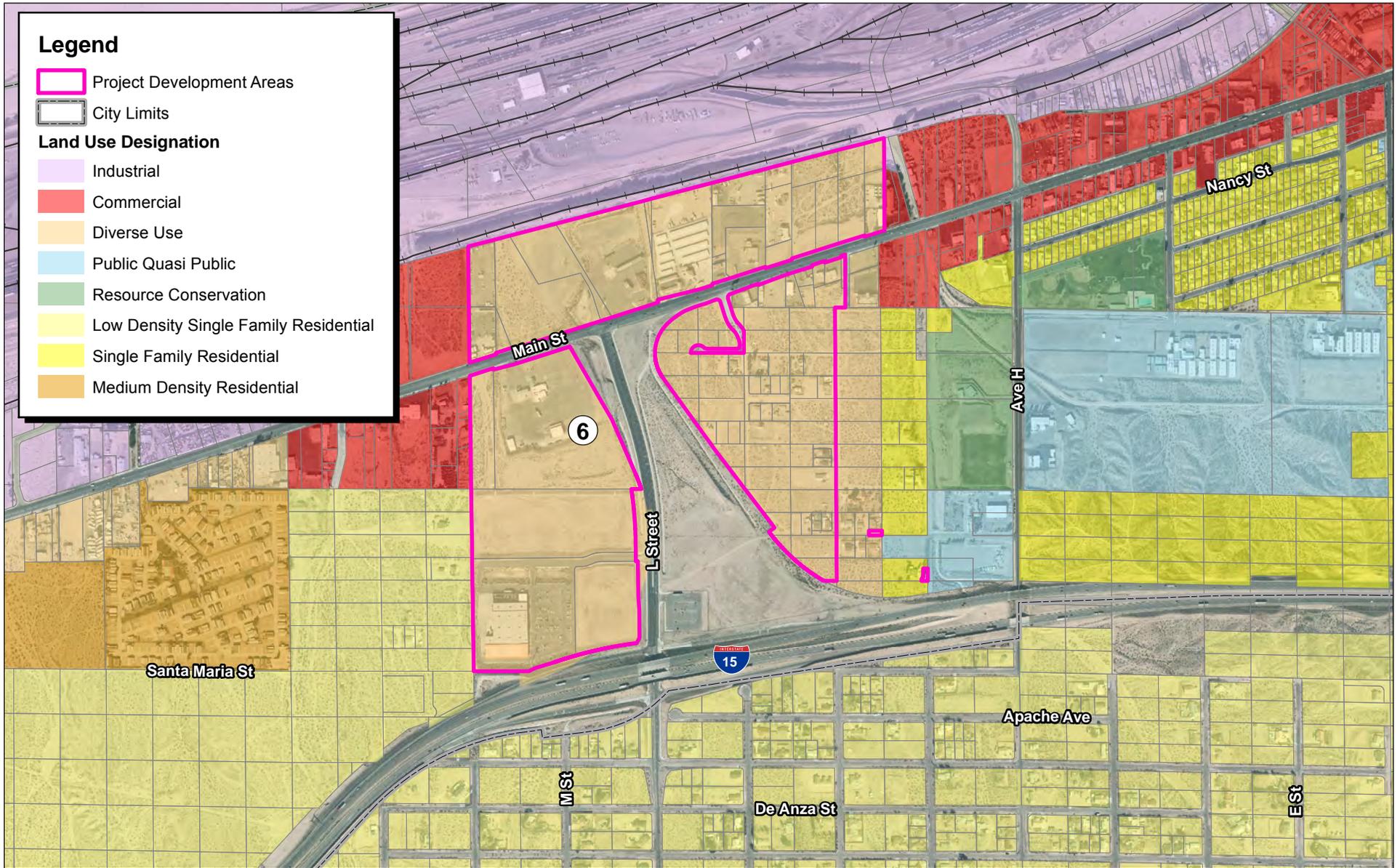


Exhibit 7 Project Development Areas 3 and 4



Source: City of Barstow, San Bernardino County

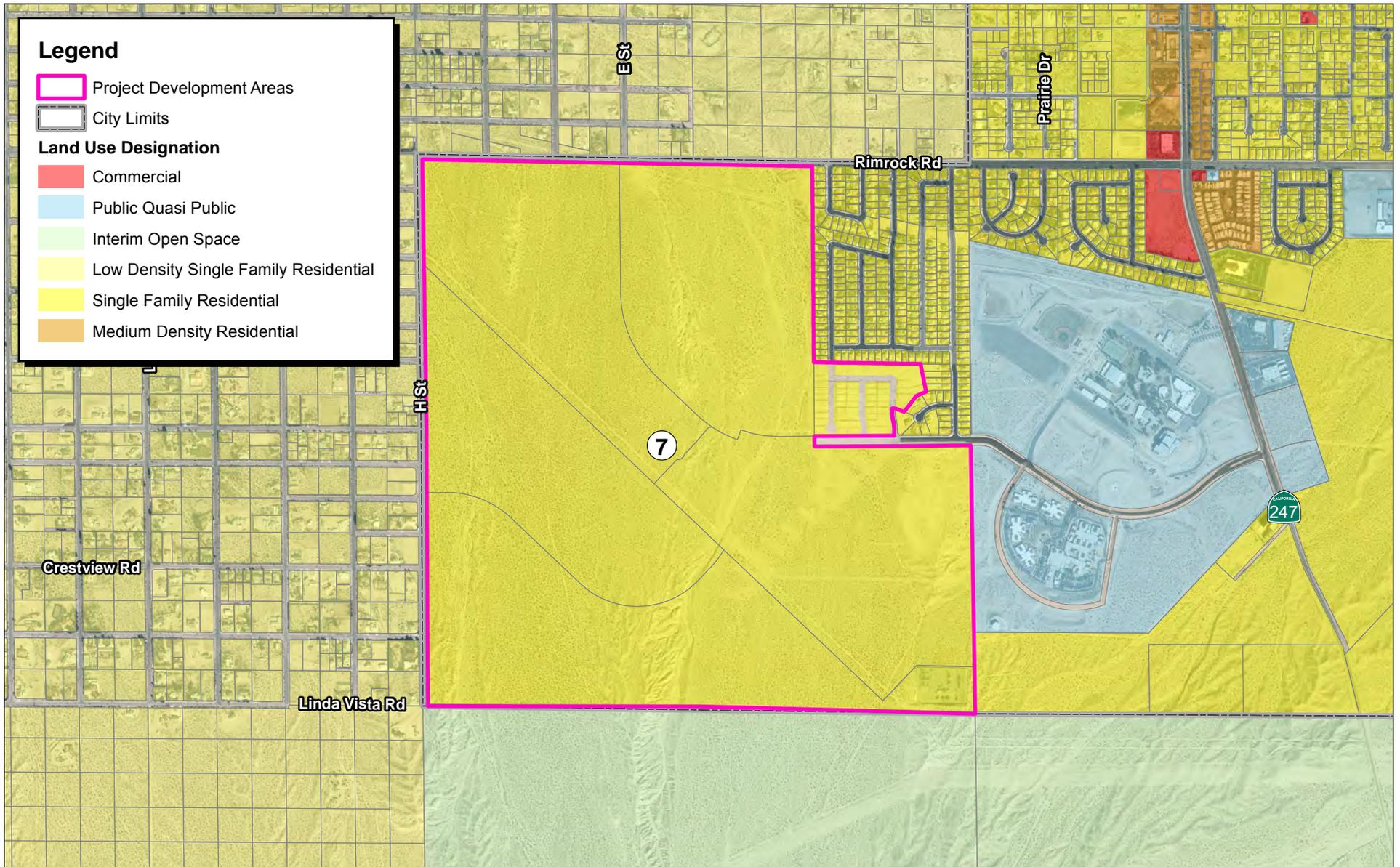




Source: City of Barstow, San Bernardino County



Exhibit 9 Project Development Area 6



Source: City of Barstow, San Bernardino County

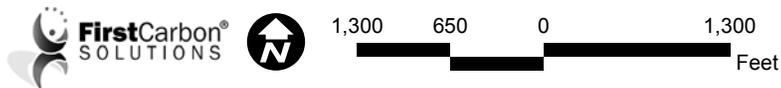
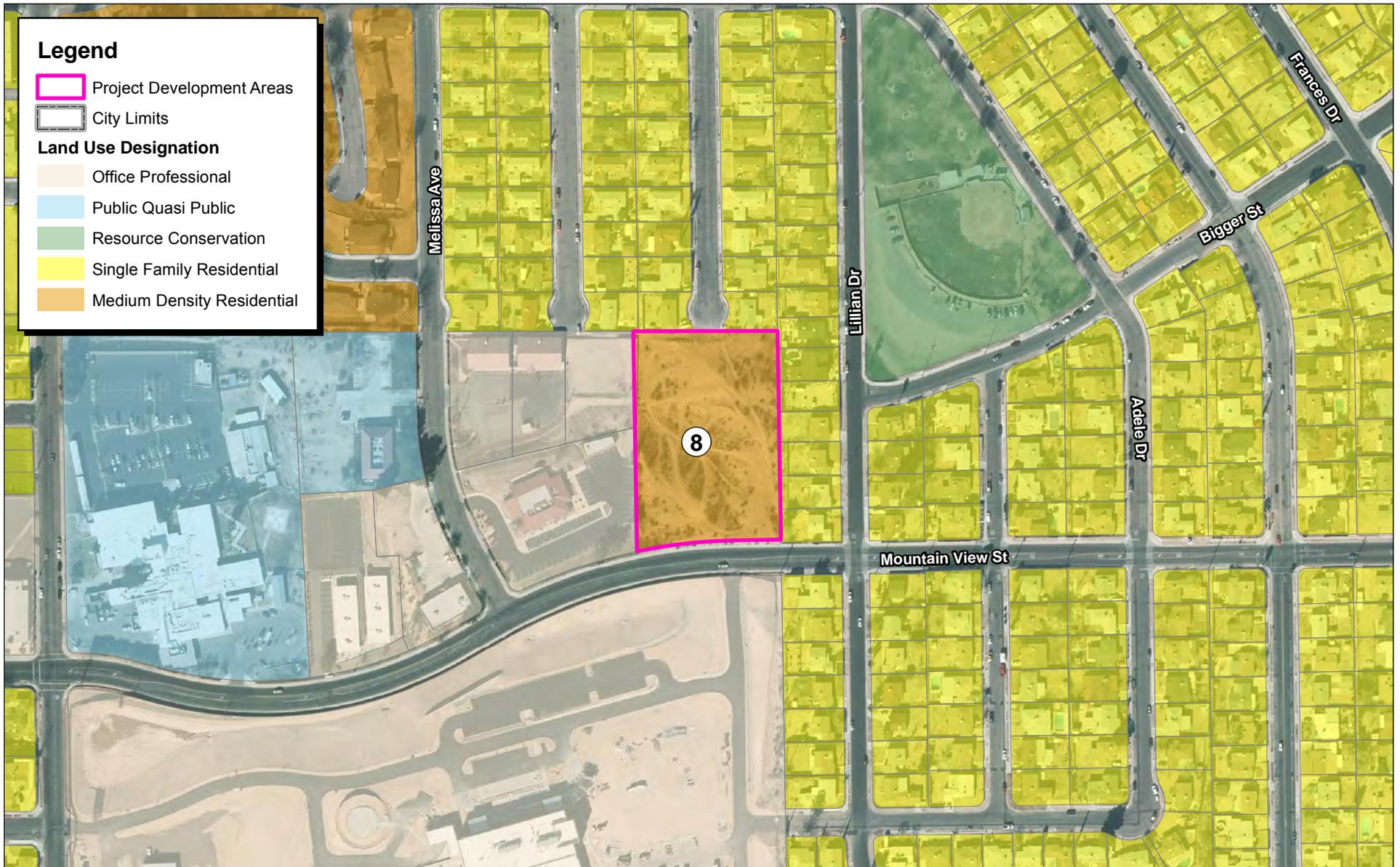


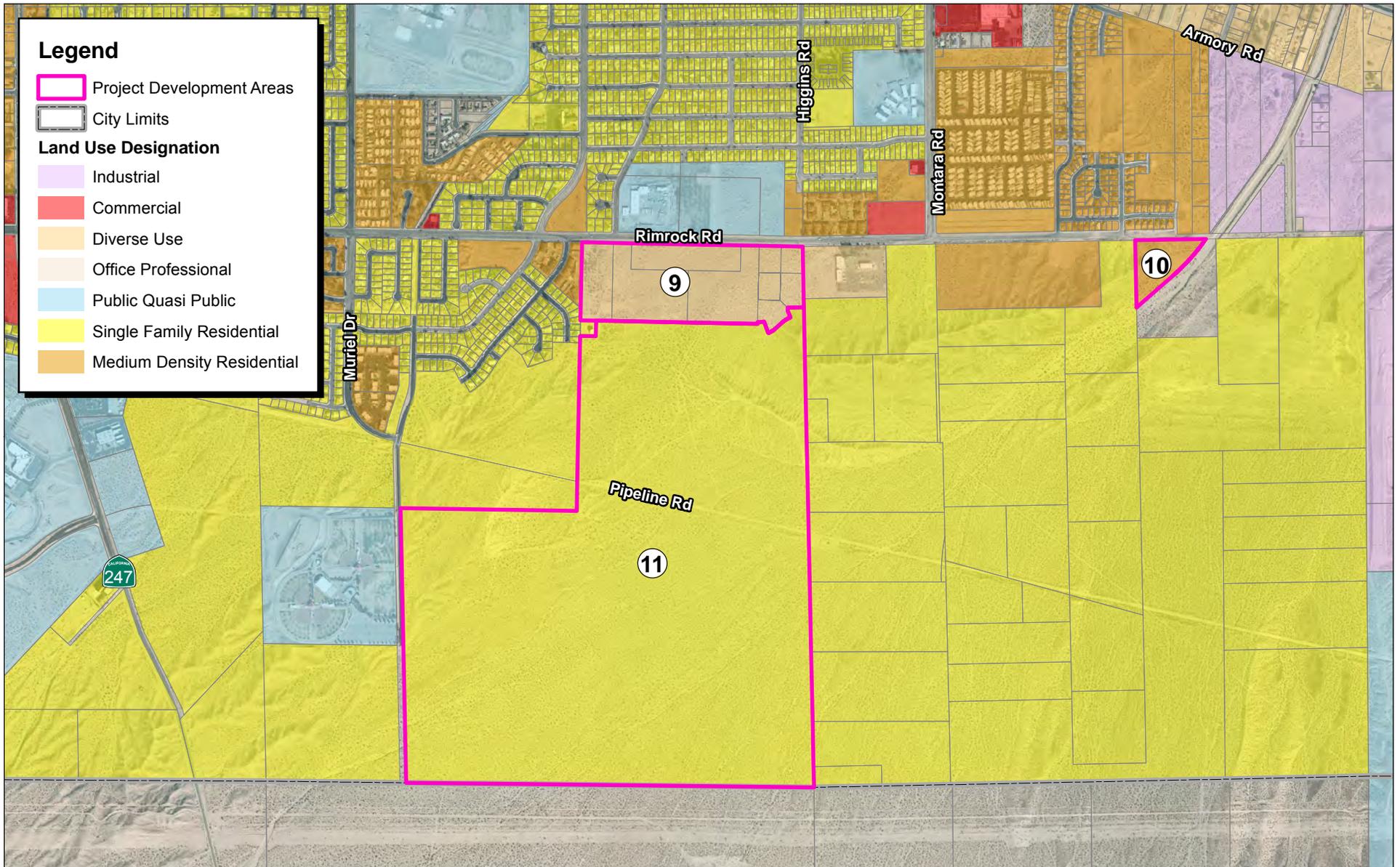
Exhibit 10 Project Development Area 7



Source: City of Barstow, San Bernardino County



Exhibit 11 Project Development Area 8



Source: City of Barstow, San Bernardino County



Exhibit 12 Project Development Areas 9, 10, and 11

Table 1: Mitigation Measures Overview

Mitigation Category	Category Discussion
Communication, Cooperation, and Regional Coordination	Policies in this mitigation category are intended to improve coordination between multiple levels of government. All levels of government are responsible for improving greenhouse gas emissions and adaptation planning in the region. Often the responsibilities of one level of government overlap with another. In order to develop effective programs and reduce pollution emissions, effective communication, cooperation, and coordination are vital.
Education and Community Outreach	This mitigation category contains measures that assist in educating the general public on climate change issues and actions that individuals can take to reduce greenhouse gas emissions. Working together for a common interest can multiply the resources available to accomplish greenhouse gas reduction goals.
Congestion Management and Transportation Control Measures	This mitigation category includes measures to support this South Coast Association of Government’s strategies to increase the efficiency of transportation infrastructure and to reduce vehicle trips as identified in their transportation plans. Transportation control measures are most effective when infrastructure is in place that supports alternative transportation modes. This would include community-wide transportation improvements and on-site improvements at individual worksites and businesses.
Public Facilities and Operations	This mitigation category is focused on the City of Barstow’s municipal operations. Local government should take a leadership role in reducing the emissions from its own vehicle fleet as a model for the private sector.
Environmental Assessment	This mitigation category includes consists of measures that utilize environmental assessment procedures to avoid, reduce, or otherwise address potential greenhouse gas impacts from development projects. The environmental assessment process required under CEQA is by far the most important tool for local government to communicate with other agencies and the public on the climate change impacts of development within a community. Strong and consistent application of CEQA can make a significant difference in project-level greenhouse gas impacts.
Energy Efficiency and Conservation	Natural gas-burning appliances used for space heating, water heating, and cooking are sizable source of greenhouse gas emissions. Consumption of electricity causes pollutant emissions when the power plant is fueled by fossil fuels. Local efforts to reduce energy consumption can reduce greenhouse gas emissions and save consumers money. Simple and cost-effective designs, technologies, and methods are available to achieve energy savings and reduce greenhouse gas emissions.
Integrated Land Use and Transportation	The land use pattern and transportation system developed over the last 50 years has led to ever-increasing vehicle trips and vehicle miles traveled. New ways of developing the land and meeting our mobility needs are necessary to reverse this trend and to reduce greenhouse gas emissions. Subcategories include: <ul style="list-style-type: none"> • Land use Pattern • Jobs/housing balance • Compact development These measures reduce motor vehicle trips and vehicle miles traveled, and increase average vehicle ridership (AVR).

Table 1 (cont.): Mitigation Measures Overview

Mitigation Category	Category Discussion
Onsite Combustion Sources	This category includes measures intended to reduce greenhouse gases emitted by internal combustion (engines) and open combustion (such as burning in fireplaces) that would occur as a result of project construction or operation.
Source: Draft General Plan Update	

1.4.1 - Communication, Cooperation, and Regional Coordination

- **Goal 1:** Ensure effective communication, cooperation, and coordination in developing and operating community and regional greenhouse gas programs.
- **Policy 1.1:** Consult with the MDAQMD during CEQA review for all discretionary projects meeting or exceeding MDAQMD size thresholds and previously reviewed by the MDAQMD.
- **Policy 1.2:** Coordinate with other jurisdictions in the MDAQMD's jurisdiction to establish parallel greenhouse gas programs and implementation measures.
- **Policy 1.3:** Notify and request comments from neighboring jurisdictions and affected agencies during review of any General Plan amendment and other significant discretionary projects.
- **Policy 1.4:** Work with regional and local transit agencies to assess development project impacts on long-range transit plans and transit facilities during the planning stages of land use projects and ensure that potential impacts are avoided.
- **Policy 1.5:** Work with regional and local transit agencies to coordinate the City's transportation demand management (TDM) programs with regional transportation plans.
- **Policy 1.6:** Work with regional and local waste management organizations to plan for and improve waste recovery from construction and operational waste generation within the City.
- **Goal 2:** Ensure planning for transportation infrastructure and public services are integrated with plans to improve air quality and reduce greenhouse gas emissions
- **Policy 2.1:** Use the General Plan Community Development, Infrastructure and Public Services (which contains traffic and circulation), and Greenhouse Gas Elements as the basis for the transportation infrastructure required for the mobility of future residents.
- **Policy 2.2:** Support the investment in cost-effective modeling and geographic information system (GIS) technology.

1.4.2 - Education and Community Outreach

- **Goal 3:** To increase awareness of community actions to improve air quality and reduce greenhouse gas emissions.
- **Policy 3.1:** Support and participate in the greenhouse gas education programs offered by public and non-profit organizations that are consistent with City objectives.
- **Policy 3.2:** Educate residents on the linkage between land use, transportation, water and energy use and greenhouse gas emissions. Efforts should include measures that can be taken and resources that are available to improve adaptation to climate change and reduce potential climate change impacts.

- **Policy 3.3:** Cooperate with public agencies and other jurisdictions to promote local and regional public transit service in Barstow.

1.4.3 - Congestion Management and Transportation Control Measures

- **Goal 4:** Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.
- **Policy 4.1:** Utilize Transportation Demand Management (TDM) strategies as an integral component of the City's transportation program to reduce total vehicle trips on Barstow roadways and reduce the corresponding vehicle emissions.

Strategies to incentivize drivers to reduce solo driving:

- Increase carpooling and vanpooling
 - Increase the use of transit, bicycling, and walking
 - Redistribute vehicle trips from peak periods to non-peak periods by shifting work times/days/locations
 - Encourage greater use of telecommuting
 - Other “first mile/last mile” strategies to allow travelers to easily connect to and from transit service at their origin and destination. These strategies include the development of mobility hubs around major transit stations, the integration of bicycling and transit through folding-bikes-on-buses programs, triple bike racks on buses, and dedicated racks on light and heavy rail vehicles
- **Policy 4.2:** Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives and to provide facilities and programs that increase the effectiveness of transportation demand management (TDM) strategies and transportation control measures (TCMs) (e.g., employer-based trip reduction programs and transit programs).
 - **Goal 5:** Invest in more efficient and effective transportation infrastructure, and support for trip reduction programs to reduce traffic congestion, vehicle trips and the need for costly new or expanded roadways.
 - **Policy 5.1:** Vigorously pursue and use State and Federal funds earmarked for bicycle and transit improvements.
 - **Policy 5.2:** Provide transportation and alternative transit infrastructure that allows the efficient local and regional movement of people, raw materials, and goods.
 - **Policy 5.3:** Consider transportation system management strategies to increase the capacity of the existing road network prior to constructing more capacity (e.g., maximize the capacity of existing lanes before adding new lanes).
Transportation system management (TSM) strategies increase the efficiency of the existing transportation system and reduce the need for costly system expansion. TSM strategies often use intelligent transportation system (ITS) technologies. These measures include signal synchronization, ramp metering, “at-speed” truck scales, and 5-1-1 traveler information systems. Strategic application of ITS technology on our transportation system can increase system productivity by as much as 5 percent.

- **Goal 6:** Construct infrastructure and facilities that support and encourages the use of alternative modes of travel, including a safe and comprehensive bicycle and pedestrian system that connects all parts of the City.
- **Policy 6.1:** Require dedication of land for bus turnouts and shelters at sites deemed appropriate and necessary by the City and the transit providers.
- **Policy 6.2:** Design arterial and collector streets to allow the efficient operation of public transit.
- **Policy 6.3:** Ensure that a comprehensive system of bikeways and pedestrian paths is planned and constructed in accordance with the General Plan.
- **Policy 6.4:** Ensure that upgrades to existing roads include bicycle and pedestrian improvements, consistent with General Plan policy.
- **Policy 6.5:** Require developers to provide bicycle racks, or enclosed and locked bicycle storage, at major activity centers, offices, and commercial establishments to serve patrons and employees.
- **Policy 6.6:** Provide information to encourage the use of transportation modes that minimize motor vehicle use and resulting air pollution and greenhouse gas emissions
- **Policy 6.7:** Work with Caltrans and transit providers to identify and implement park and ride lots with convenient access to public transit.
- **Policy 6.8:** Work with Caltrans and other appropriate agencies to improve bicycle and pedestrian mobility and safety at freeway crossings.

1.4.4 - Public Facilities and Operations

- **Goal 7:** Reduce the City's proportionate contribution of greenhouse gas emissions and potential impact that may result in climate change from internal governmental operations and land use activities within its authority.
- **Policy 7.1:** Strive to reduce greenhouse gas emissions from its internal governmental operations and land use activities within its authority by 15 percent below 2008 levels by the year 2020 pending adoption of emission reduction targets for the City's Climate Action Plan. The City will also work with the Southern California Association of Governments (SCAG) to ensure that the City receives its proportionate fair share reduction in greenhouse gas emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval by SCAG.

The California Air Resources Board (ARB) Scoping Plan suggests that cities strive to achieve a 15 percent emission reduction from government operations and the overall community by 2020. As part of SB 375 implementation, the SB 375 Regional Targets Advisory Committee recommended approaches to set greenhouse gas reduction targets to ARB in September 2009. ARB adopted final regional targets on September 23, 2010. The City will work with SCAG to determine the City's proportionate fair share reduction of the regional targets. The results of this process could inform the City's draft internal greenhouse gas targets.

1.4.5 - Environmental Assessment

- **GOAL 8:** Ensure that projects subject to environmental review are thoroughly assessed using best available air quality modeling techniques and implement feasible mitigation measures to reduce significant environmental effects
- **Policy 8.1:** Minimize air quality and climate change impacts through project review, evaluation, and conditions of approval when planning the location and design of land use projects and transportation system projects needed to accommodate expected City population growth.
- **Policy 8.2:** Analyze the air quality and climate change impacts of discretionary projects using applicable regulatory guidance; for example, the MDAQMD's adopted CEQA and Federal Conformity Guidelines. When the new methodologies and thresholds are adopted by the MDAQMD, the City of Barstow will review and implement them as appropriate for specific projects.
- **Policy 8.3:** Use the City's environmental review process to impose appropriate mitigation measures on new development to reduce air quality and greenhouse gas emissions impacts.
- **Policy 8.4:** Identify the cumulative transportation and air quality impacts of all General Plan amendments approved during the previous year.
- **Policy 8.5:** Encourage developers to propose innovative measures to reduce greenhouse gas impacts, such as bike path and trail systems to facilitate non-vehicular transportation.

1.4.6 - Energy Efficiency and Conservation

- **Goal 9:** Minimize air emissions related to energy consumption and area sources in government operations and the community.
- **Policy 9.1:** Increase the use of energy conservation features, renewable sources of energy and low-emission equipment in new and existing development projects within the City.
- **Policy 9.2:** Require new development to use energy efficient lighting systems and energy efficient appliances, if commercially available.
- **Policy 9.3:** Promote urban forestry projects that shade buildings, homes, streets, pedestrian walkways, and urban core areas to reduce surface and ambient temperatures and reduce energy required for cooling.
- **Policy 9.4:** Initiate and sustain on-going efforts with local water agencies, utility providers and developers to establish and implement voluntary incentive-based programs to encourage the use of energy and water efficient designs and equipment in new and existing development projects within the City.
- **Policy 9.5:** Reduce water use and related energy use by using reclaimed water for landscaping where appropriate, financially feasible, and allowed by water quality regulations. Require new development areas that will be served with recycled water to be plumbed with a "purple pipe" system to facilitate the future use of recycled water.
- **Policy 9.6:** Work with local energy providers on voluntary incentive-based programs to encourage developers to use energy efficient designs and equipment beyond the requirements of Title 24.
- **Policy 9.7:** Work with local water and energy utilities and the building industry to develop or revise City design standards relating to solar orientation, water use, landscaping, use of cool

paving surfaces, parking lot shading and such other measures oriented towards reducing energy demand.

- **Policy 9.8:** Cooperate with the local building industry, utilities, and the MDAQMD to develop enhanced energy conservation and sustainable building standards for new construction.
- **Policy 9.9:** Provide recycling programs for construction and demolition debris, and for commercial and/or community recycling of plastic, paper, green waste, and food waste to reduce energy consumption and greenhouse gas emissions.
- **Policy 9.10:** Require new developments to reduce air quality impacts from residential area sources.
- **Policy 9.11:** Encourage the use of light colored pavement (high-albedo with a reflectance Index of at least 29).
- **Policy 9.12:** Encourage the use of solar-ready roofs into residential and commercial development. New residential development should include proper solar orientation (south-facing roof area sloped at 20° to 55° from the horizontal), clear access on the south sloped roof (no chimneys, heating vents, plumbing vents, etc.), electrical conduit installed for solar electric system wiring, plumbing installed for solar hot water systems, and space provided for a solar hot water storage tank. Roofs for commercial development should be designed to maximize potential area available for solar panels and provide electrical conduit to support future installation

1.4.7 - Integrated Land Use and Transportation

- **Goal 10:** Improve air quality and reduce greenhouse gas emissions by integrating land use, and transportation planning that incorporates appropriate project location, design, and application of best available technologies.
- **Policy 10.1:** Make air quality and greenhouse gas generation and mobility prime considerations when reviewing any proposed change to the land use pattern in the Barstow Planning Area.
- **Policy 10.2:** Support projects that propose pedestrian- or transit-oriented designs at suitable locations.
- **Policy 10.3:** Encourage higher housing densities in areas served by the full range of urban services.
- **Policy 10.4:** Encourage mixed-use developments that provide commercial services such as day-care centers, restaurants, banks, and stores near employment centers.
- **Policy 10.5:** Encourage shared parking facilities and parking reductions for compatible land uses that encourages alternative transportation and reductions in vehicle miles traveled.
- **Policy 10.6:** Promote downtown Barstow as the primary pedestrian-oriented, commercial, and financial center in the City.
- **Policy 10.7:** Support and encourage projects proposing infill, and mixed use development that creates walkable neighborhoods and communities and increases access to transit. Direct development growth to infill sites in the downtown district and throughout the built-up sections of the City.
- **Policy 10.8:** Ensure that adequate neighborhood commercial shopping areas are provided to serve new residential developments.

- **Policy 10.9:** Encourage subdivision designs that provide neighborhood parks in proximity to activity centers such as schools, libraries, and community centers. Policy VIII.2.9: Require park-and-ride lots at appropriate locations to serve long distance commuters.
- **Goal 11:** Maintain a good balance of jobs to housing in the City of Barstow
- **Policy 11.1:** Work with public and private organizations (e.g., the Chamber of Commerce, Barstow College) to attract employers to the community to help achieve a jobs/housing balance.
- **Policy 11.2:** Provide planning liaison services to potential employers to identify appropriate sites, assist in the environmental review process, and streamline the permit process.
- **Goal 12:** Encourage Compact Development
- **Policy 12.1:** Discourage discontinuous development by: (1) supporting projects that infill vacant areas contiguous on at least one side to a developed area; (2) not considering projects “contiguous” when they are only adjacent to vacant urban designated land; (3) encouraging growth in and around activity centers, transportation nodes, underutilized infrastructure systems, and redevelopment areas; and (4) accommodating infill development within existing urban areas as a priority over urban expansion.
- **Policy 12.2:** Adopt an urban limit line, and commit to providing public services only within the urban area.
- **Policy 12.3:** Designate water and sewer service areas that closely correspond to the land use plan.
- **Policy 12.4:** Expand public services incrementally to serve contiguous development, and discourage the development of small sewer and water districts serving fringe development.
- **Goal 13:** Improve project site designs to encourage walking, bicycling, and transit use
- **Policy 13.1:** Require developers to design project sites to increase the convenience, safety, and comfort of transit users, pedestrians, and bicyclists.
- **Policy 13.2:** Require developers of projects that generate emissions in excess of MDAQMD CEQA significance thresholds to submit a project greenhouse gas transportation design analysis that reduces greenhouse gas emission, prepared by a civil engineer, architect, or urban designer familiar with design measures. Such an analysis shall be submitted prior to the City accepting the project application. The City of Barstow will review the subject analysis and see that appropriate measures are implemented.
- **Policy 13.3:** Require all subdivision street and lot designs, commercial site plans, and multifamily site plans for projects exceeding MDAQMD size thresholds to include design features that reduce trips and vehicle miles traveled, as recommended by the City.

1.4.8 - Onsite Combustion Sources

- **Goal 18:** Reduce greenhouse gases from equipment exhaust.
- **Policy 18.1:** Encourage project developers and construction managers to employ cleaner construction equipment fleets. Specifically encourage the use of Tier 3 and Tier 4 engines.
- **Policy 18.2:** Encourage project developers and construction managers to incorporate Best available control Technology (BACT) to reduce construction and operational equipment exhaust. BACT May include:
 - Solicit bids that include use of energy and fuel-efficient fleets;

- Solicit preference construction bids that use BACT, particularly those seeking to deploy zero- and/or near-zero emission technologies;
- Employ use of alternative fueled vehicles;
- **Goal 19:** Reduce greenhouse gas emissions from woodburning sources within the City.
- **Policy 19.1:** Prohibit new woodburning stoves or woodburning fireplaces in all new residential development.
- **Policy 19.2:** Encourage residents to remove existing woodburning stoves or woodburning fireplaces or replace the units with cleaner, EPA Phase-2 certified units, gas or propane-fueled units.
- **Goal 20:** The City will prepare and adopt a Climate Action Plan (CAP) as an implementation strategy of the 2020 General Plan Update. The CAP shall include an inventory of the 2008 level of greenhouse gas emissions within the City. The CAP shall set out specific policies and actions to be undertaken by the City to reduce greenhouse gas emissions under the control of the City. The CAP target will be determined during the process of preparing the CAP based upon the potential of available sources for control, the feasibility of control implementation, and potential for funding to pursue implementation.

A CAP will provide a detailed implementation strategy for meeting the emission reduction targets adopted by the City. The CAP will contain implementation timelines and identify potential funding sources for near term measures. The CAP will include incentives, actions, and requirements to reduce the City's greenhouse gas emissions, the greenhouse gas emissions of the private sector, and actions that the City will take in concert with public agencies, the private sector, and other stakeholders to reduce greenhouse gas emissions. Development of the CAP will include a public and stakeholder process.

- **Policy 20.1:** Include mechanisms to ensure regular review of progress towards greenhouse gas emission reduction targets established by the City's CAP, reporting progress and revising the plan as needed to achieve the plan's objectives.

The Annual Progress Reports required for the General Plan by Government Code Section 65400(a)(2) also provides a suitable forum to address progress on CAP implementation. Under adaptive management, measures would be assessed periodically for effectiveness and revised or replaced as needed to improve the program.

- **Policy 20.2:** Work with other local and regional governments to assess federal and state programs and their impact on greenhouse gas emissions and mitigation efforts. Federal and state programs to reduce greenhouse gases often affect the same emission sources that will be targeted for reductions by the City. Work with other local and regional governments to ensure that its efforts enhance state and federal programs and are not duplicative.
- **Policy 20.3:** Establish screening criteria and tiered significance thresholds for the evaluation of project greenhouse gas emissions impacts, the preparation of project level greenhouse gas emission inventories, and the identification and application of mitigation. As part of the CAP development process, the City will determine appropriate CEQA thresholds of significance for greenhouse gas emission impacts based on consistency with the emission reduction targets and project level measures included in the CAP. A project analysis threshold will also be developed to determine when a quantitative analysis of greenhouse gas emissions will be required.

- **Policy 20.4:** The CAP should also incorporate analysis of climate change adaptation in recognition of the likely and potential effects of climate change.
- **Policy 20.5:** City fleet vehicle operators shall be encouraged to develop and maintain a fiscally sound inventory and priority schedule to replace or convert existing conventional fuel vehicles with clean fuel vehicles as new vehicles are purchased and existing vehicles are retired from service.

SECTION 2: PROJECT DESCRIPTION

California Government Code Section 65300, et seq. mandates that each city shall adopt a comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries that in the planning agency's judgment bears relation to its planning. Government Code Section 65302 lists seven elements that cities must include in their general plans: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety.

2.1.1 - Project Location and Setting

Location

The project is located in the City of Barstow, San Bernardino County, California (Exhibit 1). The City of Barstow is located in western San Bernardino County and is surrounded by undeveloped rural desert land (Exhibit 2). The Mojave River is located along the north side of the City. State Routes 66 (SR), 58, and 247, and Interstate 15 (I-15) and I-40 provide regional access to the City.

Existing Conditions

The City encompasses over 41 square miles of land. Developed land within the City contains a wide range of residential, commercial, industrial, public, and open space land uses. Residential areas vary from rural to urban neighborhoods. Barstow's population in 2012 was 23,019 with 8,142 households. Total employment in 2012 was 13,460 (SCAG 2013). The jobs to housing ratio is 1.4. The City's Sphere of Influence contains primarily open space and rural residential development.

2.1.2 - Project Characteristics

The 2020 General Plan Update consists of updates to the City's General Plan, originally adopted in 1997. In addition, the 2020 General Plan Update identifies 12 locations, or "development areas", where development is projected to occur. This analysis document includes assumptions regarding the amount and location of development anticipated to occur prior to 2020. A description of each development area is provided in Table 2. The land use and development size anticipated to occur within each development area is provided in Table 3.

Exhibit 3 shows the location of each development area within the City. Exhibits 4 through 12 provide a more detailed view of each development area.

Table 2: Projected Development Area – Existing Conditions

Development Area	Corresponding Specific Plan	APN(s)	Total Acreage	General Plan Designation	Current Land Use	Proposed Land Use(s)
1	—	042-107-132 to -135, 042-109-101, 042-109-108, 042-109-112, 042-109-116, 042-109-120 to -126	966.97	Industrial	Vacant	General Heavy Industry
2	Barstow Industrial Park Specific Plan	042-101-133, 042-101-153 to -156, 042-101-174, 042-101-175, 048-813-103, 048-813-110, 048-813-114 to -117, 048-813-119 to -124, 049-713-132, 049-713-135	650.74	Industrial and Estate Residential	Vacant	General Light Industry
3	Lenwood Specific Plan	042-817-154 to -157, 042-817-168, 042-817-173, 042-835-104	168.63	Commercial	Vacant	Casino Full Service Resort
4	Lenwood Specific Plan	042-11-101	314.06	Diverse Use	Vacant	Single Family Residential
5	Lenwood Specific Plan	042-131-302, 042-821-152 to -154, 042-821-156, 042-821-157	77.10	Commercial	Vacant	Highway Commercial
6	Spanish Trail Specific Plan	018-220-105 to -108, 018-220-131, 018-220-134, 018-220-139, 018-220-140, 018-220-142, 018-221-203, 018-221-204, 018-221-213, 018-221-214, 018-221-217 to -223, 018-221-230, 018-221-231, 018-221-233 to -241, 018-221-248 to -258, 018-221-265 to -278, 018-222-104, 018-223-138 to -140, 018-224-101, 018-224-102, 018-224-112 to -116, 018-224-130, 018-224-140, 018-224-141, 042-708-102, 042-708-143, 042-737-137, 042-737-147, 042-737-148	117.92	Diverse use	Vacant, Commercial Uses, Residential Uses	Big Box Retail, Fitness/Entertainment, Health & Wellness, Market and Storage, Gas and Fast Food, Hotel, and Medium Density Residential
7	Rimrock Specific Plan	042-802-117 to -121, 042-836-182	547.27	Single Family Residential	Vacant	Single Family Residential
8	—	018-112-205	2.27	Medium Density Residential	Vacant	Medium Density Residential
9	—	018-171-206 to -214, 042-413-201, 042-413-202	41.30	Diverse Use	Vacant	Single Family Residential

Table 2 (cont.): Projected Development Area – Existing Conditions

Development Area	Corresponding Specific Plan	APN(s)	Total Acreage	General Plan Designation	Current Land Use	Proposed Land Use(s)
10	—	042-413-270	5.45	Medium Density Residential	Vacant	Medium Density Residential
11	—	018-171-205, 041-701-104, 042-413-202 to -204, 042-413-223, 042-413-229, 042-413-261, 042-413-262, 042-413-268	327.75	Single Family Residential and Interim Open Space	Vacant	Single Family Residential
12	—	042-115-102, 042-116-101, 049-713-169	78.79	Industrial	Vacant	Medium Density Residential and General Office
Total	—	—	3,268.24	—	—	—

Source: Barstow

Table 3: Projected Development Areas Land Uses

Development Area	Development Node Type	Projected Development Areas	
		Proposed Land Use	Development Size
1	General Industry	General Heavy Industry	725,000 sf
2	General Industry	General Light Industry	500,000 sf
3	Casino Full Service Resort	Gaming Floor	88,500 sf
		Hotel (Resort)	160 Rms
		2 Restaurants (full service)	20,000 sf
		1 Restaurant (drive thru)	4,000 sf
		1 Buffet (sit down)	5,000 sf
		1 Coffee Shop (sit down)	2,000 sf
		Retail Shops (3 shops) Department Stores	4,500 sf
4	Residential	Single Family Residential "Active Seniors Housing"	1,575 DU
5	Commercial	Restaurants 3 (sit down)	30,000 sf
		Restaurants 2 (w/drive thru)	20,000 sf
		Hotel (300,000 sf)	100 Rms
		Retail Shops (shopping center)	100,000 sf
6	Big Box Retail	Major Retailer	275,000 sf
		Retail Pads	32,000 sf
		Shops	34,000 sf
		Bank	5,000 sf
	Fitness/ Entertainment	Fitness Center	35,000 sf
		Sporting Goods Store	30,000 sf
		Movie Theater	11,000 sf
		Shopping	19,000 sf
		Bank	5,000 sf
		Restaurant	11,000 sf
		Fast Food	4,000 sf
	Visitor Center	2 employees	
	Health and Wellness	Wellness Center	50,000 sf
Daycare		23,000 sf	
Drug Store		11,000 sf	

Table 3 (cont.): Projected Development Areas Land Uses

Development Area	Development Node Type	Projected Development Areas	
		Proposed Land Use	Development Size
	Market and Storage	Shopping Pad	40,000 sf
		Supermarket	50,000 sf
		Shopping	19,000 sf
		Restaurant	10,000 sf
		Fast Food	12,000 sf
		Gas Station	12 fueling stations
		Office	5,000 sf
	Gas & Fast Food	Shopping	7,000 sf
		Gas Station	24 fueling stations
		Fast Food	13,800 sf
		Restaurant	84,000 sf
	Hotel	Hotel (E of L St; S of Main); 200,000 sf	100 Rms
	Residential	Medium Density Residential	20 DU
	7	Residential	Single Family Residential
8	Residential	Medium Density Residential	30 DU
9	Residential	Single Family Residential	140 DU
10	Residential	Medium Density Residential (Condo/Townhouses)	20 DU
11	Residential	Single Family Residential	500 DU
	?	Diverse Use	75,000 sf
		Diverse Use	75,000 sf
12	Residential	Medium Density Residential (Apartments)	60 DU
	General Office	General Office Buildings	20,000 sf
Notes: sf = square feet DU = Dwelling Units Rms = Rooms Source: City of Barstow.			

SECTION 3: ENVIRONMENTAL AND REGULATORY SETTING

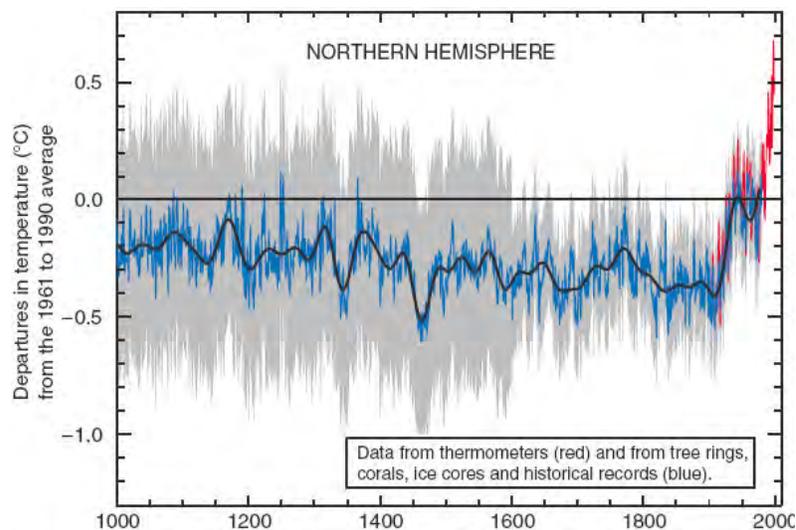
3.1 - Environmental Setting

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The report also concluded that “[w]arming of the climate system is unequivocal,” and that “[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

Some question the validity of the temperature graph used by the IPCC in some form in the Third and Fourth Assessment Reports. The graph is shown in Figure 1 (IPCC 2001). The figure shows that temperatures are relatively stable until 1900, when the temperature increases rapidly. Some scientists have had trouble duplicating the data used for the graph (McIntyre and McKittrick 2003) and indicated when the data is correctly handled “shows the 20th century climate to be unexceptional compared with earlier centuries” (McKittrick 2005). Hans von Storch, a German climate scientist, claimed that the methods used by Mann et al. probably underestimated the temperature fluctuations in the past by a factor of two or more (Von Storch et al. 2004).

Figure 1: Historical Temperature Changes



Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from California Climate Change Center 2006 and Moser et al. 2009):

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant “fuel” available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today’s conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California’s coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California’s forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

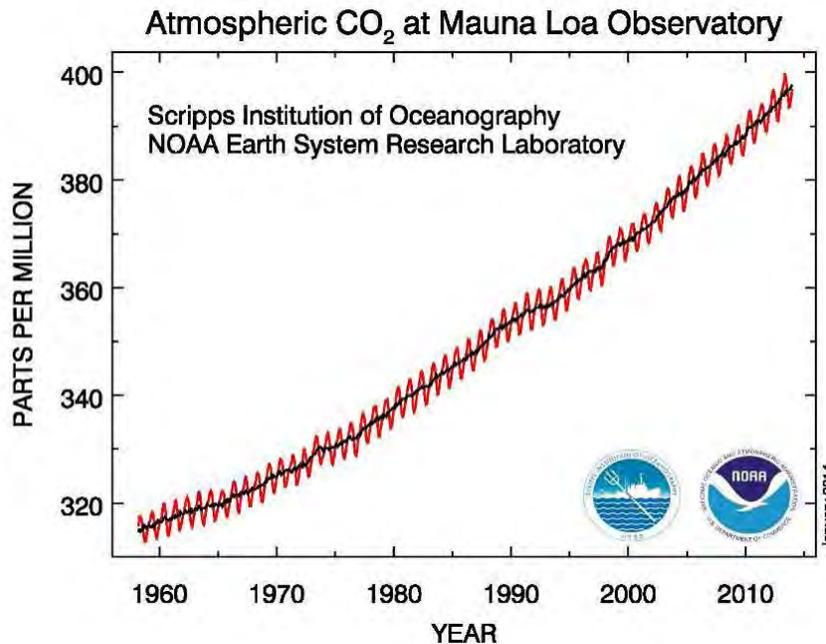
Specifically for the City of Barstow, an increase of between 3.8 and 4.2 degrees Fahrenheit for annual average temperatures is projected under a low carbon emissions scenario between a baseline time period (1961-1990) and an end of century period (2070-2090). For wildfire risk, the projected increase in area burned in 2085 as compared to present risk is estimated to be minimal. The number of extreme heat days per year, as well as total number of heat waves, is anticipated to dramatically increase between present and year 2085 (CalAdapt 2014).

3.1.1 - Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Figure 2 provides a detailed look of concentrations since 1960 showing continuing steady increases even with international actions that have been taken to date. The National Oceanic and Atmospheric Administration reported that the global average CO₂ concentration was 396 parts per million (ppm) in 2013 and has exceeded 400 ppm at some monitoring stations (NOAA 2013).

Figure 2: Carbon Dioxide Concentrations 1960 to 2013



Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a greenhouse gas compared with the reference gas, carbon dioxide.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming

potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions, since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. For example, methane’s warming potential of 21 indicates that methane has 21 times greater warming effect than carbon dioxide on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. Greenhouse gases defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 4.

Table 4: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless greenhouse gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural greenhouse gas. Carbon dioxide’s global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth’s surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Hydrofluorocarbons	Hydrofluorocarbons are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.

Table 4 (cont.): Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth’s surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.

Sources: Compiled from a variety of sources, primarily IPCC 2007a and 2007b.

Other greenhouse gases include water vapor, ozone, and aerosols. Water vapor is an important component of our climate system and is not regulated. Ozone and aerosols are short-lived greenhouse gases; global warming potentials for short-lived greenhouse gases are not defined by the IPCC. Aerosols can remain suspended in the atmosphere for about a week and can warm the atmosphere by absorbing heat and cool the atmosphere by reflecting light.

Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, as opposed to other greenhouse gases that can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

The project would emit black carbon through emissions of DPM during construction and operation. However, procedures to quantify changes due to black carbon emissions have not been widely accepted or thoroughly researched (IPCC 2007b; Wilson and Walters 2012). Therefore, impacts to climate change from black carbon are speculative at this time and no further discussion is necessary.

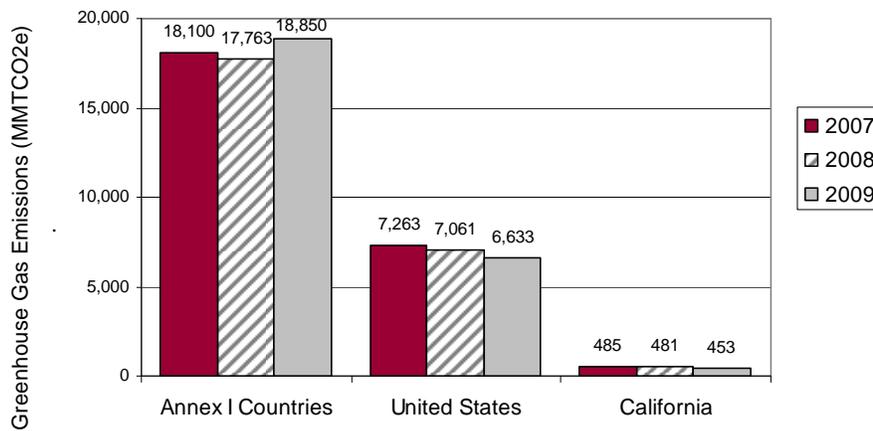
Although there could be health effects resulting from changes in the climate and the consequences that can bring about, inhalation of greenhouse gases at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The

potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation, as the gases can displace oxygen (Centers for Disease Control and Prevention 2010, Occupational Safety and Health Administration 2003).

3.1.2 - Emissions Inventories

Emissions worldwide were approximately 49,000 million metric tons of carbon dioxide equivalents (MMT_{CO₂e}) in 2004 (IPCC 2007b). Greenhouse gas emissions in 2007, 2008, and 2009 are shown in Figure 3. Annex I parties refers to countries that joined the United Nations Framework Convention on Climate Change.

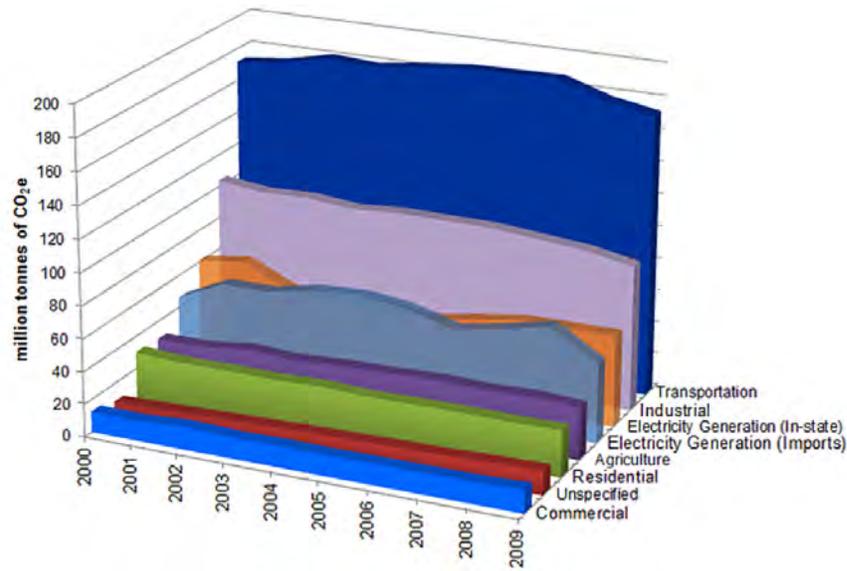
Figure 3: Greenhouse Gas Emissions Trends



Prepared by Michael Brandman Associates using the following data sources:
California Air Resources Board 2011
U.S. Environmental Protection Agency 2011
United Nations Framework Convention on Climate Change 2010

As shown in Figure 4, the main contribution of greenhouse gas emissions in California from the year 2000 through 2009 was transportation (ARB 2011a). The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output.

Figure 4: Greenhouse Gas Emission Trends by Sector in California



3.2 - Regulatory Setting

3.2.1 - International

Climate change is a global issue involving greenhouse gas emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce greenhouse gases.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at average of 5 percent against 1990 levels over the 5-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over

the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

3.2.2 - National

Prior to the last decade, there have been no concrete federal regulations of greenhouse gases or major planning for climate change adaptation. The following are actions regarding the federal government, greenhouse gases, and fuel efficiency.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four greenhouse gases, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- *Endangerment Finding:* The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- *Cause or Contribute Finding:* The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing greenhouse gas emissions standards for vehicles, as discussed in the section “Clean Vehicles” below.

The EPA denied 10 petitions for Reconsideration of the Endangerment and Cause or Contribute Findings in 2010. Some of the petitioners included the Ohio Coal Association, Peabody Energy Company, and the State of Texas.

In September 2011, the EPA Office of Inspector General evaluated the EPA's compliance with established policy and procedures in the development of the endangerment finding, including processes for ensuring information quality. The evaluation concluded that the technical support document should have had more rigorous EPA peer review.

In June 2012, a federal appeals court rejected a lawsuit by 13 states against the EPA. The suit alleged that the EPA violated the law by relying almost exclusively on data from the United Nations Intergovernmental Panel on Climate Change rather than doing its own research or testing data according to federal standards. The states include Virginia, Texas, Alabama, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah. A petition for writ of certiorari to the United States Court of Appeals for the District of Columbia Circuit was denied by the Supreme Court on October 15, 2013.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On May 7, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States. The final rule became effective July 6, 2010.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The EPA and the National Highway Safety Administration finalized the second-phase joint rulemaking to extend the national standards for light-duty vehicles for model years 2017 to 2025.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, effective November 14, 2011. For combination tractors, engine and vehicle standards begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposed separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are require engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

The second phase of the medium and heavy-duty vehicle fuel efficiency and greenhouse gas standards are under development and anticipated to be issued by March 2016. This second round of fuel efficiency standards will build on the standards adopted and enforced during the first phase.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires reporting of greenhouse gas emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, the EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation’s largest greenhouse gas emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new affected fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NO_x Budget Trading Program in the northeast. There is no federal cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional greenhouse gas emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Its cap-and-trade program is estimated to be fully implemented in 2015.

3.2.3 - California

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 MMTCO₂e on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations (ARB 2008a). ARB issued a new 2020 inventory that accounts for the effects of slower growth during the recession and for the benefits of Pavley I and Renewable Portfolio Standards (RPS) reductions. The business as usual

scenario was revised to 545 MMTCO₂e to reflect lower growth during the recession and to 507 MMTCO₂e including Pavley I and RPS (ARB 2012b).

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO₂e by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 (ARB 2008b). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped

strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.¹

SB 375. Passing the Senate on August 30, 2008, SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of greenhouse gas emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

In 2010, the ARB set 2020 and 2035 greenhouse targets for the SCAG of 8 percent per capita reduction and 13 percent per capita reduction, respectively. The SCAG’s Regional Transportation Plan/Sustainable Communities Strategy, which addresses this emission reduction target, is discussed in detail under the discussion on SCAG.

Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 1078 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State’s load serving entities to meet a 33-percent renewable energy target by 2020. The ARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

¹ On March 17, 2011, the San Francisco Superior Court issued a final decision in *Association of Irrigated Residents v. California Air Resources Board* (Case No. CPF-09-509562). While the Court upheld the validity of the ARB Scoping Plan for the implementation of AB 32, the Court enjoined ARB from further rulemaking under AB 32 until ARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, ARB filed an appeal. On June 24, 2011, the Court of Appeal granted ARB’s petition staying the trial court’s order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, ARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The ARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

SB 1368. In 2006, the State Legislature adopted Senate Bill (SB) 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007.

Title 24 Energy Efficiency Standards. Although Title 24 was not originally enacted to reduce greenhouse gases, it increases energy efficiency for new buildings, thus indirectly reducing greenhouse gas emissions. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The newest version of Title 24, known as the 2013 Standards, was scheduled to become effective on January 1, 2014. On December 11, 2013, the CEC extended the compliance date to July 1, 2014 to allow more time for the building industry and local building departments to prepare. The 2013 Standards are estimated to be 25 percent more efficient than the prior 2008 Standards for residential development, and 30 percent more efficient than the prior standards for nonresidential development.

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. The Code is a subcomponent of Title 24. The 2013 Title 24 Standards included updates to the Green Building Standards.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard, which buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The California Green Building Standards Code (code section in parentheses) requires:

- Short-term bicycle parking. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1).
- Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.2).
- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.6.2 (5.106.5.2).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.
- Construction waste. A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80-percent for commercial projects. All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled.
- Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
 1. The installation of water-conserving fixtures or
 2. Using nonpotable water systems (5.303.4).
- Water use savings. 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35 and 40-percent reductions.
- Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day.
- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas.
- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particleboard.
- Building commissioning. Mandatory inspections of energy systems (e.g., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.

Title 20. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and

those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2012).

Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request. On September 8, 2009, the U.S. Chamber of Commerce and the National Automobile Dealers Association sued the EPA to challenge its granting of the waiver to California for its standards. California assisted the EPA in defending the waiver decision. The U.S. District Court for the District of Columbia denied the Chamber's petition on April 29, 2011.

The Pavley I standards are phased in during the 2009 through 2016 model years. The near term (2009-2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013-2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

Pavley II was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars Program. The amendments, effective August 7, 2012, apply to vehicles for model years 2017 through 2025. The regulation will reduce greenhouse gases from new cars by 34 percent from 2016 levels by 2025 and provide a 3 percent reduction in overall light-duty vehicle emissions between 2017 and 2020.

Low Carbon Fuel Standard - Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009. The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court's ruling issued on December 29, 2011 included a preliminary injunction against ARB's implementation of the rule. The Ninth Circuit Court of Appeals reversed the decision of the District Court in September 2013 and denied a petition to rehear a challenge on January 22, 2014. The Renewable Fuels Association and Growth Energy filed a petition to the US Supreme Court on March 20, 2014 challenging the Court of Appeals decision.

Tire Pressure Regulation. A properly inflated tire helps to reduce fuel GHG emissions by reducing tire-rolling resistance. Low rolling resistance tires for passenger and light duty vehicles can result in a 1 to 2 percent reduction in GHGs.

Low Friction Oil Regulation. Engine oil formulations can also affect a vehicle's GHG emissions, because the more easily the internal parts of the engine move, the more efficiently the engine will run. This, in turn, reduces the engine load and fuel used. Requiring passenger cars to use low friction engine oils can result in a 2 percent GHG reduction.

Heavy Duty Vehicle Aerodynamic Efficiency. This measure would require existing trucks/trailers to be retrofitted with the best available technology and/or ARB approved technology. Technologies that reduce GHG emissions and improve the fuel efficiency of trucks may include devices that reduce aerodynamic drag and rolling resistance. The 2020 estimated GHG reductions could be up to 6.4 MMTCO₂e nationwide, of which about 0.93 MMTCO₂e or about 15 percent would occur within California.

Medium and Heavy Duty Vehicle Hybridization. Hybrid technology provides the greatest benefit when used in vocational applications that have significant urban, stop-and-go driving, idling, and power take-off operations in their duty cycle. Such applications include parcel delivery trucks and vans, utility trucks, garbage trucks, transit buses, and other vocational work trucks. The ARB Scoping Plan estimates that hybridization provides an estimated reduction of 0.5 MMTCO₂e per year in 2020.

High GWP Gas Regulations. The state has adopted refrigerant management regulations that apply to commercial air conditioning and refrigeration systems. The regulations require increased leak detection and related repairs and maintenance. ARB estimated that the regulation would reduce emissions from regulated sources by 50 percent.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." The Amendments were adopted on December 31, 2009 and became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of greenhouse gas emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine

whether the project's estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable; however, it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include greenhouse gas questions.

Executive Order S-13-08. Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the "... first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

3.2.4 - Southern California Association of Governments

SCAG was formed in 1965 by city and county elected officials in the region. SCAG helps fulfill responsibilities mandated by federal and State law to develop a regional approach to planning for Southern California's future. SCAG members includes six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura), and 191 cities.

SCAG is mandated by federal and state law to develop regional plans for transportation, growth management, housing development, air quality, and other issues of regional significance. In developing the long-range Regional Transportation Plan (RTP), SCAG operates as an umbrella planning agency for the region. As such, the RTP must consider the roles and authorities of hundreds of autonomous public agencies and jurisdictions that build and operate transportation systems and control local land use decisions within the region.

To ensure that the RTP is consistent with state and federal air quality plans, SCAG also closely coordinates with the five local air districts in the region: South Coast, Mohave Desert, Antelope Valley, Ventura County, and Imperial County. At a sub-regional level, SCAG coordinates its work with

the six independent County Transportation Commissions that have the primary responsibility for programming and administering transportation projects and services in their respective jurisdictions.

In 2011, SCAG published a draft 2012-2035 RTP/Sustainable Communities Strategy (SCS) that stated the region would meet or exceed the ARB's adopted emission goal of 8 percent per capita reduction by 2020 and 13 percent per capita reduction by 2035. Specifically, the adopted SCS has demonstrated that, if implemented, the region will achieve a 9 percent per capita greenhouse gas reduction in 2020, and a 16 percent reduction in 2035. The RTP/SCS strategies focus on four key areas:

1. Land Use Actions and Strategies;
2. Transportation Network Actions and strategies;
3. Transportations Demand Management (TDM) Actions and Strategies; and,
4. Transportation System Management (TSM) Actions and Strategies.

The SCAG Regional Council adopted the final 2012-20135 RTP/SCS on April 4, 2012. The ARB determined that the adopted RTP/SCS demonstrates and supports the ability of the SCS to meet the regional reduction targets. As part of ARB's determination, the ARB accepted SCAG's quantification of greenhouse gas emission reductions from the SCS.

3.2.5 - Mojave Desert Air Quality Management District

The project is within the San Bernardino County-portion of the Mojave Desert Air Basin, which is under the jurisdiction of the MDAQMD. The MDAQMD has adopted greenhouse gas emissions thresholds in its CEQA Guidelines, but has not adopted a comprehensive strategy for reducing greenhouse gas emissions. The MDAQMD threshold is 100,000 tons of CO₂e per year or 90,718 MTCO₂e.

SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1 - Modeling Guidance

The greenhouse gas emissions analysis follows the guidance and threshold recommendations provided by MDAQMD where applicable. Protocols and procedures recommended by other agencies and organizations such as the California Air Pollution Control Officers Association are used for impacts not specifically addressed by the MDAQMD CEQA Guidelines.

4.2 - Greenhouse Gas Emissions

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_x per horsepower per hour or over distance in grams per mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The emission model applied in this assessment was the California Emissions Estimator Model (CalEEMod) version 2013.2.2. The South Coast Air Quality Management District in cooperation with other air districts throughout the State developed the CalEEMod model. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas emissions associated with construction and operation from a variety of land uses.

4.2.1 - Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from onsite and offsite activities. Onsite emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM₁₀) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Offsite emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM₁₀ and PM_{2.5}).

The project includes a General Plan Update and projected development within 12 development areas. Although this document assumes all 12 development areas would be fully constructed by 2020, no detailed land use plans are available at the time of this writing. In addition, there is no schedule for submittal of any detailed plans. Because of the programmatic nature of the project, quantifying specific construction emissions, which are dependent on the quantity of earth being disturbed and equipment in operation at any one time, would be speculative. Future development activities that occur within the City would be subject to project-level environmental review. However, the general magnitude of construction emissions are assessed qualitatively within the respective impact sections.

4.2.2 - Operation

Operational emissions are those emissions that occur once the project commences operation. The major operational emission sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project site. The emissions were estimated using CalEEMod. The emissions for the criteria air pollutant analysis used emission factors for the operational year 2020.

The operational trip generation rates are shown in Table 5. The trip generation rates are from the Traffic Study prepared by Advantec Consulting Engineers (Advantec 2014). In addition, Table 5 provides the corresponding CalEEMod land use label used in the emissions modeling. The rates contained in the table incorporate the internal trip capture reductions and trip reduction from alternative transit, as contained within the Traffic Study.

Table 5: Land Use and Trip Generation Rates for Modeling Input

Area Number	Development Node Type	Projected Development			CalEEMod Land Use Equivalent	Trip Rate ¹		
		Proposed Land Use	Size	Units		Weekday	Saturday	Sunday
1	General Industry	General Heavy Industry	725.0	ksf	General Heavy Industry	1.20	1.20	1.20
2	General Industry	General Light Industry	500.0	ksf	General Light Industry	5.58	1.06	0.54
3	Casino Full Service Resort	Gaming Floor	88.5	ksf	User-Defined Commercial	22.53	27.04	27.04
		Hotel (Resort)	160	Rms	Hotel	2.25	2.70	2.70
		2 Restaurants (full service)	20.0	ksf	User-Defined Recreational	12.72	15.84	13.18
		1 Restaurant (drive thru)	4.0	ksf	Fast Food Restaurant with Drive Thru	49.61	72.20	54.27
		1 Buffet (sit down)	5.0	ksf	High Turnover (Sit Down Restaurant)	12.72	15.84	13.18
		1 Coffee Shop (sit down)	2.0	ksf	Fast Food Restaurant W/o Drive Thru	12.06	12.06	12.06
		Retail Shops (3 shops) Department Stores	4.5	ksf	Strip Mall	2.14	25.40	25.40
4	Residential	Single Family Residential "Active Seniors Housing"	1,575	DU	Retirement Community	3.68	2.73	2.32
5	Commercial	Restaurants 3 (sit down)	30.0	ksf	High Turnover (Sit Down Restaurant)	127.15	158.37	131.84
		Restaurants 2 (w/drive thru)	20.0	ksf	Fast Food Restaurant with Drive Thru	496.12	722.03	542.72
		Hotel (300,000 sf)	100	Rms	Hotel	8.92	12.27	8.92
		Retail Shops (shopping center)	100.0	ksf	Regional Shopping Center	38.43	44.97	22.72
6	Big Box Retail	Major Retailer	275.0	ksf	Free-Standing Discount Superstore	45.79	56.86	45.09
		Retail Pads	32.0	ksf	Strip Mall	34.16	39.98	20.75
		Shops	34.0	ksf	Regional Shopping Center	34.16	39.98	20.19
		Bank	5.0	ksf	Bank with Drive-Through	24.75	69.06	25.52

Table 5 (cont.): Land Use and Trip Generation Rates for Modeling Input

Area Number	Development Node Type	Projected Development			CalEEMod Land Use Equivalent	Trip Rate ¹		
		Proposed Land Use	Size	Units		Weekday	Saturday	Sunday
	Fitness/ Entertainment	Fitness Center	35.0	ksf	Health Club	26.34	16.70	21.38
		Sporting Goods Store	30.0	ksf	Free-Standing Discount Store	33.44	43.00	26.94
		Movie Theater	11.0	ksf	Movie Theater (No Matinee)	16.41	79.98	65.52
		Shopping	19.0	ksf	Regional Shopping Center	34.16	39.98	20.19
		Bank	5.0 sf	ksf	Bank (with Drive-Through)	118.52	69.06	25.52
		Restaurant	11.0 sf	ksf	High Turnover (Sit Down Restaurant)	101.72	126.70	105.47
		Fast Food	4.0 sf	ksf	Fast Food Restaurant with Drive Thru	396.90	577.62	434.18
		Visitor Center	2	employees	User Defined Commercial	6.44	34.53	38.10
	Health and Wellness	Wellness Center	50.0	ksf	Medical Office Building	6.41	10.83	19.28
		Daycare	23.0	ksf	Day-Care Center	59.25	4.97	4.66
		Drug Store	11.0	ksf	Pharmacy/Drugstore w/o Drive Thru	77.53	77.53	77.53
		Shopping Pad	40.0	ksf	Regional Shopping Center	34.16	39.98	20.19
	Market and Storage	Supermarket	50.0	ksf	Supermarket	81.79	142.07	133.15
		Shopping	19.0	ksf	Regional Shopping Center	34.16	39.98	20.19
		Restaurant	10.0	ksf	High Turnover (Sit Down Restaurant)	101.72	126.70	105.47
		Fast Food	12.0	ksf	Fast Food Restaurant with drive Thru	396.90	577.62	434.18
		Gas Station	12	fueling stations	Gasoline/Service Station	130.22	130.22	130.22
		Office	5.0	ksf	General Office Building	3.32	2.46	1.05
	Gas & Fast Food	Shopping	7.0	ksf	Regional Shopping Center	34.16	39.98	20.19

Table 5 (cont.): Land Use and Trip Generation Rates for Modeling Input

Area Number	Development Node Type	Projected Development			CalEEMod Land Use Equivalent	Trip Rate ¹		
		Proposed Land Use	Size	Units		Weekday	Saturday	Sunday
		Gas Station	24	Fueling Stations	Gasoline/Service Station	130.22	130.22	130.22
		Fast Food	13.8	ksf	Fast Food Restaurant with Drive Thru	396.90	577.62	434.18
		Restaurant	84.0	ksf	High Turnover (Sit Down Restaurant)	101.72	126.70	105.47
	Hotel	Hotel (E of L St; S of Main); 200,000 sf	100	Rms	Hotel	6.97	12.27	8.92
	Residential	Medium Density Residential	20	DU	Apartments Low Rise	6.65	6.39	5.86
7	Residential	Single Family Residential	400	DU	Single Family Housing	9.52	9.91	8.62
8	Residential	Medium Density Residential	30	DU	Condo/Townhouse	3.44	2.61	2.84
9	Residential	Single Family Residential	140	DU	Single Family Residential	9.52	9.91	8.62
10	Residential	Medium Density Residential (Condo/Townhouses)	20	DU	Condo/Townhouse	5.81	5.67	4.84
11	Residential	Single Family Residential	500	DU	Single Family Housing	7.62	7.93	6.90
	Other	Diverse Use	75.0	ksf	User Defined Recreational	1.10	1.10	1.10
		Diverse Use	75.0	ksf	User Defined Retail	7.52	7.52	7.52
12	Residential	Medium Density Residential (Apartments)	60	DU	Apartments Low-Rise	6.65	6.39	5.86
	General Office	General Office Buildings	20.0	ksf	General Office Building	3.32	2.46	1.05

Notes and Abbreviations:
¹. Trip rate incorporates trip reductions associated with internal capture and alternative transit use.
ksf = thousand square feet DU = Dwelling Units Rms = Rooms
Source: Advantec Consulting Engineers 2014.

Landscape Equipment

The landscaping equipment emissions were calculated in CalEEMod using the default assumptions in the model.

Electricity

Electricity consumed by the project is an indirect source of GHG emissions. There would be emissions from the power plants that would generate electricity to be used by the project (for lighting, etc.). CalEEMod was used to estimate these emissions from the project.

Electricity Emission Factor

The analysis used the following default CalEEMod emission factors for energy use for Southern California Edison in the baseline year (which are from the year 2006):

- Carbon dioxide: 630.89 pounds per megawatt-hour (lbs/MWh)
- Methane: 0.029 lb/MWh
- Nitrous oxide: 0.006 lb/MWh

The analysis assumes that the electricity provider would achieve the Renewable Portfolio Standards (RPS) target by the 2020 mandate. The Renewable Electricity Standard requires that electricity providers include a minimum of 33 percent renewable energy in their portfolios by the year 2020. In the year 2006, Southern California Edison had 16.6 percent renewable energy in its portfolio (California Public Utilities Commission 2011). Therefore, an additional 16.4 percent reduction would be anticipated by the year 2020. The emission factors for 2020 therefore are estimated by reducing the adjusted year 2006 (pre-16.6 percent renewable number). The energy intensity factor scenarios, including the year 2020 with RPS scenario, are provided in Table 6.

Table 6: Energy Intensity Factors

Pollutant	Energy Intensity Factor Scenarios		
	Year 2006 (CalEEMod Default)	Year 2006 (No Renewable Energy)	Year 2020 (Adjusted with RPS)
Carbon dioxide	630.89	756.46	506.83
Methane	0.029	0.035	0.023
Nitrous oxide	0.006	0.007	0.005
Energy Mix			
Percent Renewable	16.6%	0.0%	33.0%
Percent Non Renewable	83.4%	100.0%	67.0%
Notes: RPS = Renewable Portfolio Standards ksf = thousand square feet; kWh = kilowatt hours Source: Appendix A.			

Electricity Consumption

The default CalEEMod values for electricity consumption were used. Note that Policy 9.2 promotes the use of energy efficient lighting and appliances, which would reduce energy consumption. These features are applied as “mitigation” under CalEEMod. In addition, CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building envelope systems covered by California’s Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title-24. Since lighting is not considered part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. The CalEEMod default values were used to allocate electricity consumption to these three categories.

Natural Gas

The analysis includes emissions from the combustion of natural gas used for the project (water heaters, space heating, etc.). CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. The CalEEMod default rates were used to estimate natural gas consumption.

Energy Efficiency

The 2013 Title 24 Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for non-residential construction, as well as require “solar-ready roofs” to accommodate future installation of solar photovoltaic panels. The energy efficiency attributable to compliance with Title 24 Standards is incorporated into the emissions modeling through the ‘mitigation’ module because of how CalEEMod is designed. However, Title 24 compliance is mandatory and, as such, is not considered mitigation under CEQA.

Water and Wastewater

Greenhouse gas emissions would be emitted from the use of electricity to pump water to the project and to treat wastewater. The water usage volumes for these land use types were estimated using CalEEMod default values. Note that the California Green Building Code requires reductions in indoor water consumption, as described in “Regulatory Environment.” Because of how CalEEMod is structured, compliance with the Green Building Code requirements is applied as “mitigation” in the model, although regulatory compliance is not considered mitigation under CEQA.

Solid Waste

Greenhouse gas emissions would be generated from the decomposition of solid waste generated by the project in area landfills. CalEEMod was used to estimate the greenhouse gas emissions from this source. CalEEMod defaults were used to estimate solid waste generation and disposal emissions.

Note that Policy 1.6 and Policy 9.9 improve construction and operational waste reduction, diversion and recycling. Construction waste diversion and providing areas for recycling in buildings are required by the California Green Building Standards Code and the City is required to achieve State diversion, reuse, and recycling goals managed by CalRecycle. As such, the mitigation measure for instituting a recycling and composting service was selected, with an estimated 50 percent reduction.

SECTION 5: GREENHOUSE GAS IMPACT ANALYSIS

5.1 - CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

- (a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- (b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

5.2 - Impact Analysis

Greenhouse gas impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in greenhouse gas emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. California has defined reductions required by the state in AB 32 (1990 emission levels by 2020). This serves to define California’s share of the reductions regardless of the activities or lack of activities of other areas of the U.S. or the world. Therefore, a cumulative threshold based on consistency with state targets and actions to reduce greenhouse gases is an appropriate standard of comparison for significance determinations at the General Plan level.

Another approach to significance is to use a “bright line” threshold that identifies a quantitative increase above which is considered significant. The MDAQMD has identified a threshold of 100,000 tons per year for individual projects. For a General Plan Update, the MDAQMD threshold could be applied to the annual average increase in emissions during the buildout timeframe rather than for the individual development areas assumed to become operational by 2020.

Greenhouse Gas Inventory

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Impact Analysis

Threshold of Significance

Section 15064.4(b) of the CEQA Guideline amendments for greenhouse gas emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas emissions.

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The MDAQMD has adopted a significance threshold of 100,000 tons per year of carbon dioxide equivalent (CO₂e), which is equivalent to 90,718.47 metric tons of CO₂e (MTCO₂e).

To determine significance, the analysis first will quantify project-related greenhouse gas emissions without implementation of the recommended goals and policies, and then compare these emissions with those emissions that would occur when goals and policies are accounted for.

Construction

For the assumptions used in generating the emissions, please refer to Section 4 of this report. The project includes a General Plan Update and projected development within 12 development areas. Although this document assumes all 12 development areas would be fully constructed by 2020, no detailed land use plans are available at the time of this writing. In addition, there is no schedule for submittal of any detailed plans. Because of the programmatic nature of the project, evaluating project-specific construction emissions, which are dependent on the quantity of earth being disturbed and equipment in operation at any one time, would be speculative.

Construction of individual development areas associated with implementation of the General Plan Update is assumed to occur from the base year through 2020. Construction of multiple development areas could occur simultaneously. Construction of the development areas would result

in temporary emissions of greenhouse gases. The limited scale of GHG emissions generated during construction even from multiple simultaneous projects could not exceed the MDAQMD 100,000-ton per-year quantitative threshold. The ARB Scoping Plan does not include any strategies targeting construction equipment. Instead, the Scoping Plan focuses on constructing buildings that save energy, facilitate the use of alternative energy sources such as solar, and conserve resources. Although not required to mitigate a significant impact, recycling and diversion of construction waste as required by the Green Building Standards and supported by General Plan Policy 9.9 would provide some reductions from construction activities. Therefore, GHG emissions during construction are considered less than significant and would normally not require additional analysis as individual projects are developed.

Operation

Operational or long-term emissions occur over the life of the project. The operational emissions for the project are shown in Table 7. For assumptions and descriptions for the emission sources, please refer to Section 4 of this report. The 2020 emissions include reductions from regulations enacted as part of AB 32, in particular the following:

- Mobile: Pavley I and Low Carbon Fuel Standard regulation reductions are included in CalEEMod default modeling assumptions;
- Mobile: Pavley II/LEV III standards are reflected in the modeling as adjustments to the vehicle emission factors to reflect a 3 percent reduction between 2017 and 2020 from new light-duty vehicles meeting the standards;
- Electricity: Renewable Portfolio Standards require a 33 percent renewable portfolio by the year 2020; and
- Electricity: 2013 Title 24 Energy Efficiency Standards are reflected in the mitigated modeling output as a 25 percent reduction in non-residential and a 30 percent reduction in energy consumption from for buildings constructed after July 2014.

As shown in Table 7, the development areas with the benefits of adopted regulations and General Plan policies would individually be less than the MDAQMD’s adopted threshold of significance and the average annual emissions are less than the MDAQMD’s threshold.

Table 7: Project Operational Greenhouse Gases

Emissions Source	Emissions (MTCO ₂ e per year)
	2020 Buildout
Dev. Area 1: Heavy Industry	4,553
Dev. Area 2: Light Industry	4,997
Dev. Area 3: Casino Resort	4,984

Table 7 (cont.): Project Operational Greenhouse Gases

Emissions Source	Emissions (MTCO ₂ e per year)
	2020 Buildout
Dev. Area 4: Active Seniors Housing	11,573
Dev. Area 5: Highway Commercial	13,816
Dev. Area 6: Big Box	11,996
Dev. Area 6: Fitness/Entertainment	4,647
Dev. Area 6: Health and Wellness	2,928
Dev. Area 6: Market and Storage	7,530
Dev. Area 6: Gas and Fast Food	10,882
Dev. Area 6: Hotel	1,937
Dev. Area 6: Medium-density Residential	208
Dev. Area 7: Single Family Residential	5,937
Dev. Area 8: Senior Housing Attached	207
Dev. Area 9: Single Family Residential	2,196
Dev. Area 10: Condominiums	196
Dev. Area 11: Single Family Residential	6,713
Dev. Area 11: Diverse use	685
Dev. Area 12: Medium Density Residential	623
Dev. Area 12: Office	123
2020 Buildout Total	96,731
Average Annual Emissions Increase 2015-2020	16,122
Significance Threshold (100,000 tons CO ₂ e/year)	90,718 MTCO ₂ e
Are emissions significant?	No
Note: MTCO ₂ e = metric tons of carbon dioxide equivalents Source of 2020 emissions: CalEEMod output for the year 2020 (Appendix A).	

With incorporation of reductions associated with the recommended goals and policies, the estimated cumulative emissions from operation of the development areas would not exceed the MDQAMD annual threshold. The project buildout schedule conservatively assumes buildout by 2020. Even if buildout of the 12 project areas was greatly accelerated and accomplished in 2 years instead of 6 years, it would not exceed the annual threshold in any year. Greenhouse gas reductions were estimated only for those goals and policies where enough information was available to estimate an emission reduction. Therefore, implementation of the goals and policies and regulations

with no reduction methodology included in CalEEMod would result in a greater emission reduction than reflected in Table 7.

For example, Policy 9.12 would encourage the development of with solar-ready roofs. The development of on-site renewable energy would result in a corresponding reduction of energy generated by off-site fuels consumption by the electric utility.

Policies 9.4 and 9.5 would encourage the use of reclaimed water, a reduction in landscape turf, and an increase in water-efficient landscapes. However, without detailed information on the quantity of reclaimed water, reduced turf, and water efficient landscaping, greenhouse gas emission reductions could not be calculated.

A second quantitative method for determining consistency with AB 32 is to compare project emissions from a business as usual (BAU) scenario (emissions without emission reductions applied from regulatory programs and mitigation measures) with a controlled scenario that includes all reductions applicable to project emission sources. This method is used by ARB in its Scoping Plan to determine the reductions required to achieve the AB 32 target of reducing emissions to 1990 levels by 2020. Projects that achieve a reduction from BAU of at least 21.7 percent in 2020 would be considered consistent with AB 32 targets. As shown in Table 8, the project would achieve a 39.8 percent reduction from the BAU scenario. Therefore, the project would achieve the AB 32 emission reduction target and result in a less than significant impact.

Table 8: City of Barstow 2020 Business as Usual and Regulated Greenhouse Gas Emissions

Emissions Source	Emissions (MTCO ₂ e/year)		Percent Reduction
	2020 BAU	2020 with Existing Regulations	
Dev. Area 1: Heavy Industry	6,871	4,875	29.1%
Dev. Area 2: Light Industry	8,041	5,219	35.1%
Dev. Area 3: Casino Resort	8,442	5,101	39.6%
Dev. Area 4: Active Seniors Housing	18,863	12,637	33.0%
Dev. Area 5: Highway Commercial	24,512	14,098	42.5%
Dev. Area 6: Big Box	21,834	12,380	43.3%
Dev. Area 6: Fitness/Entertainment	8,094	4,692	42.0%
Dev. Area 6: Health and Wellness	5,189	3,020	41.8%
Dev. Area 6: Market and Storage	13,415	7,504	44.1%
Dev. Area 6: Gas and Fast Food	19,247	11,184	41.9%
Dev. Area 6: Hotel	3,183	2,002	37.1%
Dev. Area 6: Medium-density Residential	361	227	37.2%

Table 8 (cont.): City of Barstow 2020 Business as Usual and Regulated Greenhouse Gas Emissions

Emissions Source	Emissions (MTCO ₂ e/year)		Percent Reduction
	2020 BAU	2020 with Existing Regulations	
Dev. Area 7: Single Family Residential	10,785	6,132	43.1%
Dev. Area 8: Senior Housing Attached	352	237	32.8%
Dev. Area 9: Single Family Residential	3,775	2,361	37.4%
Dev. Area 10: Condominiums	338	216	36.2%
Dev. Area 11: Single Family Residential	11,467	7,302	36.3%
Dev. Area 11: Diverse use	1,227	685	44.2%
Dev. Area 12: Medium Density Residential	1,084	680	37.2%
Dev. Area 12: Office	207	131	36.7%
Total	167,285	685	39.8
Threshold for Consistency with AB 32 Targets			21.7%
Significance in 2020?			LTS
Notes and Acronyms: BAU = Business As Usual MTCO ₂ e = metric tons of carbon dioxide equivalents LTS = Less than significant impact BAU uses 2005 modeling assumptions in CalEEMod to provide emissions without regulations adopted to reduce greenhouse gas emissions. Source: FCS 2014 Appendix A			

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

No mitigation required beyond compliance with regulations.

Implementation of goals and policies identified in Section 1.4. will provide reductions beyond those required to show consistency with AB 32.

Level of Significance After Mitigation

Less than significant impact.

Greenhouse Gas Reduction Plans

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Impact Analysis

There are no existing local or regional Greenhouse Gas Reduction Plans applicable to the City of Barstow. In the absence of local or regional plan, the applicable plan is the adopted RTP/SCS.

The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

The SCAG comment letter on the project, dated May 29, 2014, identifies 2012 RTP/SCS goals as applicable to the project. The project analysis for consistency with the identified goals is provided in Table 9. The project is consistent with the applicable 2012 RTP/SCS goals. Therefore, impacts are less than significant.

Table 9: RTP/SCS Consistency Analysis

RTP/SCS Goal	Consistency Assessment
G1: Align the plan investments and policies with improving regional economic development and competitiveness	Consistent. The development proposed in the General Plan Update would allow for a complete mix of industrial, commercial, and residential development providing substantial economic development in terms of jobs and retail sales. Greenhouse gas policies help ensure the economic development would not result in significant impacts related to climate change, but mostly result in net savings due to reduced energy and water consumption.
G2: Maximize mobility and accessibility for all people and goods in the region	Consistent. General Plan Goals and policies under the following mitigation categories improve access to multiple modes of transportation through the City: Congestion Management and Transportation Control Measures, Environmental Assessment, and Integrated Land Use and Transportation.
G3: Ensure travel safety and reliability for all people and goods in the region	Consistent. General Plan Goals and policies under the following mitigation categories improve safety and reliability of to multiple modes of transportation through the City: Congestion Management and Transportation Control Measures, Environmental Assessment, and Integrated Land Use and Transportation.

Table 9 (cont.): RTP/SCS Consistency Analysis

RTP/SCS Goal	Consistency Assessment
G4: Preserve and ensure a sustainable regional transportation system	<p>Consistent. Policy 1.4 requires the City to work with regional and local transit agencies to assess development impacts on long-range transit plans and transit facilities during the project planning stage. Policy 1.5 helps promote local and regional public transit service in Barstow.</p> <p>Furthermore, measures under the following mitigation categories help sustain a viable regional transportation system:</p> <p>Congestion Management and Transportation Control Measures mitigation category</p> <p>Integrated Land Use and Transportation</p>
G5: Maximize the productivity of our transportation system	<p>Consistent. Policy 1.4 requires the City to work with regional and local transit agencies to assess development impacts on long-range transit plans and transit facilities during the project planning stage. Policy 1.5 helps promote local and regional public transit service in Barstow.</p> <p>Furthermore, measures under the following mitigation categories help sustain a viable regional transportation system:</p> <p>Congestion Management and Transportation Control Measures mitigation category</p> <p>Integrated Land Use and Transportation</p>
G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)	<p>Consistent. All goals and policies within the separate Air Quality Impact Analysis Report are aimed at minimizing, reducing, or avoiding localized and regional air quality impacts. In addition, measures under the following mitigation categories encourage active transportation:</p> <p>Congestion Management and Transportation Control Measures mitigation category</p> <p>Integrated Land Use and Transportation</p>
G7: Actively encourage and create incentives for energy efficiency, where possible	<p>Consistent. Goals and policies within the Energy Efficiency and Conservation mitigation category encourages energy efficient design as well as onsite renewable energy generation.</p>
G8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation	<p>Consistent. General Plan Goals and policies under the following mitigation categories encourages land use and growth patterns that support alternative transportation use (including non-motorized transportation) as well as reduced VMT and reduced single-occupancy trip generation:</p>

Table 9 (cont.): RTP/SCS Consistency Analysis

RTP/SCS Goal	Consistency Assessment
	Environmental Assessment, and Integrated Land Use and Transportation.
G9: Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies	Not Applicable. This goal only applies to transit providers.
Source of RTP/SCS Goals: Southern California Association of Governments, 2012. Source of Project Consistency or Applicability: FirstCarbon Solutions.	

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

All recommended goals and policies identified in Section 1.4.

Level of Significance After Mitigation

Less than significant impact.

SECTION 6: ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AQP	Air Quality Plan
ARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
EPA	United States Environmental Protection Agency
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
MTCO ₂ e	metric tons of carbon dioxide equivalent
SB	Senate Bill
SCAG	Southern California Association of Governments

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**Appendix A:
CalEEMod Modeling Output**

Barstow - Dev Site 1 - Gen Hvy Ind 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	725.00	1000sqft	16.64	725,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	1.50	1.20
tblVehicleTrips	SU_TR	1.50	1.20
tblVehicleTrips	WD_TR	1.50	1.20

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	0.0130	0.0130	6.0000e-005	0.0000	0.0142
Energy											0.0000	3,703.3027	3,703.3027	0.1351	0.0468	3,720.6439
Mobile											0.0000	1,902.9532	1,902.9532	0.1640	0.0000	1,906.3964
Waste											182.4889	0.0000	182.4889	10.7848	0.0000	408.9693
Water											53.1896	624.7172	677.9068	5.4918	0.1349	835.0649
Total											235.6785	6,230.9860	6,466.6645	16.5757	0.1817	6,871.0887

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1,902.9532	1,902.9532	0.1640	0.0000	1,906.3964
Unmitigated											0.0000	1,902.9532	1,902.9532	0.1640	0.0000	1,906.3964

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	870.00	870.00	870.00	2,539,975	2,539,975
Total	870.00	870.00	870.00	2,539,975	2,539,975

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	2,392.1406	2,392.1406	0.1100	0.0228	2,401.5023
Electricity Unmitigated											0.0000	2,392.1406	2,392.1406	0.1100	0.0228	2,401.5023
NaturalGas Mitigated											0.0000	1,311.1621	1,311.1621	0.0251	0.0240	1,319.1416
NaturalGas Unmitigated											0.0000	1,311.1621	1,311.1621	0.0251	0.0240	1,319.1416

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	2.45703e+007											0.0000	1,311.1621	1,311.1621	0.0251	0.0240	1,319.1416
Total												0.0000	1,311.1621	1,311.1621	0.0251	0.0240	1,319.1416

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	8.35925e+006	2,392.1406	0.1100	0.0228	2,401.5023
Total		2,392.1406	0.1100	0.0228	2,401.5023

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	0.0130	0.0130	6.0000e-005	0.0000	0.0142
Unmitigated											0.0000	0.0130	0.0130	6.0000e-005	0.0000	0.0142

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.0130	0.0130	6.0000e-005	0.0000	0.0142
Total											0.0000	0.0130	0.0130	6.0000e-005	0.0000	0.0142

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	677.9068	5.4908	0.1347	834.9800
Unmitigated	677.9068	5.4918	0.1349	835.0649

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	167.656 / 0	677.9068	5.4918	0.1349	835.0649
Total		677.9068	5.4918	0.1349	835.0649

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	182.4889	10.7848	0.0000	408.9693
Unmitigated	182.4889	10.7848	0.0000	408.9693

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	899	182.4889	10.7848	0.0000	408.9693
Total		182.4889	10.7848	0.0000	408.9693

Barstow - Dev Site 2 - Gen Light Ind 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	500.00	1000sqft	11.48	500,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	1.32	1.06
tblVehicleTrips	SU_TR	0.68	0.54
tblVehicleTrips	WD_TR	6.97	5.58

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	8.9300e-003	8.9300e-003	4.0000e-005	0.0000	9.8100e-003
Energy											0.0000	2,554.0019	2,554.0019	0.0932	0.0323	2,565.9613
Mobile											0.0000	4,608.9589	4,608.9589	0.3971	0.0000	4,617.2984
Waste											125.8544	0.0000	125.8544	7.4378	0.0000	282.0478
Water											36.6825	430.8395	467.5219	3.7875	0.0931	575.9068
Total											162.5369	7,593.8091	7,756.3460	11.7156	0.1253	8,041.2241

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	4,608.9589	4,608.9589	0.3971	0.0000	4,617.2984
Unmitigated											0.0000	4,608.9589	4,608.9589	0.3971	0.0000	4,617.2984

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	2,790.00	530.00	270.00	6,151,827	6,151,827
Total	2,790.00	530.00	270.00	6,151,827	6,151,827

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,649.7521	1,649.7521	0.0758	0.0157	1,656.2085
Electricity Unmitigated											0.0000	1,649.7521	1,649.7521	0.0758	0.0157	1,656.2085
NaturalGas Mitigated											0.0000	904.2497	904.2497	0.0173	0.0166	909.7528
NaturalGas Unmitigated											0.0000	904.2497	904.2497	0.0173	0.0166	909.7528

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.6945e+07											0.0000	904.2497	904.2497	0.0173	0.0166	909.7528
Total												0.0000	904.2497	904.2497	0.0173	0.0166	909.7528

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light	5.765e+00	1,649.7521	0.0758	0.0157	1,656.208
Industry	6				5
Total		1,649.7521	0.0758	0.0157	1,656.208
					5

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	8.9300e-003	8.9300e-003	4.0000e-005	0.0000	9.8100e-003
Unmitigated											0.0000	8.9300e-003	8.9300e-003	4.0000e-005	0.0000	9.8100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	8.9300e-003	8.9300e-003	4.0000e-005	0.0000	9.8100e-003
Total											0.0000	8.9300e-003	8.9300e-003	4.0000e-005	0.0000	9.8100e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	467.5219	3.7868	0.0929	575.8483
Unmitigated	467.5219	3.7875	0.0931	575.9068

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	115.625 / 0	467.5219	3.7875	0.0931	575.9068
Total		467.5219	3.7875	0.0931	575.9068

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	125.8544	7.4378	0.0000	282.0478
Unmitigated	125.8544	7.4378	0.0000	282.0478

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	620	125.8544	7.4378	0.0000	282.0478
Total		125.8544	7.4378	0.0000	282.0478

Barstow - Dev Site 3 - Casino Resort 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	88.50	User Defined Unit	0.00	88.50	0
Fast Food Restaurant w/o Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	4.00	1000sqft	0.09	4,000.00	0
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.11	5,000.00	0
Hotel	160.00	Room	5.33	232,320.00	0
User Defined Recreational	20.00	User Defined Unit	0.00	20,000.00	0
Strip Mall	4.50	1000sqft	0.10	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics
 Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow
 Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	88.50
tblLandUse	LandUseSquareFeet	0.00	20,000.00

tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	CC_TTP	0.00	79.50
tblVehicleTrips	CC_TTP	0.00	79.50
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	1.50
tblVehicleTrips	CW_TTP	0.00	1.50
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	696.00	12.06
tblVehicleTrips	ST_TR	722.03	72.20
tblVehicleTrips	ST_TR	158.37	15.84
tblVehicleTrips	ST_TR	8.19	2.70
tblVehicleTrips	ST_TR	42.04	25.40
tblVehicleTrips	ST_TR	0.00	27.04
tblVehicleTrips	ST_TR	0.00	15.84
tblVehicleTrips	SU_TR	500.00	12.06
tblVehicleTrips	SU_TR	542.72	54.27
tblVehicleTrips	SU_TR	131.84	13.18
tblVehicleTrips	SU_TR	5.95	2.70
tblVehicleTrips	SU_TR	20.43	25.40
tblVehicleTrips	SU_TR	0.00	27.04
tblVehicleTrips	SU_TR	0.00	13.18
tblVehicleTrips	WD_TR	716.00	12.06
tblVehicleTrips	WD_TR	496.12	49.61
tblVehicleTrips	WD_TR	127.15	12.72
tblVehicleTrips	WD_TR	8.17	2.25
tblVehicleTrips	WD_TR	44.32	2.14
tblVehicleTrips	WD_TR	0.00	22.53
tblVehicleTrips	WD_TR	0.00	12.72

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	5.0700e-003	5.0700e-003	2.0000e-005	0.0000	5.5700e-003
Energy											0.0000	2,618.3343	2,618.3343	0.0934	0.0338	2,630.7706
Mobile											0.0000	5,658.7812	5,658.7812	0.5000	0.0000	5,669.2804
Waste											44.8509	0.0000	44.8509	2.6506	0.0000	100.5137
Water											2.4527	31.5675	34.0202	0.2534	6.2500e-003	41.2778
Total											47.3035	8,308.6881	8,355.9916	3.4973	0.0400	8,441.8480

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	5,658.7812	5,658.7812	0.5000	0.0000	5,669.2804
Unmitigated											0.0000	5,658.7812	5,658.7812	0.5000	0.0000	5,669.2804

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	24.12	24.12	24.12	38,895	38,895
Fast Food Restaurant with Drive Thru	198.44	288.80	217.08	199,956	199,956
High Turnover (Sit Down Restaurant)	63.60	79.20	65.90	76,760	76,760
Hotel	360.00	432.00	432.00	723,059	723,059
Strip Mall	9.63	114.30	114.30	60,886	60,886
User Defined Commercial	1,993.91	2,393.04	2393.04	5,626,548	5,626,548
User Defined Recreational	254.40	316.80	263.60	706,350	706,350
Total	2,904.10	3,648.26	3,510.04	7,432,455	7,432,455

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant w/o Drive Thru	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
User Defined Commercial	9.50	7.30	7.30	1.50	79.50	19.00	100	0	0
User Defined Recreational	9.50	7.30	7.30	1.50	79.50	19.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,610.4568	1,610.4568	0.0740	0.0153	1,616.7593
Electricity Unmitigated											0.0000	1,610.4568	1,610.4568	0.0740	0.0153	1,616.7593
NaturalGas Mitigated											0.0000	1,007.8775	1,007.8775	0.0193	0.0185	1,014.0113
NaturalGas Unmitigated											0.0000	1,007.8775	1,007.8775	0.0193	0.0185	1,014.0113

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant w/o Drive Thru	558700											0.0000	29.8144	29.8144	5.7000e-004	5.5000e-004	29.9958
Fast Food Restaurant with Drive Thru	1.1174e+06											0.0000	59.6287	59.6287	1.1400e-003	1.0900e-003	59.9916
High Turnover (Sit Down Restaurant)	1.39675e+06											0.0000	74.5359	74.5359	1.4300e-003	1.3700e-003	74.9895
Hotel	1.58024e+07											0.0000	843.2766	843.2766	0.0162	0.0155	848.4086
Strip Mall	11655											0.0000	0.6220	0.6220	1.0000e-005	1.0000e-005	0.6257
User Defined Commercial	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												0.0000	1,007.8775	1,007.8775	0.0193	0.0185	1,014.0113

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive-Thru	108240	30.9747	1.4200e-003	2.9000e-004	31.0959
Fast Food Restaurant with Drive-Thru	216480	61.9494	2.8500e-003	5.9000e-004	62.1919
High Turnover (Sit Down Restaurant)	270600	77.4368	3.5600e-003	7.4000e-004	77.7398
Hotel	4.95771e+006	1,418.7321	0.0652	0.0135	1,424.2844
Strip Mall	74655	21.3638	9.8000e-004	2.0000e-004	21.4474
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,610.4568	0.0740	0.0153	1,616.7593

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	5.0700e-003	5.0700e-003	2.0000e-005	0.0000	5.5700e-003
Unmitigated											0.0000	5.0700e-003	5.0700e-003	2.0000e-005	0.0000	5.5700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	5.0700e-003	5.0700e-003	2.0000e-005	0.0000	5.5700e-003
Total											0.0000	5.0700e-003	5.0700e-003	2.0000e-005	0.0000	5.5700e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	34.0202	0.2533	6.2400e-003	41.2738
Unmitigated	34.0202	0.2534	6.2500e-003	41.2778

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive-Thru	0.607067 / 0.038749	2.5778	0.0199	4.9000e-004	3.1474
Fast Food Restaurant with Drive-Thru	1.21413 / 0.077498	5.1557	0.0398	9.8000e-004	6.2947
High Turnover (Sit Down Restaurant)	1.51767 / 0.0968725	6.4446	0.0497	1.2200e-003	7.8684
Hotel	4.05868 / 0.450965	17.8448	0.1330	3.2800e-003	21.6549
Strip Mall	0.333326 / 0.204297	1.9973	0.0110	2.7000e-004	2.3123
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		34.0202	0.2534	6.2400e-003	41.2778

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	44.8509	2.6506	0.0000	100.5137
Mitigated	44.8509	2.6506	0.0000	100.5137

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	23.04	4.6769	0.2764	0.0000	10.4813
Fast Food Restaurant with Drive Thru	46.08	9.3538	0.5528	0.0000	20.9625
High Turnover (Sit Down Restaurant)	59.5	12.0780	0.7138	0.0000	27.0675
Hotel	87.6	17.7820	1.0509	0.0000	39.8506
Strip Mall	4.73	0.9602	0.0567	0.0000	2.1518
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		44.8509	2.6506	0.0000	100.5137

Barstow - Dev Site 4 - Active Seniors Housing 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	1,575.00	Dwelling Unit	315.00	1,575,000.00	4505

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	2.81	2.73
tblVehicleTrips	SU_TR	2.81	2.32
tblVehicleTrips	WD_TR	2.81	3.68

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											1,626.9084	701.4045	2,328.3129	1.5320	0.1280	2,400.1543
Energy											0.0000	4,124.3227	4,124.3227	0.1402	0.0555	4,144.4681
Mobile											0.0000	11,250.4491	11,250.4491	0.9726	0.0000	11,270.8735
Waste											147.0670	0.0000	147.0670	8.6914	0.0000	329.5865
Water											32.5558	588.0531	620.6089	3.3708	0.0846	717.6058
Total											1,806.5312	16,664.2294	18,470.7606	14.7070	0.2680	18,862.6882

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	11,250.4491	11,250.4491	0.9726	0.0000	11,270.8735
Unmitigated											0.0000	11,250.4491	11,250.4491	0.9726	0.0000	11,270.8735

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	5,796.00	4,299.75	3654.00	14,985,183	14,985,183
Total	5,796.00	4,299.75	3,654.00	14,985,183	14,985,183

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Retirement Community	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	2,280.7828	2,280.7828	0.1048	0.0217	2,289.7087
Electricity Unmitigated											0.0000	2,280.7828	2,280.7828	0.1048	0.0217	2,289.7087
NaturalGas Mitigated											0.0000	1,843.5399	1,843.5399	0.0353	0.0338	1,854.7594
NaturalGas Unmitigated											0.0000	1,843.5399	1,843.5399	0.0353	0.0338	1,854.7594

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Retirement Community	3.45466e+007											0.0000	1,843.5399	1,843.5399	0.0353	0.0338	1,854.7594
Total												0.0000	1,843.5399	1,843.5399	0.0353	0.0338	1,854.7594

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	7.97011e+006	2,280.7828	0.1048	0.0217	2,289.7087
Total		2,280.7828	0.1048	0.0217	2,289.7087

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											1,626.9084	701.4045	2,328.3129	1.5320	0.1280	2,400.1543
Unmitigated											1,626.9084	701.4045	2,328.3129	1.5320	0.1280	2,400.1543

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											1,626.9084	682.3017	2,309.2100	1.5014	0.1280	2,380.4090
Landscaping											0.0000	19.1029	19.1029	0.0306	0.0000	19.7453
Total											1,626.9084	701.4045	2,328.3129	1.5320	0.1280	2,400.1543

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	620.6089	3.3702	0.0844	717.5539
Unmitigated	620.6089	3.3708	0.0846	717.6058

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Retirement Community	102.618 / 64.6937	620.6089	3.3708	0.0846	717.6058
Total		620.6089	3.3708	0.0846	717.6058

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	147.0670	8.6914	0.0000	329.5865
Unmitigated	147.0670	8.6914	0.0000	329.5865

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	724.5	147.0670	8.6914	0.0000	329.5865
Total		147.0670	8.6914	0.0000	329.5865

Barstow - Dev Site 5 - Hwy Commercial 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	20.00	1000sqft	0.46	20,000.00	0
High Turnover (Sit Down Restaurant)	30.00	1000sqft	0.69	30,000.00	0
Hotel	100.00	Room	3.33	300,000.00	0
Regional Shopping Center	100.00	1000sqft	2.30	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	145,200.00	300,000.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	8.19	12.27
tblVehicleTrips	ST_TR	49.97	44.97
tblVehicleTrips	SU_TR	5.95	8.92
tblVehicleTrips	SU_TR	25.24	22.72
tblVehicleTrips	WD_TR	8.17	8.92
tblVehicleTrips	WD_TR	42.94	38.43

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	4.4700e-003	4.4700e-003	2.0000e-005	0.0000	4.9000e-003
Energy											0.0000	4,929.2810	4,929.2810	0.1771	0.0632	4,952.5865
Mobile											0.0000	19,036.2141	19,036.2141	1.8982	0.0000	19,076.0759
Waste											151.6606	0.0000	151.6606	8.9629	0.0000	339.8813
Water											7.9696	112.0138	119.9834	0.8237	0.0204	143.6030
Total											159.6303	24,077.5134	24,237.1436	11.8618	0.0836	24,512.1516

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	19,036.2141	19,036.2141	1.8982	0.0000	19,076.0759
Unmitigated											0.0000	19,036.2141	19,036.2141	1.8982	0.0000	19,076.0759

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	9,922.40	14,440.60	10854.40	9,998,212	9,998,212
High Turnover (Sit Down Restaurant)	3,814.50	4,751.10	3955.20	4,604,394	4,604,394
Hotel	892.00	1,227.00	892.00	1,785,663	1,785,663
Regional Shopping Center	3,843.00	4,497.00	2272.00	6,508,268	6,508,268
Total	18,471.90	24,915.70	17,973.60	22,896,537	22,896,537

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	3,081.1589	3,081.1589	0.1416	0.0293	3,093.2171
Electricity Unmitigated											0.0000	3,081.1589	3,081.1589	0.1416	0.0293	3,093.2171
NaturalGas Mitigated											0.0000	1,848.1221	1,848.1221	0.0354	0.0339	1,859.3695
NaturalGas Unmitigated											0.0000	1,848.1221	1,848.1221	0.0354	0.0339	1,859.3695

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	5.587e+006											0.0000	298.1436	298.1436	5.7100e-003	5.4700e-003	299.9581
High Turnover (Sit Down Restaurant)	8.3805e+006											0.0000	447.2154	447.2154	8.5700e-003	8.2000e-003	449.9371
Hotel	2.0406e+007											0.0000	1,088.9419	1,088.9419	0.0209	0.0200	1,095.5690
Regional Shopping Center	259000											0.0000	13.8212	13.8212	2.6000e-004	2.5000e-004	13.9053
Total												0.0000	1,848.1221	1,848.1221	0.0354	0.0339	1,859.3695

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive-Thru High Turnover (Sit Down Restaurant)	1.0824e+06	309.7470	0.0142	2.9500e-003	310.9592
Hotel	1.6236e+06	464.6206	0.0214	4.4200e-003	466.4389
Regional Shopping Center	6.402e+006	1,832.0404	0.0842	0.0174	1,839.2102
Regional Shopping Center	1.659e+006	474.7509	0.0218	4.5200e-003	476.6088
Total		3,081.1589	0.1416	0.0293	3,093.2171

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	4.4700e-003	4.4700e-003	2.0000e-005	0.0000	4.9000e-003
Unmitigated											0.0000	4.4700e-003	4.4700e-003	2.0000e-005	0.0000	4.9000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	4.4700e-003	4.4700e-003	2.0000e-005	0.0000	4.9000e-003
Total											0.0000	4.4700e-003	4.4700e-003	2.0000e-005	0.0000	4.9000e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	119.9834	0.8236	0.0204	143.5903
Unmitigated	119.9834	0.8237	0.0204	143.6030

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	6.07067 / 0.38749	25.7783	0.1989	4.9000e-003	31.4737
High Turnover (Sit Down Restaurant)	9.10601 / 0.581235	38.6675	0.2984	7.3500e-003	47.2105
Hotel	2.53668 / 0.281853	11.1530	0.0831	2.0500e-003	13.5343
Regional Shopping Center	7.40725 / 4.53993	44.3846	0.2433	6.1000e-003	51.3845
Total		119.9834	0.8237	0.0204	143.6030

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	151.6606	8.9629	0.0000	339.8813
Mitigated	151.6606	8.9629	0.0000	339.8813

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	230.38	46.7651	2.7637	0.0000	104.8035
High Turnover (Sit Down Restaurant)	357	72.4678	4.2827	0.0000	162.4050
Hotel	54.75	11.1138	0.6568	0.0000	24.9066
Regional Shopping Center	105	21.3141	1.2596	0.0000	47.7662
Total		151.6606	8.9629	0.0000	339.8813

Barstow - Dev Site 6 ST - Big Box 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	5.00	1000sqft	0.11	5,000.00	0
Free-Standing Discount Superstore	275.00	1000sqft	6.31	275,000.00	0
Regional Shopping Center	34.00	1000sqft	0.78	34,000.00	0
Strip Mall	32.00	1000sqft	0.73	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Both Pad and Shop fit profile of Regional Shopping Center.

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	CC_TTP	64.40	64.70
tblVehicleTrips	CW_TTP	16.60	16.30

tblVehicleTrips	DV_TP	40.00	35.00
tblVehicleTrips	PB_TP	15.00	11.00
tblVehicleTrips	PR_TP	45.00	54.00
tblVehicleTrips	ST_TR	86.32	69.06
tblVehicleTrips	ST_TR	64.07	56.86
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	42.04	39.98
tblVehicleTrips	SU_TR	31.90	25.52
tblVehicleTrips	SU_TR	56.12	45.09
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	20.43	20.19
tblVehicleTrips	WD_TR	148.15	24.75
tblVehicleTrips	WD_TR	53.13	45.79
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	44.32	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	6.1800e-003	6.1800e-003	3.0000e-005	0.0000	6.7900e-003
Energy											0.0000	1,691.5709	1,691.5709	0.0763	0.0166	1,698.3129
Mobile											0.0000	19,348.7393	19,348.7393	1.8248	0.0000	19,387.0590
Waste											255.0906	0.0000	255.0906	15.0754	0.0000	571.6745
Water											8.0763	144.4623	152.5386	0.8362	0.0210	176.5955
Total											263.1669	21,184.7787	21,447.9456	17.8126	0.0375	21,833.6487

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	19,348.7393	19,348.7393	1.8248	0.0000	19,387.0590
Unmitigated											0.0000	19,348.7393	19,348.7393	1.8248	0.0000	19,387.0590

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	123.75	345.30	127.60	144,250	144,250
Free-Standing Discount Superstore	12,592.25	15,636.50	12,399.75	20,328,530	20,328,530
Regional Shopping Center	1,161.44	1,359.32	686.46	1,966,953	1,966,953
Strip Mall	1,093.12	1,279.36	646.08	1,851,249	1,851,249
Total	14,970.56	18,620.48	13,859.89	24,290,982	24,290,982

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	9.50	7.30	7.30	6.60	74.40	19.00	27	26	47
Free-Standing Discount	9.50	7.30	7.30	13.20	67.80	19.00	47.5	35.5	17
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Strip Mall	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,635.3980	1,635.3980	0.0752	0.0156	1,641.7982
Electricity Unmitigated											0.0000	1,635.3980	1,635.3980	0.0752	0.0156	1,641.7982
NaturalGas Mitigated											0.0000	56.1729	56.1729	1.0800e-003	1.0300e-003	56.5147
NaturalGas Unmitigated											0.0000	56.1729	56.1729	1.0800e-003	1.0300e-003	56.5147

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Bank (with Drive-Through)	169450											0.0000	9.0425	9.0425	1.7000e-004	1.7000e-004	9.0975
Free-Standing Discount	712250											0.0000	38.0084	38.0084	7.3000e-004	7.0000e-004	38.2397
Regional Shopping Center	88060											0.0000	4.6992	4.6992	9.0000e-005	9.0000e-005	4.7278
Strip Mall	82880											0.0000	4.4228	4.4228	8.0000e-005	8.0000e-005	4.4497
Total												0.0000	56.1729	56.1729	1.0700e-003	1.0400e-003	56.5148

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	57650	16.4975	7.6000e-004	1.6000e-004	16.5621
Free-Standing Discount	4.56225e+006	1,305.5649	0.0600	0.0124	1,310.6743
Regional Shopping Center	564060	161.4153	7.4200e-003	1.5400e-003	162.0470
Strip Mall	530880	151.9203	6.9800e-003	1.4400e-003	152.5148
Total		1,635.3980	0.0752	0.0156	1,641.7982

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	6.1800e-003	6.1800e-003	3.0000e-005	0.0000	6.7900e-003
Unmitigated											0.0000	6.1800e-003	6.1800e-003	3.0000e-005	0.0000	6.7900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	6.1800e-003	6.1800e-003	3.0000e-005	0.0000	6.7900e-003
Total											0.0000	6.1800e-003	6.1800e-003	3.0000e-005	0.0000	6.7900e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	152.5386	0.8360	0.0209	176.5826
Unmitigated	152.5386	0.8362	0.0210	176.5955

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.198115 / 0.121425	1.1871	6.5100e-003	1.6000e-004	1.3743
Free-Standing Discount	20.3699 / 12.4848	122.0576	0.6691	0.0168	141.3074
Regional Shopping Center	2.51847 / 1.54358	15.0908	0.0827	2.0700e-003	17.4707
Strip Mall	2.37032 / 1.45278	14.2031	0.0779	1.9500e-003	16.4430
Total		152.5386	0.8362	0.0210	176.5955

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	255.0906	15.0754	0.0000	571.6745
Mitigated	255.0906	15.0754	0.0000	571.6745

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	4.67	0.9480	0.0560	0.0000	2.1245
Free-Standing Discount	1182.69	240.0754	14.1881	0.0000	538.0244
Regional Shopping Center	35.7	7.2468	0.4283	0.0000	16.2405
Strip Mall	33.6	6.8205	0.4031	0.0000	15.2852
Total		255.0906	15.0754	0.0000	571.6745

Barstow - Dev Site 6 ST - Fitness Entertainment 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	5.00	1000sqft	0.11	5,000.00	0
User Defined Commercial	2.00	User Defined Unit	0.00	0.00	0
Fast Food Restaurant with Drive Thru	4.00	1000sqft	0.09	4,000.00	0
Health Club	35.00	1000sqft	0.80	35,000.00	0
High Turnover (Sit Down Restaurant)	11.00	1000sqft	0.25	11,000.00	0
Movie Theater (No Matinee)	11.00	1000sqft	0.25	11,000.00	0
Free-Standing Discount Store	30.00	1000sqft	0.69	30,000.00	0
Regional Shopping Center	19.00	1000sqft	0.44	19,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Visitors Center given the same trip profile as Regional Shopping Center.

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	CC_TTP	0.00	64.70
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	16.30
tblVehicleTrips	DV_TP	0.00	35.00
tblVehicleTrips	PB_TP	0.00	11.00
tblVehicleTrips	PR_TP	0.00	54.00
tblVehicleTrips	ST_TR	86.32	69.06
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	71.07	43.00
tblVehicleTrips	ST_TR	20.87	16.70
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	80.00	79.98
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	0.00	34.53
tblVehicleTrips	SU_TR	31.90	25.52
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	56.36	26.94
tblVehicleTrips	SU_TR	26.73	21.38
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	80.00	65.52
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	0.00	38.10
tblVehicleTrips	WD_TR	148.15	118.52
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	57.24	33.44
tblVehicleTrips	WD_TR	32.93	26.34
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	80.00	16.41
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	0.00	6.44

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area			1.3700e-003								0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2900e-003
Energy			0.2489								0.0000	955.8265	955.8265	0.0353	0.0119	960.2680
Mobile			102.6762								0.0000	6,763.0978	6,763.0978	0.6594	0.0000	6,776.9446
Waste											120.3371	0.0000	120.3371	7.1117	0.0000	269.6832
Water											4.7170	68.7147	73.4317	0.4876	0.0121	87.4211
Total			102.9265								125.0541	7,787.6411	7,912.6952	8.2940	0.0240	8,094.3191

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated			102.6762								0.0000	6,763.0978	6,763.0978	0.6594	0.0000	6,776.9446
Unmitigated			102.6762								0.0000	6,763.0978	6,763.0978	0.6594	0.0000	6,776.9446

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	592.60	345.30	127.60	454,018	454,018
Fast Food Restaurant with Drive Thru	1,587.60	2,310.48	1736.72	1,599,725	1,599,725
Free-Standing Discount Store	1,003.20	1,290.00	808.20	1,584,700	1,584,700
Health Club	921.90	584.50	748.30	1,466,616	1,466,616
High Turnover (Sit Down Restaurant)	1,118.92	1,393.70	1160.17	1,350,626	1,350,626
Movie Theater (No Matinee)	180.51	879.78	720.72	673,319	673,319
Regional Shopping Center	649.04	759.62	383.61	1,099,179	1,099,179
User Defined Commercial	12.88	69.06	76.20	52,514	52,514
Total	6,066.65	7,632.44	5,761.52	8,280,697	8,280,697

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	9.50	7.30	7.30	6.60	74.40	19.00	27	26	47
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Free-Standing Discount Store	9.50	7.30	7.30	12.20	68.80	19.00	47.5	35.5	17
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
User Defined Commercial	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	633.2129	633.2129	0.0291	6.0200e-003	635.6910
Electricity Unmitigated											0.0000	633.2129	633.2129	0.0291	6.0200e-003	635.6910
NaturalGas Mitigated			0.2489								0.0000	322.6136	322.6136	6.1800e-003	5.9100e-003	324.5769
NaturalGas Unmitigated			0.2489								0.0000	322.6136	322.6136	6.1800e-003	5.9100e-003	324.5769

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Bank (with Drive-Through)	169450			6.9800e-003								0.0000	9.0425	9.0425	1.7000e-004	1.7000e-004	9.0975
Fast Food Restaurant with Drive-Through	1.1174e+006			0.0460								0.0000	59.6287	59.6287	1.1400e-003	1.0900e-003	59.9916
Free-Standing Discount Store	77700			3.2000e-003								0.0000	4.1464	4.1464	8.0000e-005	8.0000e-005	4.1716
Health Club	1.18615e+006			0.0488								0.0000	63.2975	63.2975	1.2100e-003	1.1600e-003	63.6827
High Turnover (Sit Down Restaurant)	3.07285e+006			0.1265								0.0000	163.9790	163.9790	3.1400e-003	3.0100e-003	164.9769
Movie Theater (No Matinee)	372790			0.0154								0.0000	19.8935	19.8935	3.8000e-004	3.6000e-004	20.0146
Regional Shopping Center	49210			2.0300e-003								0.0000	2.6260	2.6260	5.0000e-005	5.0000e-005	2.6420
User Defined Commercial	0			0.0000								0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total				0.2489								0.0000	322.6136	322.6136	6.1700e-003	5.9200e-003	324.5769

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	57650	16.4975	7.6000e-004	1.6000e-004	16.5621
Fast Food Restaurant with Drive-Through	216480	61.9494	2.8500e-003	5.9000e-004	62.1919
Free-Standing Discount Store	497700	142.4253	6.5500e-003	1.3500e-003	142.9827
Health Club	403550	115.4827	5.3100e-003	1.1000e-003	115.9346
High Turnover (Sit Down Restaurant)	595320	170.3609	7.8300e-003	1.6200e-003	171.0276
Movie Theater (No Matinee)	126830	36.2946	1.6700e-003	3.5000e-004	36.4366
Regional Shopping Center	315210	90.2027	4.1500e-003	8.6000e-004	90.5557
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		633.2129	0.0291	6.0300e-003	635.6910

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated			1.3700e-003								0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2900e-003
Unmitigated			1.3700e-003								0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping			1.3700e-003								0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2900e-003
Total			1.3700e-003								0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2900e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	73.4317	0.4876	0.0121	87.4136
Unmitigated	73.4317	0.4876	0.0121	87.4211

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.198115 / 0.121425	1.1871	6.5100e-003	1.6000e-004	1.3743
Fast Food Restaurant with Drive-Through	1.21413 / 0.077498	5.1557	0.0398	9.8000e-004	6.2947
Free-Standing Discount Store	2.22218 / 1.36198	13.3154	0.0730	1.8300e-003	15.4154
Health Club	2.07001 / 1.26872	12.4036	0.0680	1.7000e-003	14.3598
High Turnover (Sit Down Restaurant)	3.33887 / 0.213119	14.1781	0.1094	2.6900e-003	17.3105
Movie Theater (No Matinee)	4.41762 / 0.281975	18.7588	0.1448	3.5600e-003	22.9033
Regional Shopping Center	1.40738 / 0.862586	8.4331	0.0462	1.1600e-003	9.7631
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		73.4317	0.4877	0.0121	87.4211
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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	120.3371	7.1117	0.0000	269.6832
Mitigated	120.3371	7.1117	0.0000	269.6832

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	4.67	0.9480	0.0560	0.0000	2.1245
Fast Food Restaurant with Drive-Through	46.08	9.3538	0.5528	0.0000	20.9625
Free-Standing Discount Store	129.02	26.1899	1.5478	0.0000	58.6932
Health Club	199.5	40.4967	2.3933	0.0000	90.7557
High Turnover (Sit Down Restaurant)	130.9	26.5715	1.5703	0.0000	59.5485
Movie Theater (No Matinee)	62.7	12.7275	0.7522	0.0000	28.5232
Regional Shopping Center	19.95	4.0497	0.2393	0.0000	9.0756
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		120.3371	7.1117	0.0000	269.6832

Barstow - Dev Site 6 ST - Health Wellness 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	50.00	1000sqft	1.15	50,000.00	0
Pharmacy/Drugstore w/o Drive Thru	11.00	1000sqft	0.25	11,000.00	0
Day-Care Center	23.00	1000sqft	0.53	23,000.00	0
Regional Shopping Center	40.00	1000sqft	0.92	40,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	6.21	4.97
tblVehicleTrips	ST_TR	8.96	10.83
tblVehicleTrips	ST_TR	90.06	77.53

tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	5.83	4.66
tblVehicleTrips	SU_TR	1.55	19.28
tblVehicleTrips	SU_TR	90.06	77.53
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	79.26	59.25
tblVehicleTrips	WD_TR	36.13	6.41
tblVehicleTrips	WD_TR	90.06	77.53
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.4300e-003
Energy											0.0000	497.2253	497.2253	0.0220	5.0000e-003	499.2370
Mobile											0.0000	4,313.8452	4,313.8452	0.4118	0.0000	4,322.4923
Waste											130.9251	0.0000	130.9251	7.7375	0.0000	293.4116
Water											3.4893	60.1294	63.6186	0.3611	9.0300e-003	74.0032
Total											134.4144	4,871.2021	5,005.6164	8.5324	0.0140	5,189.1466

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	4,313.8452	4,313.8452	0.4118	0.0000	4,322.4923
Unmitigated											0.0000	4,313.8452	4,313.8452	0.4118	0.0000	4,322.4923

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	1,362.75	114.31	107.18	1,183,558	1,183,558
Medical Office Building	320.50	541.50	964.00	869,019	869,019
Pharmacy/Drugstore w/o Drive Thru	852.83	852.83	852.83	1,001,041	1,001,041
Regional Shopping Center	1,366.40	1,599.20	807.60	2,314,062	2,314,062
Total	3,902.48	3,107.84	2,731.61	5,367,679	5,367,679

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Pharmacy/Drugstore w/o Drive	9.50	7.30	7.30	7.40	73.60	19.00	41	6	53
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	466.8927	466.8927	0.0215	4.4400e-003	468.7199
Electricity Unmitigated											0.0000	466.8927	466.8927	0.0215	4.4400e-003	468.7199
NaturalGas Mitigated											0.0000	30.3325	30.3325	5.8000e-004	5.6000e-004	30.5171
NaturalGas Unmitigated											0.0000	30.3325	30.3325	5.8000e-004	5.6000e-004	30.5171

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Day-Care Center	226320											0.0000	12.0773	12.0773	2.3000e-004	2.2000e-004	12.1508
Medical Office Building	210000											0.0000	11.2064	11.2064	2.1000e-004	2.1000e-004	11.2746
Pharmacy/Drugstore w/o Drive Thru	28490											0.0000	1.5203	1.5203	3.0000e-005	3.0000e-005	1.5296
Regional Shopping Center	103600											0.0000	5.5285	5.5285	1.1000e-004	1.0000e-004	5.5621
Total												0.0000	30.3325	30.3325	5.8000e-004	5.6000e-004	30.5171

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	221950	63.5147	2.9200e-003	6.0000e-004	63.7633
Medical Office Building	563500	161.2550	7.4100e-003	1.5300e-003	161.8861
Pharmacy/Drugstore w/o Drive Thru	182490	52.2226	2.4000e-003	5.0000e-004	52.4270
Regional Shopping Center	663600	189.9004	8.7300e-003	1.8100e-003	190.6435
Total		466.8927	0.0215	4.4400e-003	468.7199

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.4300e-003
Unmitigated											0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.4300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.4300e-003
Total											0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.4300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	63.6186	0.3611	9.0200e-003	73.9976
Unmitigated	63.6186	0.3611	9.0300e-003	74.0032

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.98646 / 2.53661	12.0534	0.0327	8.7000e-004	13.0096
Medical Office Building	6.27403 / 1.19505	29.1681	0.2057	5.0900e-003	35.0641
Pharmacy/Drugstore w/o Drive Thru	0.774923 / 0.474953	4.6434	0.0255	6.4000e-004	5.3757
Regional Shopping Center	2.9629 / 1.81597	17.7538	0.0973	2.4400e-003	20.5538
Total		63.6186	0.3611	9.0400e-003	74.0032

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	130.9251	7.7375	0.0000	293.4116
Mitigated	130.9251	7.7375	0.0000	293.4116

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	29.9	6.0694	0.3587	0.0000	13.6020
Medical Office Building	540	109.6151	6.4781	0.0000	245.6546
Pharmacy/Drugstore w/o Drive Thru	33.08	6.7149	0.3968	0.0000	15.0486
Regional Shopping Center	42	8.5256	0.5039	0.0000	19.1065
Total		130.9251	7.7375	0.0000	293.4116

Barstow - Dev Site 6 ST - Market Storage 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.00	1000sqft	0.11	5,000.00	0
Fast Food Restaurant with Drive Thru	12.00	1000sqft	0.28	12,000.00	0
High Turnover (Sit Down Restaurant)	10.00	1000sqft	0.23	10,000.00	0
Gasoline/Service Station	12.00	Pump	0.04	1,694.10	0
Regional Shopping Center	19.00	1000sqft	0.44	19,000.00	0
Supermarket	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	162.78	130.22
tblVehicleTrips	ST_TR	2.37	2.46
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	177.59	142.07
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	162.78	130.22
tblVehicleTrips	SU_TR	0.98	1.05
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	166.44	133.15
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	162.78	130.22
tblVehicleTrips	WD_TR	11.01	3.32
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	102.24	81.79

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.1200e-003
Energy											0.0000	1,423.8838	1,423.8838	0.0549	0.0170	1,430.3091
Mobile											0.0000	11,617.2049	11,617.2049	1.1947	0.0000	11,642.2937
Waste											115.7658	0.0000	115.7658	6.8416	0.0000	259.4385
Water											4.8529	63.7437	68.5966	0.5014	0.0124	82.9617
Total											120.6187	13,104.8343	13,225.4529	8.5926	0.0294	13,415.0051

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	11,617.2049	11,617.2049	1.1947	0.0000	11,642.2937
Unmitigated											0.0000	11,617.2049	11,617.2049	1.1947	0.0000	11,642.2937

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	4,762.80	6,931.44	5210.16	4,799,174	4,799,174
Gasoline/Service Station	1,562.64	1,562.64	1562.64	900,344	900,344
General Office Building	16.60	12.30	5.25	34,327	34,327
High Turnover (Sit Down Restaurant)	1,017.20	1,267.00	1054.70	1,227,842	1,227,842
Regional Shopping Center	649.04	759.62	383.61	1,099,179	1,099,179
Supermarket	4,089.50	7,103.50	6657.50	5,558,606	5,558,606
Total	12,097.78	17,636.50	14,873.86	13,619,471	13,619,471

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,031.2691	1,031.2691	0.0474	9.8100e-003	1,035.3050
Electricity Unmitigated											0.0000	1,031.2691	1,031.2691	0.0474	9.8100e-003	1,035.3050
NaturalGas Mitigated											0.0000	392.6148	392.6148	7.5300e-003	7.2000e-003	395.0042
NaturalGas Unmitigated											0.0000	392.6148	392.6148	7.5300e-003	7.2000e-003	395.0042

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	3.3522e+06											0.0000	178.8862	178.8862	3.4300e-003	3.2800e-003	179.9748
Gasoline/Service Station	57413											0.0000	3.0638	3.0638	6.0000e-005	6.0000e-005	3.0824
General Office Building	21000											0.0000	1.1206	1.1206	2.0000e-005	2.0000e-005	1.1275
High Turnover (Sit Down Restaurant)	2.7935e+06											0.0000	149.0718	149.0718	2.8600e-003	2.7300e-003	149.9790
Regional Shopping Center	49210											0.0000	2.6260	2.6260	5.0000e-005	5.0000e-005	2.6420
Supermarket	1.084e+006											0.0000	57.8464	57.8464	1.1100e-003	1.0600e-003	58.1984
Total												0.0000	392.6148	392.6148	7.5300e-003	7.2000e-003	395.0042

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	649440	185.8482	8.5400e-003	1.7700e-003	186.5756
Gasoline/Service Station	19533	5.5897	2.6000e-004	5.0000e-005	5.6116
General Office Building	56350	16.1255	7.4000e-004	1.5000e-004	16.1886
High Turnover (Sit Down Restaurant)	541200	154.8735	7.1200e-003	1.4700e-003	155.4796
Regional Shopping Center	315210	90.2027	4.1500e-003	8.6000e-004	90.5557
Supermarket	2.022e+006	578.6295	0.0266	5.5000e-003	580.8939
Total		1,031.2691	0.0474	9.8000e-003	1,035.3050

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.1200e-003
Unmitigated											0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.1200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.1200e-003
Total											0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.1200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	68.5966	0.5013	0.0124	82.9540
Unmitigated	68.5966	0.5014	0.0124	82.9617

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	3.6424 / 0.232494	15.4670	0.1194	2.9400e-003	18.8842
Gasoline/Service Station	0.159383 / 0.0976861	0.9550	5.2400e-003	1.3000e-004	1.1057
General Office Building	0.888669 / 0.544668	5.3249	0.0292	7.3000e-004	6.1647
High Turnover (Sit Down Restaurant)	3.03534 / 0.193745	12.8892	0.0995	2.4500e-003	15.7368
Regional Shopping Center	1.40738 / 0.862586	8.4331	0.0462	1.1600e-003	9.7631
Supermarket	6.16341 / 0.190621	25.5274	0.2019	4.9700e-003	31.3072
Total		68.5966	0.5014	0.0124	82.9617

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	115.7658	6.8416	0.0000	259.4385
Mitigated	115.7658	6.8416	0.0000	259.4385

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	138.23	28.0594	1.6583	0.0000	62.8830
Gasoline/Service Station	6.47	1.3134	0.0776	0.0000	2.9433
General Office Building	4.65	0.9439	0.0558	0.0000	2.1154
High Turnover (Sit Down Restaurant)	119	24.1559	1.4276	0.0000	54.1350
Regional Shopping Center	19.95	4.0497	0.2393	0.0000	9.0756
Supermarket	282	57.2435	3.3830	0.0000	128.2863
Total		115.7657	6.8416	0.0000	259.4385

Barstow - Dev Site 6 ST - Gas and FF 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	13.80	1000sqft	0.32	13,800.00	0
High Turnover (Sit Down Restaurant)	84.00	1000sqft	1.93	84,000.00	0
Gasoline/Service Station	24.00	Pump	0.08	3,388.20	0
Regional Shopping Center	7.00	1000sqft	0.16	7,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10	Operational Year		2005	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	162.78	130.22
tblVehicleTrips	ST_TR	158.37	126.70

tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	162.78	130.22
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	162.78	130.22
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.5300e-003
Energy											0.0000	3,024.0922	3,024.0922	0.0998	0.0417	3,039.1095
Mobile											0.0000	15,477.8096	15,477.8096	1.6027	0.0000	15,511.4664
Waste											239.2939	0.0000	239.2939	14.1419	0.0000	536.2730
Water											9.6835	121.3894	131.0729	1.0002	0.0246	159.7145
Total											248.9774	18,623.2935	18,872.2709	16.8445	0.0663	19,246.5660

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	15,477.8096	15,477.8096	1.6027	0.0000	15,511.4664
Unmitigated											0.0000	15,477.8096	15,477.8096	1.6027	0.0000	15,511.4664

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	5,477.22	7,971.16	5991.68	5,519,050	5,519,050
Gasoline/Service Station	3,125.28	3,125.28	3125.28	1,800,687	1,800,687
High Turnover (Sit Down Restaurant)	8,544.48	10,642.80	8859.48	10,313,870	10,313,870
Regional Shopping Center	239.12	279.86	141.33	404,961	404,961
Total	17,386.10	22,019.10	18,117.77	18,038,568	18,038,568

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,559.0750	1,559.0750	0.0717	0.0148	1,565.1765
Electricity Unmitigated											0.0000	1,559.0750	1,559.0750	0.0717	0.0148	1,565.1765
NaturalGas Mitigated											0.0000	1,465.0172	1,465.0172	0.0281	0.0269	1,473.9331
NaturalGas Unmitigated											0.0000	1,465.0172	1,465.0172	0.0281	0.0269	1,473.9331

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	3.85503e+006											0.0000	205.7191	205.7191	3.9400e-003	3.7700e-003	206.9711
Gasoline/Service Station	114826											0.0000	6.1276	6.1276	1.2000e-004	1.1000e-004	6.1649
High Turnover (Sit Down Restaurant)	2.34654e+007											0.0000	1,252.2031	1,252.2031	0.0240	0.0230	1,259.8238
Regional Shopping Center	18130											0.0000	0.9675	0.9675	2.0000e-005	2.0000e-005	0.9734
Total												0.0000	1,465.0172	1,465.0172	0.0281	0.0269	1,473.9331

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	746856	213.7255	9.8200e-003	2.0300e-003	214.5619
Gasoline/Service Station	39065.9	11.1794	5.1000e-004	1.1000e-004	11.2231
High Turnover (Sit Down Restaurant)	4.54608e+006	1,300.9376	0.0598	0.0124	1,306.0288
Regional Shopping Center	116130	33.2326	1.5300e-003	3.2000e-004	33.3626
Total		1,559.0750	0.0717	0.0148	1,565.1765

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.5300e-003
Unmitigated											0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.5300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.5300e-003
Total											0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.5300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	131.0729	1.0000	0.0246	159.6991
Unmitigated	131.0729	1.0002	0.0246	159.7145

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	4.18877 / 0.267368	17.7870	0.1373	3.3800e-003	21.7168
Gasoline/Service Station	0.318765 / 0.195372	1.9101	0.0105	2.6000e-004	2.2113
High Turnover (Sit Down Restaurant)	25.4968 / 1.62746	108.2689	0.8354	0.0206	132.1895
Regional Shopping Center	0.518508 / 0.317795	3.1069	0.0170	4.3000e-004	3.5969
Total		131.0730	1.0002	0.0246	159.7145

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	239.2939	14.1419	0.0000	536.2730
Mitigated	239.2939	14.1419	0.0000	536.2730

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	158.96	32.2674	1.9070	0.0000	72.3134
Gasoline/Service Station	12.93	2.6247	0.1551	0.0000	5.8821
High Turnover (Sit Down Restaurant)	999.6	202.9098	11.9916	0.0000	454.7339
Regional Shopping Center	7.35	1.4920	0.0882	0.0000	3.3436
Total		239.2939	14.1419	0.0000	536.2730

Barstow - Dev Site 6 ST - Hotel 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	100.00	Room	3.33	200,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	145,200.00	200,000.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	8.19	12.27
tblVehicleTrips	SU_TR	5.95	8.92
tblVehicleTrips	WD_TR	8.17	6.97

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	1.7900e-003	1.7900e-003	1.0000e-005	0.0000	1.9600e-003
Energy											0.0000	1,947.3215	1,947.3215	0.0701	0.0249	1,956.5194
Mobile											0.0000	1,185.4001	1,185.4001	0.1084	0.0000	1,187.6769
Waste											11.1138	0.0000	11.1138	0.6568	0.0000	24.9066
Water											0.8048	10.3482	11.1530	0.0831	2.0500e-003	13.5343
Total											11.9185	3,143.0716	3,154.9901	0.9184	0.0270	3,182.6393

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1,185.4001	1,185.4001	0.1084	0.0000	1,187.6769
Unmitigated											0.0000	1,185.4001	1,185.4001	0.1084	0.0000	1,187.6769

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	697.00	1,227.00	892.00	1,521,030	1,521,030
Total	697.00	1,227.00	892.00	1,521,030	1,521,030

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,221.3603	1,221.3603	0.0561	0.0116	1,226.1401
Electricity Unmitigated											0.0000	1,221.3603	1,221.3603	0.0561	0.0116	1,226.1401
NaturalGas Mitigated											0.0000	725.9613	725.9613	0.0139	0.0133	730.3793
NaturalGas Unmitigated											0.0000	725.9613	725.9613	0.0139	0.0133	730.3793

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Hotel	1.3604e+07											0.0000	725.9613	725.9613	0.0139	0.0133	730.3793
Total												0.0000	725.9613	725.9613	0.0139	0.0133	730.3793

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	4.268e+006	1,221.3603	0.0561	0.0116	1,226.1401
Total		1,221.3603	0.0561	0.0116	1,226.1401

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1.7900e-003	1.7900e-003	1.0000e-005	0.0000	1.9600e-003
Unmitigated											0.0000	1.7900e-003	1.7900e-003	1.0000e-005	0.0000	1.9600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	1.7900e-003	1.7900e-003	1.0000e-005	0.0000	1.9600e-003
Total											0.0000	1.7900e-003	1.7900e-003	1.0000e-005	0.0000	1.9600e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.1530	0.0831	2.0500e-003	13.5330
Unmitigated	11.1530	0.0831	2.0500e-003	13.5343

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	2.53668 / 0.281853	11.1530	0.0831	2.0500e-003	13.5343
Total		11.1530	0.0831	2.0500e-003	13.5343

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.1138	0.6568	0.0000	24.9066
Unmitigated	11.1138	0.6568	0.0000	24.9066

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	54.75	11.1138	0.6568	0.0000	24.9066
Total		11.1138	0.6568	0.0000	24.9066

Barstow - Dev Site 6 ST - MDR 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	20.00	Dwelling Unit	1.25	20,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	792.75	792.75
tblEnergyUse	T24NG	12,069.03	12,069.03
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	7.16	6.39
tblVehicleTrips	SU_TR	6.07	5.86
tblVehicleTrips	WD_TR	6.59	6.65

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782
Energy											0.0000	39.7796	39.7796	1.4100e-003	5.2000e-004	39.9691
Mobile											0.0000	277.1966	277.1966	0.0240	0.0000	277.6998
Waste											1.8675	0.0000	1.8675	0.1104	0.0000	4.1852
Water											0.4134	7.4673	7.8808	0.0428	1.0700e-003	9.1125
Total											22.9401	333.3503	356.2903	0.1980	3.2100e-003	361.4447

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	277.1966	277.1966	0.0240	0.0000	277.6998
Unmitigated											0.0000	277.1966	277.1966	0.0240	0.0000	277.6998

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	133.00	127.80	117.20	369,216	369,216
Total	133.00	127.80	117.20	369,216	369,216

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	24.2326	24.2326	1.1100e-003	2.3000e-004	24.3274
Electricity Unmitigated											0.0000	24.2326	24.2326	1.1100e-003	2.3000e-004	24.3274
NaturalGas Mitigated											0.0000	15.5470	15.5470	3.0000e-004	2.9000e-004	15.6417
NaturalGas Unmitigated											0.0000	15.5470	15.5470	3.0000e-004	2.9000e-004	15.6417

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	291341											0.0000	15.5470	15.5470	3.0000e-004	2.9000e-004	15.6417
Total												0.0000	15.5470	15.5470	3.0000e-004	2.9000e-004	15.6417

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	84679.9	24.2326	1.1100e-003	2.3000e-004	24.3274
Total		24.2326	1.1100e-003	2.3000e-004	24.3274

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782
Unmitigated											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											20.6592	8.6642	29.3233	0.0191	1.6200e-003	30.2274
Landscaping											0.0000	0.2426	0.2426	3.9000e-004	0.0000	0.2507
Total											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.8808	0.0428	1.0700e-003	9.1118
Unmitigated	7.8808	0.0428	1.0700e-003	9.1125

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.30308 / 0.821507	7.8808	0.0428	1.0700e-003	9.1125
Total		7.8808	0.0428	1.0700e-003	9.1125

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.8675	0.1104	0.0000	4.1852
Unmitigated	1.8675	0.1104	0.0000	4.1852

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.2	1.8675	0.1104	0.0000	4.1852
Total		1.8675	0.1104	0.0000	4.1852

Barstow - Dev Site 7 - SFR 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	400.00	Dwelling Unit	129.87	720,000.00	1144

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	30.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	9.57	9.52

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											413.1831	178.1345	591.3176	0.3891	0.0325	609.5630
Energy											0.0000	1,698.7853	1,698.7853	0.0570	0.0231	1,707.1426
Mobile											0.0000	8,057.5864	8,057.5864	0.6966	0.0000	8,072.2143
Waste											95.2109	0.0000	95.2109	5.6268	0.0000	213.3737
Water											8.2682	149.3468	157.6150	0.8561	0.0215	182.2491
Total											516.6621	10,083.8530	10,600.5151	7.6255	0.0771	10,784.5427

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	8,057.5864	8,057.5864	0.6966	0.0000	8,072.2143
Unmitigated											0.0000	8,057.5864	8,057.5864	0.6966	0.0000	8,072.2143

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,808.00	3,964.00	3,448.00	10,732,408	10,732,408
Total	3,808.00	3,964.00	3,448.00	10,732,408	10,732,408

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	912.0391	912.0391	0.0419	8.6700e-003	915.6083
Electricity Unmitigated											0.0000	912.0391	912.0391	0.0419	8.6700e-003	915.6083
NaturalGas Mitigated											0.0000	786.7463	786.7463	0.0151	0.0144	791.5343
NaturalGas Unmitigated											0.0000	786.7463	786.7463	0.0151	0.0144	791.5343

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.47431e+007											0.0000	786.7463	786.7463	0.0151	0.0144	791.5343
Total												0.0000	786.7463	786.7463	0.0151	0.0144	791.5343

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	3.18709e+006	912.0391	0.0419	8.6700e-003	915.6083
Total		912.0391	0.0419	8.6700e-003	915.6083

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											413.1831	178.1345	591.3176	0.3891	0.0325	609.5630
Unmitigated											413.1831	178.1345	591.3176	0.3891	0.0325	609.5630

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											413.1831	173.2830	586.4660	0.3813	0.0325	604.5483
Landscaping											0.0000	4.8515	4.8515	7.7700e-003	0.0000	5.0147
Total											413.1831	178.1345	591.3176	0.3891	0.0325	609.5630

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	157.6150	0.8559	0.0214	182.2359
Unmitigated	157.6150	0.8561	0.0215	182.2491

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	26.0616 / 16.4301	157.6150	0.8561	0.0215	182.2491
Total		157.6150	0.8561	0.0215	182.2491

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.2109	5.6268	0.0000	213.3737
Unmitigated	95.2109	5.6268	0.0000	213.3737

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	469.04	95.2109	5.6268	0.0000	213.3737
Total		95.2109	5.6268	0.0000	213.3737

Barstow - Dev Site 8 - Sr Housing Attached 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	30.00	Dwelling Unit	1.88	30,000.00	86

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	933.44	933.44
tblEnergyUse	T24NG	18,983.37	18,983.37
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	7.16	2.61
tblVehicleTrips	SU_TR	6.07	2.84
tblVehicleTrips	WD_TR	6.59	3.44

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											30.9887	13.3601	44.3488	0.0292	2.4400e-003	45.7172
Energy											0.0000	78.5585	78.5585	2.6700e-003	1.0600e-003	78.9423
Mobile											0.0000	206.9836	206.9836	0.0179	0.0000	207.3594
Waste											2.8013	0.0000	2.8013	0.1656	0.0000	6.2778
Water											0.6201	11.2010	11.8211	0.0642	1.6100e-003	13.6687
Total											34.4101	310.1032	344.5133	0.2795	5.1100e-003	351.9653

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	206.9836	206.9836	0.0179	0.0000	207.3594
Unmitigated											0.0000	206.9836	206.9836	0.0179	0.0000	207.3594

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	103.20	78.30	85.20	275,695	275,695
Total	103.20	78.30	85.20	275,695	275,695

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	43.4435	43.4435	2.0000e-003	4.1000e-004	43.6135
Electricity Unmitigated											0.0000	43.4435	43.4435	2.0000e-003	4.1000e-004	43.6135
NaturalGas Mitigated											0.0000	35.1150	35.1150	6.7000e-004	6.4000e-004	35.3287
NaturalGas Unmitigated											0.0000	35.1150	35.1150	6.7000e-004	6.4000e-004	35.3287

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	658031											0.0000	35.1150	35.1150	6.7000e-004	6.4000e-004	35.3287
Total												0.0000	35.1150	35.1150	6.7000e-004	6.4000e-004	35.3287

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	151812	43.4435	2.0000e-003	4.1000e-004	43.6135
Total		43.4435	2.0000e-003	4.1000e-004	43.6135

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											30.9887	13.3601	44.3488	0.0292	2.4400e-003	45.7172
Unmitigated											30.9887	13.3601	44.3488	0.0292	2.4400e-003	45.7172

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											30.9887	12.9962	43.9850	0.0286	2.4400e-003	45.3411
Landscaping											0.0000	0.3639	0.3639	5.8000e-004	0.0000	0.3761
Total											30.9887	13.3601	44.3488	0.0292	2.4400e-003	45.7172

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.8211	0.0642	1.6100e-003	13.6677
Unmitigated	11.8211	0.0642	1.6100e-003	13.6687

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	1.95462 / 1.23226	11.8211	0.0642	1.6100e-003	13.6687
Total		11.8211	0.0642	1.6100e-003	13.6687

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.8013	0.1656	0.0000	6.2778
Unmitigated	2.8013	0.1656	0.0000	6.2778

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	13.8	2.8013	0.1656	0.0000	6.2778
Total		2.8013	0.1656	0.0000	6.2778

Barstow - Dev Site 9 - SFR 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	140.00	Dwelling Unit	45.45	252,000.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	1,269.07	1,269.07
tblEnergyUse	T24NG	30,907.53	30,907.53
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	9.57	9.52

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											144.6141	62.3471	206.9611	0.1362	0.0114	213.3471
Energy											0.0000	594.5748	594.5748	0.0200	8.0800e-003	597.4999
Mobile											0.0000	2,820.1552	2,820.1552	0.2438	0.0000	2,825.2750
Waste											33.2905	0.0000	33.2905	1.9674	0.0000	74.6062
Water											2.8939	52.2714	55.1652	0.2996	7.5200e-003	63.7872
Total											180.7985	3,529.3485	3,710.1469	2.6670	0.0270	3,774.5153

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	2,820.1552	2,820.1552	0.2438	0.0000	2,825.2750
Unmitigated											0.0000	2,820.1552	2,820.1552	0.2438	0.0000	2,825.2750

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,332.80	1,387.40	1206.80	3,756,343	3,756,343
Total	1,332.80	1,387.40	1,206.80	3,756,343	3,756,343

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	319.2136	319.2136	0.0147	3.0400e-003	320.4629
Electricity Unmitigated											0.0000	319.2136	319.2136	0.0147	3.0400e-003	320.4629
NaturalGas Mitigated											0.0000	275.3612	275.3612	5.2800e-003	5.0500e-003	277.0370
NaturalGas Unmitigated											0.0000	275.3612	275.3612	5.2800e-003	5.0500e-003	277.0370

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	5.16007e+006											0.0000	275.3612	275.3612	5.2800e-003	5.0500e-003	277.0370
Total												0.0000	275.3612	275.3612	5.2800e-003	5.0500e-003	277.0370

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.11548e+006	319.2136	0.0147	3.0400e-003	320.4629
Total		319.2136	0.0147	3.0400e-003	320.4629

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											144.6141	62.3471	206.9611	0.1362	0.0114	213.3471
Unmitigated											144.6141	62.3471	206.9611	0.1362	0.0114	213.3471

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											144.6141	60.6490	205.2631	0.1335	0.0114	211.5919
Landscaping											0.0000	1.6980	1.6980	2.7200e-003	0.0000	1.7551
Total											144.6141	62.3471	206.9611	0.1362	0.0114	213.3470

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	55.1652	0.2996	7.5000e-003	63.7826
Unmitigated	55.1652	0.2996	7.5200e-003	63.7872

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.12156 / 5.75055	55.1652	0.2996	7.5200e-003	63.7872
Total		55.1652	0.2996	7.5200e-003	63.7872

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	33.2905	1.9674	0.0000	74.6062
Unmitigated	33.2905	1.9674	0.0000	74.6062

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	164	33.2905	1.9674	0.0000	74.6062
Total		33.2905	1.9674	0.0000	74.6062

Barstow - Dev Site 10 - Condos 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	20.00	Dwelling Unit	1.25	20,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	933.44	933.44
tblEnergyUse	T24NG	18,983.37	18,983.37
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	7.16	5.67
tblVehicleTrips	SU_TR	6.07	4.84
tblVehicleTrips	WD_TR	6.59	5.81

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782
Energy											0.0000	52.3724	52.3724	1.7800e-003	7.0000e-004	52.6282
Mobile											0.0000	241.0087	241.0087	0.0208	0.0000	241.4462
Waste											1.8675	0.0000	1.8675	0.1104	0.0000	4.1852
Water											0.4134	7.4673	7.8808	0.0428	1.0700e-003	9.1125
Total											22.9401	309.7551	332.6952	0.1952	3.3900e-003	337.8502

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	241.0087	241.0087	0.0208	0.0000	241.4462
Unmitigated											0.0000	241.0087	241.0087	0.0208	0.0000	241.4462

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	116.20	113.40	96.80	321,015	321,015
Total	116.20	113.40	96.80	321,015	321,015

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	28.9623	28.9623	1.3300e-003	2.8000e-004	29.0757
Electricity Unmitigated											0.0000	28.9623	28.9623	1.3300e-003	2.8000e-004	29.0757
NaturalGas Mitigated											0.0000	23.4100	23.4100	4.5000e-004	4.3000e-004	23.5525
NaturalGas Unmitigated											0.0000	23.4100	23.4100	4.5000e-004	4.3000e-004	23.5525

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	438687											0.0000	23.4100	23.4100	4.5000e-004	4.3000e-004	23.5525
Total												0.0000	23.4100	23.4100	4.5000e-004	4.3000e-004	23.5525

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	101208	28.9623	1.3300e-003	2.8000e-004	29.0757
Total		28.9623	1.3300e-003	2.8000e-004	29.0757

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782
Unmitigated											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											20.6592	8.6642	29.3233	0.0191	1.6200e-003	30.2274
Landscaping											0.0000	0.2426	0.2426	3.9000e-004	0.0000	0.2507
Total											20.6592	8.9067	29.5659	0.0195	1.6200e-003	30.4782

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.8808	0.0428	1.0700e-003	9.1118
Unmitigated	7.8808	0.0428	1.0700e-003	9.1125

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	1.30308 / 0.821507	7.8808	0.0428	1.0700e-003	9.1125
Total		7.8808	0.0428	1.0700e-003	9.1125

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.8675	0.1104	0.0000	4.1852
Unmitigated	1.8675	0.1104	0.0000	4.1852

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	9.2	1.8675	0.1104	0.0000	4.1852
Total		1.8675	0.1104	0.0000	4.1852

Barstow - Dev Site 11 - SFR 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	500.00	Dwelling Unit	162.34	900,000.00	1430

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	1,269.07	1,269.07
tblEnergyUse	T24NG	30,907.53	30,907.53
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	10.08	7.93
tblVehicleTrips	SU_TR	8.77	6.90
tblVehicleTrips	WD_TR	9.57	7.62

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											516.4789	222.6681	739.1470	0.4863	0.0406	761.9537
Energy											0.0000	2,123.4814	2,123.4814	0.0713	0.0289	2,133.9280
Mobile											0.0000	8,061.5463	8,061.5463	0.6969	0.0000	8,076.1815
Waste											119.0136	0.0000	119.0136	7.0335	0.0000	266.7172
Water											10.3352	186.6835	197.0187	1.0701	0.0268	227.8114
Total											645.8276	10,594.3794	11,240.2070	9.3581	0.0963	11,466.5917

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	8,061.5463	8,061.5463	0.6969	0.0000	8,076.1815
Unmitigated											0.0000	8,061.5463	8,061.5463	0.6969	0.0000	8,076.1815

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,810.00	3,965.00	3450.00	10,737,682	10,737,682
Total	3,810.00	3,965.00	3,450.00	10,737,682	10,737,682

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	1,140.0487	1,140.0487	0.0524	0.0108	1,144.5103
Electricity Unmitigated											0.0000	1,140.0487	1,140.0487	0.0524	0.0108	1,144.5103
NaturalGas Mitigated											0.0000	983.4328	983.4328	0.0189	0.0180	989.4178
NaturalGas Unmitigated											0.0000	983.4328	983.4328	0.0189	0.0180	989.4178

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.84288e+007											0.0000	983.4328	983.4328	0.0189	0.0180	989.4178
Total												0.0000	983.4328	983.4328	0.0189	0.0180	989.4178

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	3.98386e+006	1,140.0487	0.0524	0.0108	1,144.5103
Total		1,140.0487	0.0524	0.0108	1,144.5103

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											516.4789	222.6681	739.1470	0.4863	0.0406	761.9537
Unmitigated											516.4789	222.6681	739.1470	0.4863	0.0406	761.9537

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											516.4789	216.6037	733.0826	0.4766	0.0406	755.6854
Landscaping											0.0000	6.0644	6.0644	9.7100e-003	0.0000	6.2683
Total											516.4789	222.6681	739.1470	0.4863	0.0406	761.9537

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	197.0187	1.0699	0.0268	227.7949
Unmitigated	197.0187	1.0701	0.0268	227.8114

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	32.577 / 20.5377	197.0187	1.0701	0.0268	227.8114
Total		197.0187	1.0701	0.0268	227.8114

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	119.0136	7.0335	0.0000	266.7172
Unmitigated	119.0136	7.0335	0.0000	266.7172

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	586.3	119.0136	7.0335	0.0000	266.7172
Total		119.0136	7.0335	0.0000	266.7172

Barstow - Dev Site 11 - Diverse Use 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	75.00	User Defined Unit	0.00	75,000.00	0
User Defined Retail	75.00	User Defined Unit	0.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Given same trip profile as Residential

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	75,000.00
tblLandUse	LandUseSquareFeet	0.00	75,000.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	CC_TTP	0.00	40.20
tblVehicleTrips	CC_TTP	0.00	40.20
tblVehicleTrips	CNW_TTP	0.00	40.60
tblVehicleTrips	CNW_TTP	0.00	40.60

tblVehicleTrips	CW_TTP	0.00	19.20
tblVehicleTrips	CW_TTP	0.00	19.20
tblVehicleTrips	DV_TP	0.00	11.00
tblVehicleTrips	DV_TP	0.00	11.00
tblVehicleTrips	PB_TP	0.00	3.00
tblVehicleTrips	PB_TP	0.00	3.00
tblVehicleTrips	PR_TP	0.00	86.00
tblVehicleTrips	PR_TP	0.00	86.00
tblVehicleTrips	ST_TR	0.00	1.10
tblVehicleTrips	ST_TR	0.00	7.52
tblVehicleTrips	SU_TR	0.00	1.10
tblVehicleTrips	SU_TR	0.00	7.52
tblVehicleTrips	WD_TR	0.00	1.10
tblVehicleTrips	WD_TR	0.00	7.52

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Area											0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.9400e-003	
Energy											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile											0.0000	1,224.2531	1,224.2531	0.1076	0.0000	1,226.5126	
Waste											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											0.0000	1,224.2558	1,224.2558	0.1076	0.0000	1,226.5155	

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1,224.2531	1,224.2531	0.1076	0.0000	1,226.5126
Unmitigated											0.0000	1,224.2531	1,224.2531	0.1076	0.0000	1,226.5126

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	82.50	82.50	82.50	205,905	205,905
User Defined Retail	564.00	564.00	564.00	1,407,639	1,407,639
Total	646.50	646.50	646.50	1,613,543	1,613,543

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	9.50	7.30	7.30	19.20	40.20	40.60	86	11	3
User Defined Retail	9.50	7.30	7.30	19.20	40.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.9400e-003
Unmitigated											0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.9400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.9400e-003
Total											0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.9400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	0.0000	0.0000	0.0000	0.0000
Mitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Barstow - Dev Site 12 - MDR 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	60.00	Dwelling Unit	3.75	60,000.00	172

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	792.75	792.75
tblEnergyUse	T24NG	12,069.03	12,069.03
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	7.16	6.39
tblVehicleTrips	SU_TR	6.07	5.86
tblVehicleTrips	WD_TR	6.59	6.65

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											61.9775	26.7202	88.6976	0.0584	4.8700e-003	91.4345
Energy											0.0000	119.3389	119.3389	4.2400e-003	1.5500e-003	119.9072
Mobile											0.0000	831.5897	831.5897	0.0719	0.0000	833.0994
Waste											5.6026	0.0000	5.6026	0.3311	0.0000	12.5557
Water											1.2402	22.4020	23.6423	0.1284	3.2200e-003	27.3374
Total											68.8202	1,000.0507	1,068.8710	0.5940	9.6400e-003	1,084.3341

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	831.5897	831.5897	0.0719	0.0000	833.0994
Unmitigated											0.0000	831.5897	831.5897	0.0719	0.0000	833.0994

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	399.00	383.40	351.60	1,107,647	1,107,647
Total	399.00	383.40	351.60	1,107,647	1,107,647

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	72.6977	72.6977	3.3400e-003	6.9000e-004	72.9822
Electricity Unmitigated											0.0000	72.6977	72.6977	3.3400e-003	6.9000e-004	72.9822
NaturalGas Mitigated											0.0000	46.6411	46.6411	8.9000e-004	8.6000e-004	46.9250
NaturalGas Unmitigated											0.0000	46.6411	46.6411	8.9000e-004	8.6000e-004	46.9250

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	874022											0.0000	46.6411	46.6411	8.9000e-004	8.6000e-004	46.9250
Total												0.0000	46.6411	46.6411	8.9000e-004	8.6000e-004	46.9250

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	254040	72.6977	3.3400e-003	6.9000e-004	72.9822
Total		72.6977	3.3400e-003	6.9000e-004	72.9822

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											61.9775	26.7202	88.6976	0.0584	4.8700e-003	91.4345
Unmitigated											61.9775	26.7202	88.6976	0.0584	4.8700e-003	91.4345

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											61.9775	25.9924	87.9699	0.0572	4.8700e-003	90.6823
Landscaping											0.0000	0.7277	0.7277	1.1700e-003	0.0000	0.7522
Total											61.9775	26.7202	88.6976	0.0584	4.8700e-003	91.4345

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	23.6423	0.1284	3.2200e-003	27.3354
Unmitigated	23.6423	0.1284	3.2200e-003	27.3374

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	3.90924 / 2.46452	23.6423	0.1284	3.2200e-003	27.3374
Total		23.6423	0.1284	3.2200e-003	27.3374

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.6026	0.3311	0.0000	12.5557
Unmitigated	5.6026	0.3311	0.0000	12.5557

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	27.6	5.6026	0.3311	0.0000	12.5557
Total		5.6026	0.3311	0.0000	12.5557

Barstow - Dev Site 12 - Office 2005 Baseline
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Use - Pre-2008 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	2.37	2.46
tblVehicleTrips	SU_TR	0.98	1.05
tblVehicleTrips	WD_TR	11.01	3.32

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.9000e-004
Energy											0.0000	68.9846	68.9846	3.0500e-003	7.0000e-004	69.2643
Mobile											0.0000	104.5811	104.5811	9.2500e-003	0.0000	104.7753
Waste											3.7756	0.0000	3.7756	0.2231	0.0000	8.4614
Water											1.1277	20.1720	21.2998	0.1168	2.9300e-003	24.6590
Total											4.9034	193.7381	198.6415	0.3522	3.6300e-003	207.1604

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	104.5811	104.5811	9.2500e-003	0.0000	104.7753
Unmitigated											0.0000	104.5811	104.5811	9.2500e-003	0.0000	104.7753

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	66.40	49.20	21.00	137,308	137,308
Total	66.40	49.20	21.00	137,308	137,308

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.364482	0.120846	0.179484	0.091812	0.017585	0.007206	0.009112	0.186714	0.000617	0.000565	0.016894	0.001394	0.003289

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	64.5020	64.5020	2.9600e-003	6.1000e-004	64.7545
Electricity Unmitigated											0.0000	64.5020	64.5020	2.9600e-003	6.1000e-004	64.7545
NaturalGas Mitigated											0.0000	4.4826	4.4826	9.0000e-005	8.0000e-005	4.5098
NaturalGas Unmitigated											0.0000	4.4826	4.4826	9.0000e-005	8.0000e-005	4.5098

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	84000											0.0000	4.4826	4.4826	9.0000e-005	8.0000e-005	4.5098
Total												0.0000	4.4826	4.4826	9.0000e-005	8.0000e-005	4.5098

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	225400	64.5020	2.9600e-003	6.1000e-004	64.7545
Total		64.5020	2.9600e-003	6.1000e-004	64.7545

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.9000e-004
Unmitigated											0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.9000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.9000e-004
Total											0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.9000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21.2998	0.1167	2.9200e-003	24.6572
Unmitigated	21.2998	0.1168	2.9300e-003	24.6590

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	3.55467 / 2.17867	21.2998	0.1168	2.9300e-003	24.6590
Total		21.2998	0.1168	2.9300e-003	24.6590

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.7756	0.2231	0.0000	8.4614
Unmitigated	3.7756	0.2231	0.0000	8.4614

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	18.6	3.7756	0.2231	0.0000	8.4614
Total		3.7756	0.2231	0.0000	8.4614

Barstow - Dev Site 1 - Gen Hvy Ind
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	725.00	1000sqft	16.64	725,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.50	1.20
tblVehicleTrips	SU_TR	1.50	1.20
tblVehicleTrips	WD_TR	1.50	1.20

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137
Energy	0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	2,810.9539	2,810.9539	0.0987	0.0371	2,824.5121
Mobile	0.6146	1.8041	8.8145	0.0150	0.9650	0.0336	0.9986	0.2581	0.0309	0.2890	0.0000	1,071.0824	1,071.0824	0.0392	0.0000	1,071.9064
Waste						0.0000	0.0000		0.0000	0.0000	182.4889	0.0000	182.4889	10.7848	0.0000	408.9693
Water						0.0000	0.0000		0.0000	0.0000	42.5517	401.4968	444.0485	4.3881	0.1070	569.3737
Total	4.3980	2.8149	9.6703	0.0210	0.9650	0.1104	1.0754	0.2581	0.1078	0.3658	225.0406	4,283.5461	4,508.5867	15.3108	0.1441	4,874.7752

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6146	1.8041	8.8145	0.0150	0.9650	0.0336	0.9986	0.2581	0.0309	0.2890	0.0000	1,071.0824	1,071.0824	0.0392	0.0000	1,071.9064
Unmitigated	0.6146	1.8041	8.8145	0.0150	0.9650	0.0336	0.9986	0.2581	0.0309	0.2890	0.0000	1,071.0824	1,071.0824	0.0392	0.0000	1,071.9064

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	870.00	870.00	870.00	2,539,975	2,539,975
Total	870.00	870.00	870.00	2,539,975	2,539,975

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,710.5682	1,710.5682	0.0776	0.0169	1,717.4296
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,845.0735	1,845.0735	0.0837	0.0182	1,852.4745
NaturalGas Mitigated	0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	1,100.3857	1,100.3857	0.0211	0.0202	1,107.0825
NaturalGas Unmitigated	0.1301	1.1831	0.9938	7.1000e-003		0.0899	0.0899		0.0899	0.0899	0.0000	1,287.9489	1,287.9489	0.0247	0.0236	1,295.7871

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	2.06205e+007	0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	1,100.3857	1,100.3857	0.0211	0.0202	1,107.0825
Total		0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	1,100.3857	1,100.3857	0.0211	0.0202	1,107.0825

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	7.44068e+006	1,710.5682	0.0776	0.0169	1,717.4296
Total		1,710.5682	0.0776	0.0169	1,717.4296

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137
Unmitigated	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.8401					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.3000e-004	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137
Total	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	444.0485	4.3881	0.1070	569.3737
Unmitigated	555.0606	5.4859	0.1340	711.7870

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	134.125 / 0	444.0485	4.3881	0.1070	569.3737
Total		444.0485	4.3881	0.1070	569.3737

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	182.4889	10.7848	0.0000	408.9693
Unmitigated	182.4889	10.7848	0.0000	408.9693

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	899	182.4889	10.7848	0.0000	408.9693
Total		182.4889	10.7848	0.0000	408.9693

Barstow - Dev Site 2 - Gen Light Ind
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	500.00	1000sqft	11.48	500,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.32	1.06
tblVehicleTrips	SU_TR	0.68	0.54
tblVehicleTrips	WD_TR	6.97	5.58

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5326	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003
Energy	0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	1,938.5889	1,938.5889	0.0681	0.0256	1,947.9394
Mobile	1.4885	4.3694	21.3488	0.0363	2.3371	0.0814	2.4185	0.6250	0.0749	0.6999	0.0000	2,594.1651	2,594.1651	0.0950	0.0000	2,596.1607
Waste						0.0000	0.0000		0.0000	0.0000	125.8544	0.0000	125.8544	7.4378	0.0000	282.0478
Water						0.0000	0.0000		0.0000	0.0000	29.3460	276.8944	306.2404	3.0262	0.0738	392.6715
Total	4.0977	5.0666	21.9389	0.0405	2.3371	0.1344	2.4715	0.6250	0.1279	0.7529	155.2004	4,809.6573	4,964.8577	10.6272	0.0994	5,218.8289

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4885	4.3694	21.3488	0.0363	2.3371	0.0814	2.4185	0.6250	0.0749	0.6999	0.0000	2,594.165 1	2,594.1651	0.0950	0.0000	2,596.160 7
Unmitigated	1.4885	4.3694	21.3488	0.0363	2.3371	0.0814	2.4185	0.6250	0.0749	0.6999	0.0000	2,594.165 1	2,594.1651	0.0950	0.0000	2,596.160 7

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	2,790.00	530.00	270.00	6,151,827	6,151,827
Total	2,790.00	530.00	270.00	6,151,827	6,151,827

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	1,179.7022	1,179.7022	0.0535	0.0116	1,184.4342
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	1,272.4645	1,272.4645	0.0577	0.0126	1,277.5686
NaturalGas Mitigated	0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	758.8867	758.8867	0.0146	0.0139	763.5052
NaturalGas Unmitigated	0.0898	0.8159	0.6854	4.9000e-003		0.0620	0.0620		0.0620	0.0620	0.0000	888.2406	888.2406	0.0170	0.0163	893.6463

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.4221e+07	0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	758.8867	758.8867	0.0146	0.0139	763.5052
Total		0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	758.8867	758.8867	0.0146	0.0139	763.5052

5.3 Energy by Land Use - Electricity

Mitigated

Electricity Use	Total CO2	CH4	N2O	CO2e
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Landscaping	4.3000e-004	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003
Total	2.5326	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	306.2404	3.0262	0.0738	392.6715
Unmitigated	382.8004	3.7834	0.0924	490.8876

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	92.5 / 0	306.2404	3.0262	0.0738	392.6715

Total		306.2404	3.0262	0.0738	392.6715
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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	125.8544	7.4378	0.0000	282.0478
Unmitigated	125.8544	7.4378	0.0000	282.0478

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	620	125.8544	7.4378	0.0000	282.0478
Total		125.8544	7.4378	0.0000	282.0478

Barstow - Dev Site 3 - Casino Resort
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	4.50	1000sqft	0.10	4,500.00	0
Fast Food Restaurant w/o Drive Thru	2.00	1000sqft	0.05	2,000.00	0
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.11	5,000.00	0
Fast Food Restaurant with Drive Thru	4.00	1000sqft	0.09	4,000.00	0
Hotel	160.00	Room	5.33	232,320.00	0
User Defined Recreational	20.00	User Defined Unit	0.00	20,000.00	0
User Defined Commercial	88.50	User Defined Unit	0.00	88.50	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	506.83	CH4 Intensity (lb/MWhr)	0.023	N2O Intensity (lb/MWhr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	88.50
tblLandUse	LandUseSquareFeet	0.00	20,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	CC_TTP	0.00	79.50
tblVehicleTrips	CC_TTP	0.00	79.50
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	1.50
tblVehicleTrips	CW_TTP	0.00	1.50
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	696.00	12.06
tblVehicleTrips	ST_TR	722.03	72.20
tblVehicleTrips	ST_TR	158.37	15.84
tblVehicleTrips	ST_TR	8.19	2.70
tblVehicleTrips	ST_TR	42.04	25.40
tblVehicleTrips	ST_TR	0.00	27.04
tblVehicleTrips	ST_TR	0.00	15.84
tblVehicleTrips	SU_TR	500.00	12.06
tblVehicleTrips	SU_TR	542.72	54.27
tblVehicleTrips	SU_TR	131.84	13.18
tblVehicleTrips	SU_TR	5.95	2.70
tblVehicleTrips	SU_TR	20.43	25.40
tblVehicleTrips	SU_TR	0.00	27.04
tblVehicleTrips	SU_TR	0.00	13.18
tblVehicleTrips	WD_TR	716.00	12.06

tblVehicleTrips	WD_TR	496.12	49.61
tblVehicleTrips	WD_TR	127.15	12.72
tblVehicleTrips	WD_TR	8.17	2.25
tblVehicleTrips	WD_TR	44.32	2.14
tblVehicleTrips	WD_TR	0.00	22.53
tblVehicleTrips	WD_TR	0.00	12.72

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003
Energy	0.0720	0.6548	0.5501	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	1,804.2092	1,804.2092	0.0632	0.0238	1,812.9252
Mobile	2.0528	5.5216	28.3007	0.0442	2.8237	0.0992	2.9229	0.7551	0.0914	0.8465	0.0000	3,156.2586	3,156.2586	0.1175	0.0000	3,158.7260
Waste						0.0000	0.0000		0.0000	0.0000	44.8509	0.0000	44.8509	2.6506	0.0000	100.5137
Water						0.0000	0.0000		0.0000	0.0000	1.9621	20.5963	22.5584	0.2024	4.9600e-003	28.3457
Total	3.4818	6.1764	28.8534	0.0481	2.8237	0.1490	2.9727	0.7551	0.1412	0.8963	46.8130	4,981.0691	5,027.8821	3.0337	0.0288	5,100.5159

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0528	5.5216	28.3007	0.0442	2.8237	0.0992	2.9229	0.7551	0.0914	0.8465	0.0000	3,156.2586	3,156.2586	0.1175	0.0000	3,158.7260
Unmitigated	2.0528	5.5216	28.3007	0.0442	2.8237	0.0992	2.9229	0.7551	0.0914	0.8465	0.0000	3,156.2586	3,156.2586	0.1175	0.0000	3,158.7260

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	24.12	24.12	24.12	38,895	38,895
Fast Food Restaurant with Drive Thru	198.44	288.80	217.08	199,956	199,956
High Turnover (Sit Down Restaurant)	63.60	79.20	65.90	76,760	76,760
Hotel	360.00	432.00	432.00	723,059	723,059
Strip Mall	9.63	114.30	114.30	60,886	60,886
User Defined Commercial	1,993.91	2,393.04	2393.04	5,626,548	5,626,548
User Defined Recreational	254.40	316.80	263.60	706,350	706,350
Total	2,904.10	3,648.26	3,510.04	7,432,455	7,432,455

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant w/o Drive Thru	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
User Defined Commercial	9.50	7.30	7.30	1.50	79.50	19.00	100	0	0
User Defined Recreational	9.50	7.30	7.30	1.50	79.50	19.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,091.3566	1,091.3566	0.0495	0.0108	1,095.7343
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,231.3126	1,231.3126	0.0559	0.0122	1,236.2517
NaturalGas Mitigated	0.0720	0.6548	0.5501	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	712.8526	712.8526	0.0137	0.0131	717.1909
NaturalGas Unmitigated	0.0953	0.8665	0.7278	5.2000e-003		0.0659	0.0659		0.0659	0.0659	0.0000	943.2575	943.2575	0.0181	0.0173	948.9980

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	1.01195e+006	5.4600e-003	0.0496	0.0417	3.0000e-004		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	54.0016	54.0016	1.0400e-003	9.9000e-004	54.3303
High Turnover (Sit Down Restaurant)	1.26494e+006	6.8200e-003	0.0620	0.0521	3.7000e-004		4.7100e-003	4.7100e-003		4.7100e-003	4.7100e-003	0.0000	67.5020	67.5020	1.2900e-003	1.2400e-003	67.9128
Hotel	1.05678e+007	0.0570	0.5180	0.4351	3.1100e-003		0.0394	0.0394		0.0394	0.0394	0.0000	563.9366	563.9366	0.0108	0.0103	567.3686
Strip Mall	7713	4.0000e-005	3.8000e-004	3.2000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4116	0.4116	1.0000e-005	1.0000e-005	0.4141
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	505976	2.7300e-003	0.0248	0.0208	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.0008	27.0008	5.2000e-004	5.0000e-004	27.1651
Total		0.0720	0.6548	0.5501	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	712.8526	712.8526	0.0137	0.0131	717.1909

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	95722	22.0059	1.0000e-003	2.2000e-004	22.0942
Fast Food Restaurant with Drive Thru	191444	44.0119	2.0000e-003	4.3000e-004	44.1884
High Turnover (Sit Down Restaurant)	239305	55.0148	2.5000e-003	5.4000e-004	55.2355
Hotel	4.15783e+006	955.8613	0.0434	9.4300e-003	959.6955
Strip Mall	62910	14.4627	6.6000e-004	1.4000e-004	14.5207
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,091.3566	0.0495	0.0108	1,095.7343

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003
Unmitigated	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3104					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003
Total	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	22.5584	0.2024	4.9600e-003	28.3457
Unmitigated	27.8126	0.2531	6.2000e-003	35.0484

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.485654 / 0.0363853	1.7008	0.0159	3.9000e-004	2.1550
Fast Food Restaurant with Drive Thru	0.971308 / 0.0727706	3.4016	0.0318	7.8000e-004	4.3099
High Turnover (Sit Down Restaurant)	1.21413 / 0.0909632	4.2520	0.0397	9.7000e-004	5.3874
Hotel	3.24695 / 0.423456	11.8313	0.1063	2.6000e-003	14.8695
Strip Mall	0.266661 / 0.191835	1.3728	8.7500e-003	2.2000e-004	1.6239
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		22.5584	0.2024	4.9600e-003	28.3457

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	44.8509	2.6506	0.0000	100.5137
Mitigated	44.8509	2.6506	0.0000	100.5137

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	23.04	4.6769	0.2764	0.0000	10.4813
Fast Food Restaurant with Drive Thru	46.08	9.3538	0.5528	0.0000	20.9625
High Turnover (Sit Down Restaurant)	59.5	12.0780	0.7138	0.0000	27.0675
Hotel	87.6	17.7820	1.0509	0.0000	39.8506
Strip Mall	4.73	0.9602	0.0567	0.0000	2.1518
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		44.8509	2.6506	0.0000	100.5137

Barstow - Dev Site 4 - Active Seniors Housing
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	1,575.00	Dwelling Unit	315.00	1,575,000.00	4505

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	2.81	2.73
tblVehicleTrips	SU_TR	2.81	2.32
tblVehicleTrips	WD_TR	2.81	3.68

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	107.7975	1.4765	133.4755	0.0482		17.1686	17.1686		17.1680	17.1680	1,626.9084	701.4045	2,328.3129	1.5200	0.1280	2,399.9030
Energy	0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	3,058.7464	3,058.7464	0.1031	0.0417	3,073.8390
Mobile	3.6920	10.7066	52.6561	0.0885	5.6930	0.1985	5.8915	1.5224	0.1827	1.7052	0.0000	6,324.8486	6,324.8486	0.2322	0.0000	6,329.7244
Waste						0.0000	0.0000		0.0000	0.0000	147.0670	0.0000	147.0670	8.6914	0.0000	329.5865
Water						0.0000	0.0000		0.0000	0.0000	26.0447	400.9011	426.9458	2.6928	0.0670	504.2761
Total	111.6270	13.3582	186.6316	0.1442	5.6930	17.4620	23.1550	1.5224	17.4458	18.9682	1,800.0200	10,485.9005	12,285.9205	13.2396	0.2367	12,637.3290

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6920	10.7066	52.6561	0.0885	5.6930	0.1985	5.8915	1.5224	0.1827	1.7052	0.0000	6,324.8486	6,324.8486	0.2322	0.0000	6,329.7244
Unmitigated	3.6920	10.7066	52.6561	0.0885	5.6930	0.1985	5.8915	1.5224	0.1827	1.7052	0.0000	6,324.8486	6,324.8486	0.2322	0.0000	6,329.7244

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	5,796.00	4,299.75	3654.00	14,985,183	14,985,183
Total	5,796.00	4,299.75	3,654.00	14,985,183	14,985,183

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Retirement Community	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,697.8498	1,697.8498	0.0771	0.0168	1,704.6602
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,765.6997	1,765.6997	0.0801	0.0174	1,772.7823
NaturalGas Mitigated	0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	1,360.8966	1,360.8966	0.0261	0.0250	1,369.1788
NaturalGas Unmitigated	0.1750	1.4954	0.6364	9.5500e-003		0.1209	0.1209		0.1209	0.1209	0.0000	1,731.8535	1,731.8535	0.0332	0.0318	1,742.3933

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Retirement Community	2.55022e+007	0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	1,360.8966	1,360.8966	0.0261	0.0250	1,369.1788
Total		0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	1,360.8966	1,360.8966	0.0261	0.0250	1,369.1788

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	7.38535e+006	1,697.8498	0.0771	0.0168	1,704.6602
Total		1,697.8498	0.0771	0.0168	1,704.6602

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	107.7975	1.4765	133.4755	0.0482		17.1686	17.1686		17.1680	17.1680	1,626.9084	701.4045	2,328.3129	1.5200	0.1280	2,399.9030
Unmitigated	107.7975	1.4765	133.4755	0.0482		17.1686	17.1686		17.1680	17.1680	1,626.9084	701.4045	2,328.3129	1.5200	0.1280	2,399.9030

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1512					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	98.8253	1.3408	121.7421	0.0476		17.1040	17.1040		17.1035	17.1035	1,626.9084	682.3017	2,309.2100	1.5014	0.1280	2,380.4090
Landscaping	0.3573	0.1357	11.7334	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.1029	19.1029	0.0186	0.0000	19.4940
Total	107.7975	1.4765	133.4755	0.0482		17.1686	17.1686		17.1681	17.1681	1,626.9084	701.4045	2,328.3129	1.5200	0.1280	2,399.9030

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	426.9458	2.6928	0.0670	504.2761
Unmitigated	504.9725	3.3652	0.0836	601.5630

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Retirement Community	82.0941 / 60.7474	426.9458	2.6928	0.0670	504.2761
Total		426.9458	2.6928	0.0670	504.2761

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	147.0670	8.6914	0.0000	329.5865
Unmitigated	147.0670	8.6914	0.0000	329.5865

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	724.5	147.0670	8.6914	0.0000	329.5865
Total		147.0670	8.6914	0.0000	329.5865

Barstow - Dev Site 5 - Hwy Commercial
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	30.00	1000sqft	0.69	30,000.00	0
Fast Food Restaurant with Drive Thru	20.00	1000sqft	0.46	20,000.00	0
Hotel	100.00	Room	3.33	300,000.00	0
Regional Shopping Center	100.00	1000sqft	2.30	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	145,200.00	300,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023

tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	8.19	12.27
tblVehicleTrips	ST_TR	49.97	44.97
tblVehicleTrips	SU_TR	5.95	8.92
tblVehicleTrips	SU_TR	25.24	22.72
tblVehicleTrips	WD_TR	8.17	8.92
tblVehicleTrips	WD_TR	42.94	38.43

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003
Energy	0.1427	1.2974	1.0898	7.7800e-003		0.0986	0.0986		0.0986	0.0986	0.0000	3,518.2561	3,518.2561	0.1226	0.0467	3,535.2988
Mobile	10.8394	21.3141	131.6844	0.1421	8.6986	0.3222	9.0208	2.3262	0.2967	2.6228	0.0000	10,114.7677	10,114.7677	0.4096	0.0000	10,123.3693
Waste						0.0000	0.0000		0.0000	0.0000	151.6606	0.0000	151.6606	8.9629	0.0000	339.8813
Water						0.0000	0.0000		0.0000	0.0000	6.3757	74.0454	80.4211	0.6581	0.0162	99.2548
Total	13.2613	22.6115	132.7765	0.1499	8.6986	0.4208	9.1194	2.3262	0.3953	2.7215	158.0363	13,707.0737	13,865.1100	10.1533	0.0628	14,097.8089

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	10.8394	21.3141	131.6844	0.1421	8.6986	0.3222	9.0208	2.3262	0.2967	2.6228	0.0000	10,114.7677	10,114.7677	0.4096	0.0000	10,123.3693
Unmitigated	10.8394	21.3141	131.6844	0.1421	8.6986	0.3222	9.0208	2.3262	0.2967	2.6228	0.0000	10,114.7677	10,114.7677	0.4096	0.0000	10,123.3693

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru High Turnover (Sit Down Restaurant)	9,922.40	14,440.60	10854.40	9,998,212	9,998,212
Hotel	892.00	1,227.00	892.00	1,785,663	1,785,663
Regional Shopping Center	3,843.00	4,497.00	2272.00	6,508,268	6,508,268
Total	18,471.90	24,915.70	17,973.60	22,896,537	22,896,537

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive Thru High Turnover (Sit Down)	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Hotel	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Regional Shopping Center	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,105.8656	2,105.8656	0.0956	0.0208	2,114.3126
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,360.3240	2,360.3240	0.1071	0.0233	2,369.7917
NaturalGas Mitigated	0.1427	1.2974	1.0898	7.7800e-003		0.0986	0.0986		0.0986	0.0986	0.0000	1,412.3906	1,412.3906	0.0271	0.0259	1,420.9862
NaturalGas Unmitigated	0.1778	1.6165	1.3579	9.7000e-003		0.1229	0.1229		0.1229	0.1229	0.0000	1,759.8050	1,759.8050	0.0337	0.0323	1,770.5149

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	7.58964e+006	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283	0.0000	405.0121	405.0121	7.7600e-003	7.4300e-003	407.4769
Hotel	1.36464e+007	0.0736	0.6689	0.5619	4.0100e-003		0.0508	0.0508		0.0508	0.0508	0.0000	728.2239	728.2239	0.0140	0.0134	732.6557
Regional Shopping Center	171400	9.2000e-004	8.4000e-003	7.0600e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1466	9.1466	1.8000e-004	1.7000e-004	9.2022
Fast Food Restaurant with Drive Thru	5.05976e+006	0.0273	0.2480	0.2083	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.0081	270.0081	5.1800e-003	4.9500e-003	271.6513
Total		0.1427	1.2974	1.0898	7.7800e-003		0.0986	0.0986		0.0986	0.0986	0.0000	1,412.3906	1,412.3906	0.0271	0.0259	1,420.9862

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	957220	220.0594	9.9900e-003	2.1700e-003	220.9421
High Turnover (Sit Down Restaurant)	1.43583e+006	330.0890	0.0150	3.2600e-003	331.4131
Hotel	5.3691e+006	1,234.3251	0.0560	0.0122	1,239.2762
Regional Shopping Center	1.398e+006	321.3921	0.0146	3.1700e-003	322.6813
Total		2,105.8656	0.0956	0.0208	2,114.3126

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003
Unmitigated	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003
Total	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	80.4211	0.6581	0.0162	99.2548
Unmitigated	97.9567	0.8226	0.0202	121.4989

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	4.85654 / 0.363853	17.0079	0.1589	3.8800e-003	21.5495
High Turnover (Sit Down Restaurant)	7.28481 / 0.545779	25.5119	0.2384	5.8300e-003	32.3243
Hotel	2.02934 / 0.26466	7.3945	0.0664	1.6300e-003	9.2934
Regional Shopping Center	5.9258 / 4.26299	30.5068	0.1944	4.8400e-003	36.0875
Total		80.4211	0.6581	0.0162	99.2548

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	151.6606	8.9629	0.0000	339.8813
Mitigated	151.6606	8.9629	0.0000	339.8813

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	230.38	46.7651	2.7637	0.0000	104.8035
High Turnover (Sit Down Restaurant)	357	72.4678	4.2827	0.0000	162.4050
Hotel	54.75	11.1138	0.6568	0.0000	24.9066
Regional Shopping Center	105	21.3141	1.2596	0.0000	47.7662
Total		151.6606	8.9629	0.0000	339.8813

Barstow - Dev Site 6 ST - Big Box
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Superstore	275.00	1000sqft	6.31	275,000.00	0
Regional Shopping Center	34.00	1000sqft	0.78	34,000.00	0
Strip Mall	32.00	1000sqft	0.73	32,000.00	0
Bank (with Drive-Through)	5.00	1000sqft	0.11	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Both Pad and Shop fit profile of Regional Shopping Center.

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	CC_TTP	64.40	64.70
tblVehicleTrips	CW_TTP	16.60	16.30
tblVehicleTrips	DV_TP	40.00	35.00
tblVehicleTrips	PB_TP	15.00	11.00
tblVehicleTrips	PR_TP	45.00	54.00
tblVehicleTrips	ST_TR	86.32	69.06
tblVehicleTrips	ST_TR	64.07	56.86
tblVehicleTrips	ST_TR	42.04	39.98
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	31.90	25.52
tblVehicleTrips	SU_TR	56.12	45.09
tblVehicleTrips	SU_TR	20.43	20.19
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	148.15	24.75
tblVehicleTrips	WD_TR	53.13	45.79
tblVehicleTrips	WD_TR	44.32	34.16
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003
Energy	3.9200e-003	0.0356	0.0299	2.1000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	1,146.5228	1,146.5228	0.0510	0.0116	1,151.2022
Mobile	9.1151	20.3393	116.2058	0.1476	9.2284	0.3331	9.5615	2.4678	0.3067	2.7746	0.0000	10,524.0220	10,524.0220	0.4094	0.0000	10,532.6192
Waste						0.0000	0.0000		0.0000	0.0000	255.0906	0.0000	255.0906	15.0754	0.0000	571.6745
Water						0.0000	0.0000		0.0000	0.0000	6.4610	98.3831	104.8442	0.6680	0.0166	124.0236
Total	10.8716	20.3750	116.2389	0.1478	9.2284	0.3358	9.5642	2.4678	0.3095	2.7773	261.5517	11,768.9341	12,030.4857	16.2038	0.0283	12,379.5260

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.1151	20.3393	116.2058	0.1476	9.2284	0.3331	9.5615	2.4678	0.3067	2.7746	0.0000	10,524.0220	10,524.0220	0.4094	0.0000	10,532.6192
Unmitigated	9.1151	20.3393	116.2058	0.1476	9.2284	0.3331	9.5615	2.4678	0.3067	2.7746	0.0000	10,524.0220	10,524.0220	0.4094	0.0000	10,532.6192

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	123.75	345.30	127.60	144,250	144,250
Free-Standing Discount Superstore	12,592.25	15,636.50	12,399.75	20,328,530	20,328,530
Strip Mall	1,093.12	1,279.36	646.08	1,851,249	1,851,249
Regional Shopping Center	1,161.44	1,359.32	686.46	1,966,953	1,966,953
Total	14,970.56	18,620.48	13,859.89	24,290,982	24,290,982

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	9.50	7.30	7.30	6.60	74.40	19.00	27	26	47
Free-Standing Discount	9.50	7.30	7.30	13.20	67.80	19.00	47.5	35.5	17
Strip Mall	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,107.7442	1,107.7442	0.0503	0.0109	1,112.1875
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,240.3736	1,240.3736	0.0563	0.0122	1,245.3490
NaturalGas Mitigated	3.9200e-003	0.0356	0.0299	2.1000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	38.7786	38.7786	7.4000e-004	7.1000e-004	39.0146
NaturalGas Unmitigated	5.1600e-003	0.0469	0.0394	2.8000e-004		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	51.0996	51.0996	9.8000e-004	9.4000e-004	51.4106

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount	471350	2.5400e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1530	25.1530	4.8000e-004	4.6000e-004	25.3061
Regional Shopping Center	58276	3.1000e-004	2.8600e-003	2.4000e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1098	3.1098	6.0000e-005	6.0000e-005	3.1288
Strip Mall	54848	3.0000e-004	2.6900e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.9269	2.9269	6.0000e-005	5.0000e-005	2.9447
Bank (with Drive-Through)	142210	7.7000e-004	6.9700e-003	5.8600e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5889	7.5889	1.5000e-004	1.4000e-004	7.6351
Total		3.9200e-003	0.0356	0.0299	2.2000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	38.7786	38.7786	7.5000e-004	7.1000e-004	39.0146

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	51315	11.7970	5.4000e-004	1.2000e-004	11.8443
Free-Standing Discount	3.8445e+06	883.8283	0.0401	8.7200e-003	887.3736
Regional Shopping Center	475320	109.2733	4.9600e-003	1.0800e-003	109.7116
Strip Mall	447360	102.8455	4.6700e-003	1.0100e-003	103.2580
Total		1,107.7442	0.0503	0.0109	1,112.1875

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003
Unmitigated	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4009					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003
Total	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	104.8442	0.6680	0.0166	124.0236
Unmitigated	124.1311	0.8348	0.0207	148.0882

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.158492 / 0.114018	0.8159	5.2000e-003	1.3000e-004	0.9652
Free-Standing Discount	16.296 / 11.7232	83.8937	0.5345	0.0133	99.2406
Regional Shopping Center	2.01477 / 1.44942	10.3723	0.0661	1.6400e-003	12.2698
Strip Mall	1.89626 / 1.36416	9.7622	0.0622	1.5500e-003	11.5480
Total		104.8442	0.6680	0.0166	124.0236

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	255.0906	15.0754	0.0000	571.6745
Mitigated	255.0906	15.0754	0.0000	571.6745

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	4.67	0.9480	0.0560	0.0000	2.1245
Free-Standing Discount Superstore	1182.69	240.0754	14.1881	0.0000	538.0244
Regional Shopping Center	35.7	7.2468	0.4283	0.0000	16.2405
Strip Mall	33.6	6.8205	0.4031	0.0000	15.2852
Total		255.0906	15.0754	0.0000	571.6745

Barstow - Dev Site 6 ST - Fitness Entertainment
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Movie Theater (No Matinee)	11.00	1000sqft	0.25	11,000.00	0
High Turnover (Sit Down Restaurant)	11.00	1000sqft	0.25	11,000.00	0
Fast Food Restaurant with Drive Thru	4.00	1000sqft	0.09	4,000.00	0
Bank (with Drive-Through)	5.00	1000sqft	0.11	5,000.00	0
Health Club	35.00	1000sqft	0.80	35,000.00	0
Regional Shopping Center	19.00	1000sqft	0.44	19,000.00	0
Free-Standing Discount Store	30.00	1000sqft	0.69	30,000.00	0
User Defined Commercial	2.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Visitors Center given the same trip profile as Regional Shopping Center.

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	CC_TTP	0.00	64.70
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	16.30
tblVehicleTrips	DV_TP	0.00	35.00
tblVehicleTrips	PB_TP	0.00	11.00
tblVehicleTrips	PR_TP	0.00	54.00
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	86.32	69.06
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	71.07	43.00
tblVehicleTrips	ST_TR	20.87	16.70
tblVehicleTrips	ST_TR	80.00	79.98
tblVehicleTrips	ST_TR	0.00	34.53
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	31.90	25.52
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	56.36	26.94
tblVehicleTrips	SU_TR	26.73	21.38
tblVehicleTrips	SU_TR	80.00	65.52
tblVehicleTrips	SU_TR	0.00	38.10
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	148.15	118.52

tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	57.24	33.44
tblVehicleTrips	WD_TR	32.93	26.34
tblVehicleTrips	WD_TR	80.00	16.41
tblVehicleTrips	WD_TR	0.00	6.44

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5825	1.0000e-005	1.0800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2100e-003
Energy	0.0287	0.2612	0.2194	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	727.2506	727.2506	0.0256	9.5800e-003	730.7577
Mobile	3.5781	7.3823	44.2535	0.0509	3.1459	0.1153	3.2612	0.8413	0.1062	0.9474	0.0000	3,628.4169	3,628.4169	0.1445	0.0000	3,631.4520
Waste						0.0000	0.0000		0.0000	0.0000	120.3371	0.0000	120.3371	7.1117	0.0000	269.6832
Water						0.0000	0.0000		0.0000	0.0000	3.7736	45.6485	49.4222	0.3896	9.5900e-003	60.5767
Total	4.1893	7.6436	44.4740	0.0525	3.1459	0.1351	3.2810	0.8413	0.1260	0.9673	124.1107	4,401.3181	4,525.4288	7.6714	0.0192	4,692.4718

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5781	7.3823	44.2535	0.0509	3.1459	0.1153	3.2612	0.8413	0.1062	0.9474	0.0000	3,628.4169	3,628.4169	0.1445	0.0000	3,631.4520
Unmitigated	3.5781	7.3823	44.2535	0.0509	3.1459	0.1153	3.2612	0.8413	0.1062	0.9474	0.0000	3,628.4169	3,628.4169	0.1445	0.0000	3,631.4520

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	1,587.60	2,310.48	1736.72	1,599,725	1,599,725
High Turnover (Sit Down Restaurant)	1,118.92	1,393.70	1160.17	1,350,626	1,350,626
Bank (with Drive-Through)	592.60	345.30	127.60	454,018	454,018
Regional Shopping Center	649.04	759.62	383.61	1,099,179	1,099,179
Free-Standing Discount Store	1,003.20	1,290.00	808.20	1,584,700	1,584,700
Health Club	921.90	584.50	748.30	1,466,616	1,466,616
Movie Theater (No Matinee)	180.51	879.78	720.72	673,319	673,319
User Defined Commercial	12.88	69.06	76.20	52,514	52,514
Total	6,066.65	7,632.44	5,761.52	8,280,697	8,280,697

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Bank (with Drive-Through)	9.50	7.30	7.30	6.60	74.40	19.00	27	26	47
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Free-Standing Discount Store	9.50	7.30	7.30	12.20	68.80	19.00	47.5	35.5	17
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
User Defined Commercial	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	442.8563	442.8563	0.0201	4.3700e-003	444.6327
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	486.8953	486.8953	0.0221	4.8000e-003	488.8483
NaturalGas Mitigated	0.0287	0.2612	0.2194	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	284.3943	284.3943	5.4500e-003	5.2100e-003	286.1251
NaturalGas Unmitigated	0.0322	0.2929	0.2460	1.7600e-003		0.0223	0.0223		0.0223	0.0223	0.0000	318.8018	318.8018	6.1100e-003	5.8400e-003	320.7420

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive-Thru	1.01195e+006	5.4600e-003	0.0496	0.0417	3.0000e-004		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	54.0016	54.0016	1.0400e-003	9.9000e-004	54.3303
Free-Standing Discount Store	51420	2.8000e-004	2.5200e-003	2.1200e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7440	2.7440	5.0000e-005	5.0000e-005	2.7607
Health Club	995470	5.3700e-003	0.0488	0.0410	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	53.1221	53.1221	1.0200e-003	9.7000e-004	53.4454
High Turnover (Sit Down Restaurant)	2.78287e+006	0.0150	0.1364	0.1146	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.5044	148.5044	2.8500e-003	2.7200e-003	149.4082
Movie Theater (No Matinee)	312862	1.6900e-003	0.0153	0.0129	9.0000e-005		1.1700e-003	1.1700e-003		1.1700e-003	1.1700e-003	0.0000	16.6955	16.6955	3.2000e-004	3.1000e-004	16.7971
Regional Shopping Center	32566	1.8000e-004	1.6000e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7379	1.7379	3.0000e-005	3.0000e-005	1.7484
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Bank (with Drive-Through)	142210	7.7000e-004	6.9700e-003	5.8600e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5889	7.5889	1.5000e-004	1.4000e-004	7.6351
Total		0.0288	0.2613	0.2195	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	284.3943	284.3943	5.4600e-003	5.2100e-003	286.1251

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	51315	11.7970	5.4000e-004	1.2000e-004	11.8443
Fast Food Restaurant with Drive-Through	191444	44.0119	2.0000e-003	4.3000e-004	44.1884
Free-Standing Discount Store	419400	96.4176	4.3800e-003	9.5000e-004	96.8044
Health Club	359205	82.5792	3.7500e-003	8.1000e-004	82.9104
High Turnover (Sit Down Restaurant)	526471	121.0326	5.4900e-003	1.1900e-003	121.5181
Movie Theater (No Matinee)	112893	25.9535	1.1800e-003	2.6000e-004	26.0576
Regional Shopping Center	265620	61.0645	2.7700e-003	6.0000e-004	61.3095
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		442.8563	0.0201	4.3600e-003	444.6327

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5825	1.0000e-005	1.0800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2100e-003
Unmitigated	0.5825	1.0000e-005	1.0800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2100e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2100e-003
Total	0.5825	1.0000e-005	1.0800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0900e-003	2.0900e-003	1.0000e-005	0.0000	2.2100e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	49.4222	0.3896	9.5900e-003	60.5767
Unmitigated	59.9195	0.4870	0.0120	73.8614

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.158492 / 0.114018	0.8159	5.2000e-003	1.3000e-004	0.9652
Fast Food Restaurant with Drive-Through	0.971308 / 0.0727706	3.4016	0.0318	7.8000e-004	4.3099
Free-Standing Discount Store	1.77774 / 1.2789	9.1520	0.0583	1.4500e-003	10.8263
Health Club	1.65601 / 1.19132	8.5254	0.0543	1.3500e-003	10.0849
High Turnover (Sit Down Restaurant)	2.6711 / 0.200119	9.3544	0.0874	2.1400e-003	11.8522
Movie Theater (No Matinee)	3.53409 / 0.264775	12.3766	0.1157	2.8300e-003	15.6816
Regional Shopping Center	1.1259 / 0.809969	5.7963	0.0369	9.2000e-004	6.8566
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		49.4222	0.3896	9.6000e-003	60.5767

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	120.3371	7.1117	0.0000	269.6832
Mitigated	120.3371	7.1117	0.0000	269.6832

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	4.67	0.9480	0.0560	0.0000	2.1245
Fast Food Restaurant with Drive-Through	46.08	9.3538	0.5528	0.0000	20.9625
Free-Standing Discount Store	129.02	26.1899	1.5478	0.0000	58.6932
Health Club	199.5	40.4967	2.3933	0.0000	90.7557
High Turnover (Sit Down Restaurant)	130.9	26.5715	1.5703	0.0000	59.5485
Movie Theater (No Matinee)	62.7	12.7275	0.7522	0.0000	28.5232
Regional Shopping Center	19.95	4.0497	0.2393	0.0000	9.0756
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		120.3371	7.1117	0.0000	269.6832

Barstow - Dev Site 6 ST - Health Wellness
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	50.00	1000sqft	1.15	50,000.00	0
Day-Care Center	23.00	1000sqft	0.53	23,000.00	0
Pharmacy/Drugstore w/o Drive Thru	11.00	1000sqft	0.25	11,000.00	0
Regional Shopping Center	40.00	1000sqft	0.92	40,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	6.21	4.97
tblVehicleTrips	ST_TR	8.96	10.83
tblVehicleTrips	ST_TR	90.06	77.53
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	5.83	4.66
tblVehicleTrips	SU_TR	1.55	19.28
tblVehicleTrips	SU_TR	90.06	77.53
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	79.26	59.25
tblVehicleTrips	WD_TR	36.13	6.41
tblVehicleTrips	WD_TR	90.06	77.53
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6281	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.3400e-003
Energy	2.0200e-003	0.0184	0.0154	1.1000e-004		1.4000e-003	1.4000e-003		1.4000e-003	1.4000e-003	0.0000	336.5127	336.5127	0.0148	3.4900e-003	337.9040
Mobile	2.1220	4.5972	26.7405	0.0328	2.0392	0.0740	2.1132	0.5453	0.0681	0.6135	0.0000	2,334.8817	2,334.8817	0.0916	0.0000	2,336.8053
Waste						0.0000	0.0000		0.0000	0.0000	130.9251	0.0000	130.9251	7.7375	0.0000	293.4116
Water						0.0000	0.0000		0.0000	0.0000	2.7914	40.7825	43.5739	0.2885	7.1600e-003	51.8532
Total	2.7521	4.6156	26.7571	0.0329	2.0392	0.0754	2.1146	0.5453	0.0695	0.6149	133.7165	2,712.1791	2,845.8956	8.1323	0.0107	3,019.9765

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1220	4.5972	26.7405	0.0328	2.0392	0.0740	2.1132	0.5453	0.0681	0.6135	0.0000	2,334.8817	2,334.8817	0.0916	0.0000	2,336.8053
Unmitigated	2.1220	4.5972	26.7405	0.0328	2.0392	0.0740	2.1132	0.5453	0.0681	0.6135	0.0000	2,334.8817	2,334.8817	0.0916	0.0000	2,336.8053

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	1,362.75	114.31	107.18	1,183,558	1,183,558
Medical Office Building	320.50	541.50	964.00	869,019	869,019
Pharmacy/Drugstore w/o Drive Thru	852.83	852.83	852.83	1,001,041	1,001,041
Regional Shopping Center	1,366.40	1,599.20	807.60	2,314,062	2,314,062
Total	3,902.48	3,107.84	2,731.61	5,367,679	5,367,679

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Pharmacy/Drugstore w/o Drive	9.50	7.30	7.30	7.40	73.60	19.00	41	6	53
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	316.5276	316.5276	0.0144	3.1200e-003	317.7972
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	354.5498	354.5498	0.0161	3.5000e-003	355.9719
NaturalGas Mitigated	2.0200e-003	0.0184	0.0154	1.1000e-004		1.4000e-003	1.4000e-003		1.4000e-003	1.4000e-003	0.0000	19.9852	19.9852	3.8000e-004	3.7000e-004	20.1068
NaturalGas Unmitigated	2.7500e-003	0.0250	0.0210	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2588	27.2588	5.2000e-004	5.0000e-004	27.4247

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Medical Office Building	127750	6.9000e-004	6.2600e-003	5.2600e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8172	6.8172	1.3000e-004	1.2000e-004	6.8587
Pharmacy/Drugstore w/o Drive Thru	18854	1.0000e-004	9.2000e-004	7.8000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0061	1.0061	2.0000e-005	2.0000e-005	1.0122
Regional Shopping Center	68560	3.7000e-004	3.3600e-003	2.8200e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6586	3.6586	7.0000e-005	7.0000e-005	3.6809
Day-Care Center	159344	8.6000e-004	7.8100e-003	6.5600e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.5032	8.5032	1.6000e-004	1.6000e-004	8.5550
Total		2.0200e-003	0.0184	0.0154	1.2000e-004		1.4000e-003	1.4000e-003		1.4000e-003	1.4000e-003	0.0000	19.9852	19.9852	3.8000e-004	3.7000e-004	20.1068

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	185610	42.6707	1.9400e-003	4.2000e-004	42.8418
Medical Office Building	478250	109.9469	4.9900e-003	1.0800e-003	110.3879
Pharmacy/Drugstore w/o Drive Thru	153780	35.3531	1.6000e-003	3.5000e-004	35.4949
Regional Shopping Center	559200	128.5569	5.8300e-003	1.2700e-003	129.0725
Total		316.5276	0.0144	3.1200e-003	317.7972

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6281	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.3400e-003
Unmitigated	0.6281	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.3400e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4843					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.3400e-003
Total	0.6281	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.2200e-003	2.2200e-003	1.0000e-005	0.0000	2.3400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	43.5739	0.2885	7.1600e-003	51.8532
Unmitigated	51.7946	0.3606	8.9400e-003	62.1376

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.789168 / 2.38188	8.6963	0.0261	6.9000e-004	9.4581
Medical Office Building	5.01922 / 1.12215	19.4833	0.1643	4.0300e-003	24.1847
Pharmacy/Drugstore w/o Drive Thru	0.619938 / 0.445981	3.1915	0.0203	5.1000e-004	3.7754
Regional Shopping Center	2.37032 / 1.7052	12.2027	0.0778	1.9300e-003	14.4350
Total		43.5739	0.2885	7.1600e-003	51.8532

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	130.9251	7.7375	0.0000	293.4116
Mitigated	130.9251	7.7375	0.0000	293.4116

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	29.9	6.0694	0.3587	0.0000	13.6020
Medical Office Building	540	109.6151	6.4781	0.0000	245.6546
Pharmacy/Drugstore w/o Drive Thru	33.08	6.7149	0.3968	0.0000	15.0486
Regional Shopping Center	42	8.5256	0.5039	0.0000	19.1065
Total		130.9251	7.7375	0.0000	293.4116

Barstow - Dev Site 6 ST - Market Storage
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Supermarket	50.00	1000sqft	1.15	50,000.00	0
Regional Shopping Center	19.00	1000sqft	0.44	19,000.00	0
High Turnover (Sit Down Restaurant)	10.00	1000sqft	0.23	10,000.00	0
Fast Food Restaurant with Drive Thru	12.00	1000sqft	0.28	12,000.00	0
Gasoline/Service Station	12.00	Pump	0.04	1,694.10	0
General Office Building	5.00	1000sqft	0.11	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	162.78	130.22
tblVehicleTrips	ST_TR	2.37	2.46
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	177.59	142.07
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	162.78	130.22
tblVehicleTrips	SU_TR	0.98	1.05
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	166.44	133.15
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	162.78	130.22
tblVehicleTrips	WD_TR	11.01	3.32
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	102.24	81.79

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4948	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.0400e-003
Energy	0.0348	0.3165	0.2658	1.9000e-003		0.0241	0.0241		0.0241	0.0241	0.0000	1,089.2322	1,089.2322	0.0404	0.0137	1,094.3161
Mobile	7.2753	13.4672	86.4864	0.0856	5.1742	0.1946	5.3688	1.3837	0.1793	1.5629	0.0000	6,088.3049	6,088.3049	0.2524	0.0000	6,093.6047
Waste						0.0000	0.0000		0.0000	0.0000	115.7658	0.0000	115.7658	6.8416	0.0000	259.4385
Water						0.0000	0.0000		0.0000	0.0000	3.8823	41.7204	45.6028	0.4006	9.8100e-003	57.0576
Total	7.8049	13.7836	86.7532	0.0875	5.1742	0.2187	5.3929	1.3837	0.2033	1.5870	119.6481	7,219.2594	7,338.9075	7.5349	0.0235	7,504.4189

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.2753	13.4672	86.4864	0.0856	5.1742	0.1946	5.3688	1.3837	0.1793	1.5629	0.0000	6,088.3049	6,088.3049	0.2524	0.0000	6,093.6047
Unmitigated	7.2753	13.4672	86.4864	0.0856	5.1742	0.1946	5.3688	1.3837	0.1793	1.5629	0.0000	6,088.3049	6,088.3049	0.2524	0.0000	6,093.6047

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	4,762.80	6,931.44	5210.16	4,799,174	4,799,174
Gasoline/Service Station	1,562.64	1,562.64	1562.64	900,344	900,344
General Office Building	16.60	12.30	5.25	34,327	34,327
Regional Shopping Center	649.04	759.62	383.61	1,099,179	1,099,179
High Turnover (Sit Down Restaurant)	1,017.20	1,267.00	1054.70	1,227,842	1,227,842
Supermarket	4,089.50	7,103.50	6657.50	5,558,606	5,558,606
Total	12,097.78	17,636.50	14,873.86	13,619,471	13,619,471

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
High Turnover (Sit Down)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	744.7363	744.7363	0.0338	7.3500e-003	747.7235
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	802.2259	802.2259	0.0364	7.9100e-003	805.4438
NaturalGas Mitigated	0.0348	0.3165	0.2658	1.9000e-003		0.0241	0.0241		0.0241	0.0241	0.0000	344.4960	344.4960	6.6000e-003	6.3200e-003	346.5925
NaturalGas Unmitigated	0.0389	0.3539	0.2973	2.1200e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.2839	385.2839	7.3800e-003	7.0600e-003	387.6286

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Gasoline/Service Station	48183.6	2.6000e-004	2.3600e-003	1.9800e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5713	2.5713	5.0000e-005	5.0000e-005	2.5869
General Office Building	12775	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6817	0.6817	1.0000e-005	1.0000e-005	0.6859
High Turnover (Sit Down Restaurant)	2.52988e+006	0.0136	0.1240	0.1042	7.4000e-004		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	135.0040	135.0040	2.5900e-003	2.4800e-003	135.8256
Regional Shopping Center	32566	1.8000e-004	1.6000e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7379	1.7379	3.0000e-005	3.0000e-005	1.7484
Supermarket	796350	4.2900e-003	0.0390	0.0328	2.3000e-004		2.9700e-003	2.9700e-003		2.9700e-003	2.9700e-003	0.0000	42.4963	42.4963	8.1000e-004	7.8000e-004	42.7549
Fast Food Restaurant with Drive Thru	3.03586e+006	0.0164	0.1488	0.1250	8.9000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	162.0048	162.0048	3.1100e-003	2.9700e-003	162.9908
Total		0.0348	0.3165	0.2658	1.8800e-003		0.0241	0.0241		0.0241	0.0241	0.0000	344.4960	344.4960	6.6000e-003	6.3200e-003	346.5925

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	574332	132.0356	5.9900e-003	1.3000e-003	132.5652
Gasoline/Service Station	17386.5	3.9971	1.8000e-004	4.0000e-005	4.0131
General Office Building	47825	10.9947	5.0000e-004	1.1000e-004	11.0388
High Turnover (Sit Down Restaurant)	478610	110.0297	4.9900e-003	1.0900e-003	110.4710
Regional Shopping Center	265620	61.0645	2.7700e-003	6.0000e-004	61.3095
Supermarket	1.8557e+006	426.6147	0.0194	4.2100e-003	428.3260
Total		744.7363	0.0338	7.3500e-003	747.7235

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4948	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.0400e-003
Unmitigated	0.4948	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.0400e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1132					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3815					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.0400e-003
Total	0.4948	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9300e-003	1.9300e-003	1.0000e-005	0.0000	2.0400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	45.6028	0.4006	9.8100e-003	57.0576
Unmitigated	56.0618	0.5008	0.0123	70.3829

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	2.91392 / 0.218312	10.2047	0.0954	2.3300e-003	12.9297
Gasoline/Service Station	0.127506 / 0.0917273	0.6564	4.1800e-003	1.0000e-004	0.7765
General Office Building	0.710935 / 0.511443	3.6600	0.0233	5.8000e-004	4.3295
High Turnover (Sit Down Restaurant)	2.42827 / 0.181926	8.5040	0.0795	1.9400e-003	10.7748
Regional Shopping Center	1.1259 / 0.809969	5.7963	0.0369	9.2000e-004	6.8566
Supermarket	4.93073 / 0.178993	16.7814	0.1613	3.9400e-003	21.3904
Total		45.6028	0.4006	9.8100e-003	57.0576

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	115.7658	6.8416	0.0000	259.4385
Mitigated	115.7658	6.8416	0.0000	259.4385

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive-Thru	138.23	28.0594	1.6583	0.0000	62.8830
Gasoline/Service Station	6.47	1.3134	0.0776	0.0000	2.9433
General Office Building	4.65	0.9439	0.0558	0.0000	2.1154
High Turnover (Sit Down Restaurant)	119	24.1559	1.4276	0.0000	54.1350
Regional Shopping Center	19.95	4.0497	0.2393	0.0000	9.0756
Supermarket	282	57.2435	3.3830	0.0000	128.2863
Total		115.7657	6.8416	0.0000	259.4385

Barstow - Dev Site 6 ST - Gas and FF
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	13.80	1000sqft	0.32	13,800.00	0
High Turnover (Sit Down Restaurant)	84.00	1000sqft	1.93	84,000.00	0
Gasoline/Service Station	24.00	Pump	0.08	3,388.20	0
Regional Shopping Center	7.00	1000sqft	0.16	7,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	162.78	130.22
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	162.78	130.22
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	162.78	130.22
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003
Energy	0.1340	1.2182	1.0233	7.3100e-003		0.0926	0.0926		0.0926	0.0926	0.0000	2,432.7040	2,432.7040	0.0756	0.0352	2,445.2133
Mobile	9.8926	18.0816	117.0788	0.1137	6.8530	0.2587	7.1117	1.8326	0.2383	2.0709	0.0000	8,086.0338	8,086.0338	0.3370	0.0000	8,093.1102
Waste						0.0000	0.0000		0.0000	0.0000	239.2939	0.0000	239.2939	14.1419	0.0000	536.2730
Water						0.0000	0.0000		0.0000	0.0000	7.7468	78.8702	86.6170	0.7991	0.0195	109.4564
Total	10.5746	19.2998	118.1032	0.1210	6.8530	0.3513	7.2043	1.8326	0.3309	2.1635	247.0407	10,597.6102	10,844.6509	15.3536	0.0548	11,184.0552

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.8926	18.0816	117.0788	0.1137	6.8530	0.2587	7.1117	1.8326	0.2383	2.0709	0.0000	8,086.0338	8,086.0338	0.3370	0.0000	8,093.1102
Unmitigated	9.8926	18.0816	117.0788	0.1137	6.8530	0.2587	7.1117	1.8326	0.2383	2.0709	0.0000	8,086.0338	8,086.0338	0.3370	0.0000	8,093.1102

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	5,477.22	7,971.16	5991.68	5,519,050	5,519,050
Gasoline/Service Station	3,125.28	3,125.28	3125.28	1,800,687	1,800,687
High Turnover (Sit Down Restaurant)	8,544.48	10,642.80	8859.48	10,313,870	10,313,870
Regional Shopping Center	239.12	279.86	141.33	404,961	404,961
Total	17,386.10	22,019.10	18,117.77	18,038,568	18,038,568

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,106.5818	1,106.5818	0.0502	0.0109	1,111.0205
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,211.9672	1,211.9672	0.0550	0.0120	1,216.8287
NaturalGas Mitigated	0.1340	1.2182	1.0233	7.3100e-003		0.0926	0.0926		0.0926	0.0926	0.0000	1,326.1222	1,326.1222	0.0254	0.0243	1,334.1928
NaturalGas Unmitigated	0.1470	1.3367	1.1229	8.0200e-003		0.1016	0.1016		0.1016	0.1016	0.0000	1,455.2050	1,455.2050	0.0279	0.0267	1,464.0611

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Gasoline/Service Station	96367.2	5.2000e-004	4.7200e-003	3.9700e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1425	5.1425	1.0000e-004	9.0000e-005	5.1738
High Turnover (Sit Down Restaurant)	2.1251e+007	0.1146	1.0417	0.8750	6.2500e-003		0.0792	0.0792		0.0792	0.0792	0.0000	1,134.0339	1,134.0339	0.0217	0.0208	1,140.9354
Regional Shopping Center	11998	6.0000e-005	5.9000e-004	4.9000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6403	0.6403	1.0000e-005	1.0000e-005	0.6442
Fast Food Restaurant with Drive Thru	3.49123e+006	0.0188	0.1711	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	186.3056	186.3056	3.5700e-003	3.4200e-003	187.4394
Total		0.1340	1.2182	1.0233	7.3100e-003		0.0926	0.0926		0.0926	0.0926	0.0000	1,326.1222	1,326.1222	0.0254	0.0243	1,334.1928

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	660482	151.8410	6.8900e-003	1.5000e-003	152.4500
Gasoline/Service Station	34773.1	7.9941	3.6000e-004	8.0000e-005	8.0262
High Turnover (Sit Down Restaurant)	4.02032e+006	924.2493	0.0419	9.1200e-003	927.9566
Regional Shopping Center	97860	22.4975	1.0200e-003	2.2000e-004	22.5877
Total		1,106.5818	0.0502	0.0109	1,111.0205

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003
Unmitigated	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003
Total	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	86.6170	0.7991	0.0195	109.4564
Unmitigated	107.2026	0.9990	0.0245	135.7603

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	3.35101 / 0.251059	11.7355	0.1097	2.6800e-003	14.8692
Gasoline/Service Station	0.255012 / 0.183455	1.3128	8.3600e-003	2.1000e-004	1.5530
High Turnover (Sit Down Restaurant)	20.3975 / 1.52818	71.4332	0.6675	0.0163	90.5081
Regional Shopping Center	0.414806 / 0.29841	2.1355	0.0136	3.4000e-004	2.5261
Total		86.6170	0.7991	0.0195	109.4564

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	239.2939	14.1419	0.0000	536.2730
Mitigated	239.2939	14.1419	0.0000	536.2730

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	158.96	32.2674	1.9070	0.0000	72.3134
Gasoline/Service Station	12.93	2.6247	0.1551	0.0000	5.8821
High Turnover (Sit Down Restaurant)	999.6	202.9098	11.9916	0.0000	454.7339
Regional Shopping Center	7.35	1.4920	0.0882	0.0000	3.3436
Total		239.2939	14.1419	0.0000	536.2730

Barstow - Dev Site 6 ST - Hotel
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	100.00	Room	3.33	200,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	506.83	CH4 Intensity (lb/MWhr)	0.023	N2O Intensity (lb/MWhr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	145,200.00	200,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	8.19	12.27
tblVehicleTrips	SU_TR	5.95	8.92
tblVehicleTrips	WD_TR	8.17	6.97

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Energy	0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	1,308.3660	1,308.3660	0.0467	0.0170	1,314.6213
Mobile	0.4971	1.2034	6.5505	9.1400e-003	0.5779	0.0206	0.5984	0.1545	0.0190	0.1735	0.0000	652.5960	652.5960	0.0249	0.0000	653.1181
Waste						0.0000	0.0000		0.0000	0.0000	11.1138	0.0000	11.1138	0.6568	0.0000	24.9066
Water						0.0000	0.0000		0.0000	0.0000	0.6438	6.7507	7.3945	0.0664	1.6300e-003	9.2934
Total	1.5591	1.6493	6.9260	0.0118	0.5779	0.0545	0.6323	0.1545	0.0529	0.2074	11.7576	1,967.7145	1,979.4721	0.7947	0.0187	2,001.9413

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4971	1.2034	6.5505	9.1400e-003	0.5779	0.0206	0.5984	0.1545	0.0190	0.1735	0.0000	652.5960	652.5960	0.0249	0.0000	653.1181
Unmitigated	0.4971	1.2034	6.5505	9.1400e-003	0.5779	0.0206	0.5984	0.1545	0.0190	0.1735	0.0000	652.5960	652.5960	0.0249	0.0000	653.1181

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	697.00	1,227.00	892.00	1,521,030	1,521,030
Total	697.00	1,227.00	892.00	1,521,030	1,521,030

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	822.8834	822.8834	0.0373	8.1200e-003	826.1841
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	931.9912	931.9912	0.0423	9.1900e-003	935.7296
NaturalGas Mitigated	0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	485.4826	485.4826	9.3100e-003	8.9000e-003	488.4372
NaturalGas Unmitigated	0.0678	0.6167	0.5180	3.7000e-003		0.0469	0.0469		0.0469	0.0469	0.0000	671.3167	671.3167	0.0129	0.0123	675.4022

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Hotel	9.0976e+006	0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	485.4826	485.4826	9.3100e-003	8.9000e-003	488.4372
Total		0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	485.4826	485.4826	9.3100e-003	8.9000e-003	488.4372

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	3.5794e+06	822.8834	0.0373	8.1200e-003	826.1841
Total		822.8834	0.0373	8.1200e-003	826.1841

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Unmitigated	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Total	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.3945	0.0664	1.6300e-003	9.2934
Unmitigated	9.1181	0.0830	2.0300e-003	11.4923

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	2.02934 / 0.26466	7.3945	0.0664	1.6300e-003	9.2934
Total		7.3945	0.0664	1.6300e-003	9.2934

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.1138	0.6568	0.0000	24.9066
Unmitigated	11.1138	0.6568	0.0000	24.9066

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	54.75	11.1138	0.6568	0.0000	24.9066
Total		11.1138	0.6568	0.0000	24.9066

Barstow - Dev Site 6 ST - MDR
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	20.00	Dwelling Unit	1.25	20,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	6.39
tblVehicleTrips	SU_TR	6.07	5.86
tblVehicleTrips	WD_TR	6.59	6.65

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750
Energy	1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	29.6682	29.6682	1.0400e-003	3.9000e-004	29.8113
Mobile	0.0910	0.2638	1.2974	2.1800e-003	0.1403	4.8900e-003	0.1452	0.0375	4.5000e-003	0.0420	0.0000	155.8361	155.8361	5.7200e-003	0.0000	155.9563
Waste						0.0000	0.0000		0.0000	0.0000	1.8675	0.0000	1.8675	0.1104	0.0000	4.1852
Water						0.0000	0.0000		0.0000	0.0000	0.3307	5.0908	5.4215	0.0342	8.5000e-004	6.4035
Total	1.4610	0.2926	2.9966	2.8500e-003	0.1403	0.2237	0.3640	0.0375	0.2233	0.2608	22.8574	199.5018	222.3592	0.1706	2.8600e-003	226.8313

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0910	0.2638	1.2974	2.1800e-003	0.1403	4.8900e-003	0.1452	0.0375	4.5000e-003	0.0420	0.0000	155.8361	155.8361	5.7200e-003	0.0000	155.9563
Unmitigated	0.0910	0.2638	1.2974	2.1800e-003	0.1403	4.8900e-003	0.1452	0.0375	4.5000e-003	0.0420	0.0000	155.8361	155.8361	5.7200e-003	0.0000	155.9563

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	133.00	127.80	117.20	369,216	369,216
Total	133.00	127.80	117.20	369,216	369,216

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	18.0176	18.0176	8.2000e-004	1.8000e-004	18.0899
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	18.7494	18.7494	8.5000e-004	1.8000e-004	18.8246
NaturalGas Mitigated	1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.6506	11.6506	2.2000e-004	2.1000e-004	11.7215
NaturalGas Unmitigated	1.4800e-003	0.0127	5.3800e-003	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	14.6454	14.6454	2.8000e-004	2.7000e-004	14.7345

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	218323	1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.6506	11.6506	2.2000e-004	2.1000e-004	11.7215
Total		1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.6506	11.6506	2.2000e-004	2.1000e-004	11.7215

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	78373.5	18.0176	8.2000e-004	1.8000e-004	18.0899
Total		18.0176	8.2000e-004	1.8000e-004	18.0899

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750
Unmitigated	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.2549	0.0170	1.5459	6.0000e-004		0.2172	0.2172		0.2172	0.2172	20.6592	8.6642	29.3233	0.0191	1.6200e-003	30.2274
Landscaping	4.5400e-003	1.7200e-003	0.1490	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.4000e-004	0.0000	0.2475
Total	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4215	0.0342	8.5000e-004	6.4035
Unmitigated	6.4124	0.0427	1.0600e-003	7.6389

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.04246 / 0.771395	5.4215	0.0342	8.5000e-004	6.4035
Total		5.4215	0.0342	8.5000e-004	6.4035

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	1.8675	0.1104	0.0000	4.1852
Mitigated	1.8675	0.1104	0.0000	4.1852

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.2	1.8675	0.1104	0.0000	4.1852
Total		1.8675	0.1104	0.0000	4.1852

Barstow - Dev Site 7 - SFR
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	400.00	Dwelling Unit	129.87	720,000.00	1144

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	9.57	9.52

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	12.0814	0.1537	13.8014	4.3800e-003		1.5367	1.5367		1.5367	1.5367	144.6141	65.5006	210.1146	0.1382	0.0114	216.5428
Energy	0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	1,255.9812	1,255.9812	0.0420	0.0172	1,262.2066
Mobile	2.6442	7.6681	37.7123	0.0634	4.0773	0.1421	4.2195	1.0904	0.1309	1.2212	0.0000	4,529.8648	4,529.8648	0.1663	0.0000	4,533.3569
Waste						0.0000	0.0000		0.0000	0.0000	33.2905	0.0000	33.2905	1.9674	0.0000	74.6062
Water						0.0000	0.0000		0.0000	0.0000	2.3151	35.6357	37.9507	0.2394	5.9600e-003	44.8245
Total	14.7834	8.3159	51.7241	0.0709	4.0773	1.7188	5.7962	1.0904	1.7075	2.7979	180.2197	5,886.9822	6,067.2019	2.5532	0.0346	6,131.5369

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6442	7.6681	37.7123	0.0634	4.0773	0.1421	4.2195	1.0904	0.1309	1.2212	0.0000	4,529.8648	4,529.8648	0.1663	0.0000	4,533.3569
Unmitigated	2.6442	7.6681	37.7123	0.0634	4.0773	0.1421	4.2195	1.0904	0.1309	1.2212	0.0000	4,529.8648	4,529.8648	0.1663	0.0000	4,533.3569

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,808.00	3,964.00	3,448.00	10,732,408	10,732,408
Total	3,808.00	3,964.00	3,448.00	10,732,408	10,732,408

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	683.6496	683.6496	0.0310	6.7400e-003	686.3918
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	706.2019	706.2019	0.0321	6.9700e-003	709.0347
NaturalGas Mitigated	0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	572.3317	572.3317	0.0110	0.0105	575.8148
NaturalGas Unmitigated	0.0728	0.6224	0.2648	3.9700e-003		0.0503	0.0503		0.0503	0.0503	0.0000	720.7726	720.7726	0.0138	0.0132	725.1591

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.07251e+007	0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	572.3317	572.3317	0.0110	0.0105	575.8148
Total		0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	572.3317	572.3317	0.0110	0.0105	575.8148

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.97376e+006	683.6496	0.0310	6.7400e-003	686.3918
Total		683.6496	0.0310	6.7400e-003	686.3918

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	12.0814	0.1537	13.8014	4.3800e-003		1.5367	1.5367		1.5367	1.5367	144.6141	65.5006	210.1146	0.1382	0.0114	216.5428
Unmitigated	12.0814	0.1537	13.8014	4.3800e-003		1.5367	1.5367		1.5367	1.5367	144.6141	65.5006	210.1146	0.1382	0.0114	216.5428

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8120					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.7845	0.1192	10.8215	4.2300e-003		1.5204	1.5204		1.5203	1.5203	144.6141	60.6490	205.2631	0.1335	0.0114	211.5919
Landscaping	0.0907	0.0345	2.9799	1.6000e-004		0.0164	0.0164		0.0164	0.0164	0.0000	4.8515	4.8515	4.7300e-003	0.0000	4.9509
Total	12.0814	0.1537	13.8014	4.3900e-003		1.5368	1.5368		1.5367	1.5367	144.6141	65.5006	210.1146	0.1382	0.0114	216.5428

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.9507	0.2394	5.9600e-003	44.8245
Unmitigated	44.8864	0.2991	7.4300e-003	53.4723

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.29725 / 5.39977	37.9507	0.2394	5.9600e-003	44.8245
Total		37.9507	0.2394	5.9600e-003	44.8245

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	33.2905	1.9674	0.0000	74.6062
Unmitigated	33.2905	1.9674	0.0000	74.6062

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	164	33.2905	1.9674	0.0000	74.6062
Total		33.2905	1.9674	0.0000	74.6062

Barstow - Dev Site 8 - Sr Housing Attached
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	30.00	Dwelling Unit	1.88	30,000.00	86

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	2.61
tblVehicleTrips	SU_TR	6.07	2.84
tblVehicleTrips	WD_TR	6.59	3.44

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0533	0.0281	2.5424	9.2000e-004		0.3270	0.3270		0.3270	0.3270	30.9887	13.3601	44.3488	0.0290	2.4400e-003	45.7124
Energy	2.6200e-003	0.0224	9.5200e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	58.2618	58.2618	1.9600e-003	7.9000e-004	58.5493
Mobile	0.0679	0.1970	0.9688	1.6300e-003	0.1047	3.6500e-003	0.1084	0.0280	3.3600e-003	0.0314	0.0000	116.3633	116.3633	4.2700e-003	0.0000	116.4531
Waste						0.0000	0.0000		0.0000	0.0000	2.8013	0.0000	2.8013	0.1656	0.0000	6.2778
Water						0.0000	0.0000		0.0000	0.0000	0.4961	7.6362	8.1323	0.0513	1.2800e-003	9.6053
Total	2.1238	0.2475	3.5207	2.6900e-003	0.1047	0.3325	0.4372	0.0280	0.3322	0.3602	34.2861	195.6215	229.9076	0.2520	4.5100e-003	236.5979

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0679	0.1970	0.9688	1.6300e-003	0.1047	3.6500e-003	0.1084	0.0280	3.3600e-003	0.0314	0.0000	116.3633	116.3633	4.2700e-003	0.0000	116.4531
Unmitigated	0.0679	0.1970	0.9688	1.6300e-003	0.1047	3.6500e-003	0.1084	0.0280	3.3600e-003	0.0314	0.0000	116.3633	116.3633	4.2700e-003	0.0000	116.4531

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	103.20	78.30	85.20	275,695	275,695
Total	103.20	78.30	85.20	275,695	275,695

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	32.3400	32.3400	1.4700e-003	3.2000e-004	32.4697
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	33.6324	33.6324	1.5300e-003	3.3000e-004	33.7673
NaturalGas Mitigated	2.6200e-003	0.0224	9.5200e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	25.9218	25.9218	5.0000e-004	4.8000e-004	26.0796
NaturalGas Unmitigated	3.3300e-003	0.0285	0.0121	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.9877	32.9877	6.3000e-004	6.0000e-004	33.1884

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	485757	2.6200e-003	0.0224	9.5200e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	25.9218	25.9218	5.0000e-004	4.8000e-004	26.0796
Total		2.6200e-003	0.0224	9.5200e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	25.9218	25.9218	5.0000e-004	4.8000e-004	26.0796

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	140673	32.3400	1.4700e-003	3.2000e-004	32.4697
Total		32.3400	1.4700e-003	3.2000e-004	32.4697

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0533	0.0281	2.5424	9.2000e-004		0.3270	0.3270		0.3270	0.3270	30.9887	13.3601	44.3488	0.0290	2.4400e-003	45.7124
Unmitigated	2.0533	0.0281	2.5424	9.2000e-004		0.3270	0.3270		0.3270	0.3270	30.9887	13.3601	44.3488	0.0290	2.4400e-003	45.7124

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0469					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.8824	0.0255	2.3189	9.1000e-004		0.3258	0.3258		0.3258	0.3258	30.9887	12.9962	43.9850	0.0286	2.4400e-003	45.3411
Landscaping	6.8100e-003	2.5800e-003	0.2235	1.0000e-005		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	0.3639	0.3639	3.5000e-004	0.0000	0.3713
Total	2.0533	0.0281	2.5424	9.2000e-004		0.3270	0.3270		0.3270	0.3270	30.9887	13.3601	44.3488	0.0290	2.4400e-003	45.7124

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.1323	0.0513	1.2800e-003	9.6053
Unmitigated	9.6185	0.0641	1.5900e-003	11.4583

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	1.5637 / 1.15709	8.1323	0.0513	1.2800e-003	9.6053
Total		8.1323	0.0513	1.2800e-003	9.6053

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.8013	0.1656	0.0000	6.2778
Unmitigated	2.8013	0.1656	0.0000	6.2778

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	13.8	2.8013	0.1656	0.0000	6.2778
Total		2.8013	0.1656	0.0000	6.2778

Barstow - Dev Site 9 - SFR
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	140.00	Dwelling Unit	45.45	252,000.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	9.57	9.52

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.1946	0.1312	11.8645	4.2800e-003		1.5261	1.5261		1.5261	1.5261	144.6141	62.3471	206.9612	0.1351	0.0114	213.3247
Energy	0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	439.5934	439.5934	0.0147	6.0300e-003	441.7723
Mobile	0.9255	2.6838	13.1993	0.0222	1.4271	0.0498	1.4768	0.3816	0.0458	0.4274	0.0000	1,585.4527	1,585.4527	0.0582	0.0000	1,586.6749
Waste						0.0000	0.0000		0.0000	0.0000	33.2905	0.0000	33.2905	1.9674	0.0000	74.6062
Water						0.0000	0.0000		0.0000	0.0000	2.3151	35.6357	37.9507	0.2394	5.9600e-003	44.8245
Total	11.1403	2.9880	25.1374	0.0276	1.4271	1.5898	3.0169	0.3816	1.5858	1.9675	180.2197	2,123.0288	2,303.2485	2.4148	0.0234	2,361.2027

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9255	2.6838	13.1993	0.0222	1.4271	0.0498	1.4768	0.3816	0.0458	0.4274	0.0000	1,585.4527	1,585.4527	0.0582	0.0000	1,586.6749
Unmitigated	0.9255	2.6838	13.1993	0.0222	1.4271	0.0498	1.4768	0.3816	0.0458	0.4274	0.0000	1,585.4527	1,585.4527	0.0582	0.0000	1,586.6749

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,332.80	1,387.40	1206.80	3,756,343	3,756,343
Total	1,332.80	1,387.40	1,206.80	3,756,343	3,756,343

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	239.2773	239.2773	0.0109	2.3600e-003	240.2371
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	247.1707	247.1707	0.0112	2.4400e-003	248.1621
NaturalGas Mitigated	0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	200.3161	200.3161	3.8400e-003	3.6700e-003	201.5352
NaturalGas Unmitigated	0.0255	0.2178	0.0927	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.2704	252.2704	4.8400e-003	4.6200e-003	253.8057

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.75378e+006	0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	200.3161	200.3161	3.8400e-003	3.6700e-003	201.5352
Total		0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	200.3161	200.3161	3.8400e-003	3.6700e-003	201.5352

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.04081e+006	239.2773	0.0109	2.3600e-003	240.2371
Total		239.2773	0.0109	2.3600e-003	240.2371

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	10.1946	0.1312	11.8645	4.2800e-003		1.5261	1.5261		1.5261	1.5261	144.6141	62.3471	206.9612	0.1351	0.0114	213.3247
Unmitigated	10.1946	0.1312	11.8645	4.2800e-003		1.5261	1.5261		1.5261	1.5261	144.6141	62.3471	206.9612	0.1351	0.0114	213.3247

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.7845	0.1192	10.8215	4.2300e-003		1.5204	1.5204		1.5203	1.5203	144.6141	60.6490	205.2631	0.1335	0.0114	211.5919
Landscaping	0.0318	0.0121	1.0430	5.0000e-005		5.7300e-003	5.7300e-003		5.7300e-003	5.7300e-003	0.0000	1.6980	1.6980	1.6600e-003	0.0000	1.7328
Total	10.1946	0.1312	11.8645	4.2800e-003		1.5261	1.5261		1.5260	1.5260	144.6141	62.3471	206.9611	0.1351	0.0114	213.3247

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.9507	0.2394	5.9600e-003	44.8245
Unmitigated	44.8864	0.2991	7.4300e-003	53.4723

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.29725 / 5.39977	37.9507	0.2394	5.9600e-003	44.8245
Total		37.9507	0.2394	5.9600e-003	44.8245

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	33.2905	1.9674	0.0000	74.6062
Unmitigated	33.2905	1.9674	0.0000	74.6062

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	164	33.2905	1.9674	0.0000	74.6062
Total		33.2905	1.9674	0.0000	74.6062

Barstow - Dev Site 10 - Condos
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	20.00	Dwelling Unit	1.25	20,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	5.67
tblVehicleTrips	SU_TR	6.07	4.84
tblVehicleTrips	WD_TR	6.59	5.81

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750
Energy	1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	38.8412	38.8412	1.3100e-003	5.3000e-004	39.0329
Mobile	0.0791	0.2294	1.1280	1.9000e-003	0.1220	4.2500e-003	0.1262	0.0326	3.9100e-003	0.0365	0.0000	135.4918	135.4918	4.9700e-003	0.0000	135.5963
Waste						0.0000	0.0000		0.0000	0.0000	1.8675	0.0000	1.8675	0.1104	0.0000	4.1852
Water						0.0000	0.0000		0.0000	0.0000	0.3307	5.0908	5.4215	0.0342	8.5000e-004	6.4035
Total	1.4497	0.2630	2.8293	2.6100e-003	0.1220	0.2235	0.3454	0.0326	0.2231	0.2558	22.8574	188.3306	211.1880	0.1701	3.0000e-003	215.6928

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0791	0.2294	1.1280	1.9000e-003	0.1220	4.2500e-003	0.1262	0.0326	3.9100e-003	0.0365	0.0000	135.4918	135.4918	4.9700e-003	0.0000	135.5963
Unmitigated	0.0791	0.2294	1.1280	1.9000e-003	0.1220	4.2500e-003	0.1262	0.0326	3.9100e-003	0.0365	0.0000	135.4918	135.4918	4.9700e-003	0.0000	135.5963

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	116.20	113.40	96.80	321,015	321,015
Total	116.20	113.40	96.80	321,015	321,015

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	21.5600	21.5600	9.8000e-004	2.1000e-004	21.6465
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.4216	22.4216	1.0200e-003	2.2000e-004	22.5115
NaturalGas Mitigated	1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2812	17.2812	3.3000e-004	3.2000e-004	17.3864
NaturalGas Unmitigated	2.2200e-003	0.0190	8.0800e-003	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	21.9918	21.9918	4.2000e-004	4.0000e-004	22.1256

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	323838	1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2812	17.2812	3.3000e-004	3.2000e-004	17.3864
Total		1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2812	17.2812	3.3000e-004	3.2000e-004	17.3864

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	93782.3	21.5600	9.8000e-004	2.1000e-004	21.6465
Total		21.5600	9.8000e-004	2.1000e-004	21.6465

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750
Unmitigated	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.2549	0.0170	1.5459	6.0000e-004		0.2172	0.2172		0.2172	0.2172	20.6592	8.6642	29.3233	0.0191	1.6200e-003	30.2274
Landscaping	4.5400e-003	1.7200e-003	0.1490	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.4000e-004	0.0000	0.2475
Total	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4215	0.0342	8.5000e-004	6.4035
Unmitigated	6.4124	0.0427	1.0600e-003	7.6389

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	1.04246 / 0.771395	5.4215	0.0342	8.5000e-004	6.4035
Total		5.4215	0.0342	8.5000e-004	6.4035

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	1.8675	0.1104	0.0000	4.1852
Mitigated	1.8675	0.1104	0.0000	4.1852

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	9.2	1.8675	0.1104	0.0000	4.1852
Total		1.8675	0.1104	0.0000	4.1852

Barstow - Dev Site 11 - SFR
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	500.00	Dwelling Unit	162.34	900,000.00	1430

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	10.08	7.93
tblVehicleTrips	SU_TR	8.77	6.90
tblVehicleTrips	WD_TR	9.57	7.62

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	36.4094	0.4687	42.3732	0.0153		5.4503	5.4503		5.4502	5.4502	516.4789	222.6681	739.1470	0.4825	0.0406	761.8740
Energy	0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	1,569.9765	1,569.9765	0.0525	0.0216	1,577.7582
Mobile	2.6455	7.6718	37.7309	0.0634	4.0793	0.1422	4.2215	1.0909	0.1310	1.2218	0.0000	4,532.0910	4,532.0910	0.1664	0.0000	4,535.5848
Waste						0.0000	0.0000		0.0000	0.0000	119.0136	0.0000	119.0136	7.0335	0.0000	266.7172
Water						0.0000	0.0000		0.0000	0.0000	8.2682	127.2702	135.5383	0.8549	0.0213	160.0877
Total	39.1271	8.7583	80.3669	0.0826	4.0793	5.6425	9.7218	1.0909	5.6311	6.7220	643.7606	6,452.0058	7,095.7664	8.5898	0.0835	7,302.0218

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6455	7.6718	37.7309	0.0634	4.0793	0.1422	4.2215	1.0909	0.1310	1.2218	0.0000	4,532.0910	4,532.0910	0.1664	0.0000	4,535.5848
Unmitigated	2.6455	7.6718	37.7309	0.0634	4.0793	0.1422	4.2215	1.0909	0.1310	1.2218	0.0000	4,532.0910	4,532.0910	0.1664	0.0000	4,535.5848

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,810.00	3,965.00	3450.00	10,737,682	10,737,682
Total	3,810.00	3,965.00	3,450.00	10,737,682	10,737,682

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	854.5619	854.5619	0.0388	8.4300e-003	857.9898
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	882.7524	882.7524	0.0401	8.7100e-003	886.2933
NaturalGas Mitigated	0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.4146	715.4146	0.0137	0.0131	719.7685
NaturalGas Unmitigated	0.0910	0.7780	0.3311	4.9700e-003		0.0629	0.0629		0.0629	0.0629	0.0000	900.9657	900.9657	0.0173	0.0165	906.4489

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.34064e+007	0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.4146	715.4146	0.0137	0.0131	719.7685
Total		0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.4146	715.4146	0.0137	0.0131	719.7685

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	3.7172e+06	854.5619	0.0388	8.4300e-003	857.9898
Total		854.5619	0.0388	8.4300e-003	857.9898

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	36.4094	0.4687	42.3732	0.0153		5.4503	5.4503		5.4502	5.4502	516.4789	222.6681	739.1470	0.4825	0.0406	761.8740
Unmitigated	36.4094	0.4687	42.3732	0.0153		5.4503	5.4503		5.4502	5.4502	516.4789	222.6681	739.1470	0.4825	0.0406	761.8740

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.4079					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	31.3731	0.4257	38.6483	0.0151		5.4299	5.4299		5.4297	5.4297	516.4789	216.6037	733.0826	0.4766	0.0406	755.6854
Landscaping	0.1134	0.0431	3.7249	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0644	6.0644	5.9100e-003	0.0000	6.1886
Total	36.4094	0.4687	42.3732	0.0153		5.4503	5.4503		5.4502	5.4502	516.4789	222.6681	739.1470	0.4825	0.0406	761.8740

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	135.5383	0.8549	0.0213	160.0877
Unmitigated	160.3087	1.0683	0.0265	190.9724

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	26.0616 / 19.2849	135.5383	0.8549	0.0213	160.0877
Total		135.5383	0.8549	0.0213	160.0877

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	119.0136	7.0335	0.0000	266.7172
Unmitigated	119.0136	7.0335	0.0000	266.7172

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	586.3	119.0136	7.0335	0.0000	266.7172
Total		119.0136	7.0335	0.0000	266.7172

Barstow - Dev Site 11 - Diverse Use
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	75.00	User Defined Unit	0.00	75,000.00	0
User Defined Retail	75.00	User Defined Unit	0.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Given same trip profile as Residential

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	75,000.00
tblLandUse	LandUseSquareFeet	0.00	75,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020

tblVehicleTrips	CC_TTP	0.00	40.20
tblVehicleTrips	CC_TTP	0.00	40.20
tblVehicleTrips	CNW_TTP	0.00	40.60
tblVehicleTrips	CNW_TTP	0.00	40.60
tblVehicleTrips	CW_TTP	0.00	19.20
tblVehicleTrips	CW_TTP	0.00	19.20
tblVehicleTrips	DV_TP	0.00	11.00
tblVehicleTrips	DV_TP	0.00	11.00
tblVehicleTrips	PB_TP	0.00	3.00
tblVehicleTrips	PB_TP	0.00	3.00
tblVehicleTrips	PR_TP	0.00	86.00
tblVehicleTrips	PR_TP	0.00	86.00
tblVehicleTrips	ST_TR	0.00	1.10
tblVehicleTrips	ST_TR	0.00	7.52
tblVehicleTrips	SU_TR	0.00	1.10
tblVehicleTrips	SU_TR	0.00	7.52
tblVehicleTrips	WD_TR	0.00	1.10
tblVehicleTrips	WD_TR	0.00	7.52

2.0 Emissions Summary

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7598	1.0000e-005	1.3900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.8300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.4337	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1935	1.1873	6.0278	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1741	684.1741	0.0254	0.0000	684.7073

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4337	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044
Unmitigated	0.4337	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	82.50	82.50	82.50	205,905	205,905
User Defined Retail	564.00	564.00	564.00	1,407,639	1,407,639
Total	646.50	646.50	646.50	1,613,543	1,613,543

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	9.50	7.30	7.30	19.20	40.20	40.60	86	11	3
User Defined Retail	9.50	7.30	7.30	19.20	40.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7598	1.0000e-005	1.3900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.8300e-003
Unmitigated	0.7598	1.0000e-005	1.3900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.8300e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1738					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5858					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.3900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.8300e-003
Total	0.7598	1.0000e-005	1.3900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.6800e-003	2.6800e-003	1.0000e-005	0.0000	2.8300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	0.0000	0.0000	0.0000	0.0000
Mitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Barstow - Dev Site 12 - MDR
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	60.00	Dwelling Unit	3.75	60,000.00	172

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	6.39
tblVehicleTrips	SU_TR	6.07	5.86
tblVehicleTrips	WD_TR	6.59	6.65

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.1066	0.0563	5.0848	1.8400e-003		0.6540	0.6540		0.6540	0.6540	61.9775	26.7202	88.6976	0.0579	4.8700e-003	91.4249
Energy	3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	89.0045	89.0045	3.1200e-003	1.1700e-003	89.4340
Mobile	0.2729	0.7914	3.8921	6.5400e-003	0.4208	0.0147	0.4355	0.1125	0.0135	0.1260	0.0000	467.5084	467.5084	0.0172	0.0000	467.8688
Waste						0.0000	0.0000		0.0000	0.0000	5.6026	0.0000	5.6026	0.3311	0.0000	12.5557
Water						0.0000	0.0000		0.0000	0.0000	0.9922	15.2724	16.2646	0.1026	2.5500e-003	19.2105
Total	4.3830	0.8778	8.9898	8.5700e-003	0.4208	0.6712	1.0920	0.1125	0.6700	0.7825	68.5722	598.5054	667.0776	0.5119	8.5900e-003	680.4938

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2729	0.7914	3.8921	6.5400e-003	0.4208	0.0147	0.4355	0.1125	0.0135	0.1260	0.0000	467.5084	467.5084	0.0172	0.0000	467.8688
Unmitigated	0.2729	0.7914	3.8921	6.5400e-003	0.4208	0.0147	0.4355	0.1125	0.0135	0.1260	0.0000	467.5084	467.5084	0.0172	0.0000	467.8688

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	399.00	383.40	351.60	1,107,647	1,107,647
Total	399.00	383.40	351.60	1,107,647	1,107,647

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	54.0528	54.0528	2.4500e-003	5.3000e-004	54.2697
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	56.2480	56.2480	2.5500e-003	5.5000e-004	56.4737
NaturalGas Mitigated	3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9516	34.9516	6.7000e-004	6.4000e-004	35.1644
NaturalGas Unmitigated	4.4400e-003	0.0379	0.0161	2.4000e-004		3.0700e-003	3.0700e-003		3.0700e-003	3.0700e-003	0.0000	43.9361	43.9361	8.4000e-004	8.1000e-004	44.2035

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	654969	3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9516	34.9516	6.7000e-004	6.4000e-004	35.1644
Total		3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9516	34.9516	6.7000e-004	6.4000e-004	35.1644

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	235121	54.0528	2.4500e-003	5.3000e-004	54.2697
Total		54.0528	2.4500e-003	5.3000e-004	54.2697

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.1066	0.0563	5.0848	1.8400e-003		0.6540	0.6540		0.6540	0.6540	61.9775	26.7202	88.6976	0.0579	4.8700e-003	91.4249
Unmitigated	4.1066	0.0563	5.0848	1.8400e-003		0.6540	0.6540		0.6540	0.6540	61.9775	26.7202	88.6976	0.0579	4.8700e-003	91.4249

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0939					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.7648	0.0511	4.6378	1.8100e-003		0.6516	0.6516		0.6516	0.6516	61.9775	25.9924	87.9699	0.0572	4.8700e-003	90.6823
Landscaping	0.0136	5.1700e-003	0.4470	2.0000e-005		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	0.7277	0.7277	7.1000e-004	0.0000	0.7426
Total	4.1066	0.0563	5.0848	1.8300e-003		0.6540	0.6540		0.6540	0.6540	61.9775	26.7202	88.6976	0.0579	4.8700e-003	91.4249

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.2646	0.1026	2.5500e-003	19.2105
Unmitigated	19.2371	0.1282	3.1900e-003	22.9167

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	3.12739 / 2.31419	16.2646	0.1026	2.5500e-003	19.2105
Total		16.2646	0.1026	2.5500e-003	19.2105

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.6026	0.3311	0.0000	12.5557
Unmitigated	5.6026	0.3311	0.0000	12.5557

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	27.6	5.6026	0.3311	0.0000	12.5557
Total		5.6026	0.3311	0.0000	12.5557

Barstow - Dev Site 12 - Office
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land

Water Mitigation - 2013 Green Building Standards

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	2.37	2.46
tblVehicleTrips	SU_TR	0.98	1.05
tblVehicleTrips	WD_TR	11.01	3.32

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	46.7057	46.7057	2.0500e-003	4.8000e-004	46.8987
Mobile	0.0380	0.1021	0.5239	8.2000e-004	0.0522	1.8300e-003	0.0540	0.0140	1.6900e-003	0.0156	0.0000	58.3190	58.3190	2.1700e-003	0.0000	58.3646
Waste						0.0000	0.0000		0.0000	0.0000	3.7756	0.0000	3.7756	0.2231	0.0000	8.4614
Water						0.0000	0.0000		0.0000	0.0000	0.9022	13.7378	14.6400	0.0933	2.3200e-003	17.3181
Total	0.1396	0.1046	0.5262	8.4000e-004	0.0522	2.0200e-003	0.0542	0.0140	1.8800e-003	0.0158	4.6778	118.7628	123.4406	0.3206	2.8000e-003	131.0431

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0380	0.1021	0.5239	8.2000e-004	0.0522	1.8300e-003	0.0540	0.0140	1.6900e-003	0.0156	0.0000	58.3190	58.3190	2.1700e-003	0.0000	58.3646
Unmitigated	0.0380	0.1021	0.5239	8.2000e-004	0.0522	1.8300e-003	0.0540	0.0140	1.6900e-003	0.0156	0.0000	58.3190	58.3190	2.1700e-003	0.0000	58.3646

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	66.40	49.20	21.00	137,308	137,308
Total	66.40	49.20	21.00	137,308	137,308

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.9788	43.9788	2.0000e-003	4.3000e-004	44.1552
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	49.1514	49.1514	2.2300e-003	4.8000e-004	49.3485
NaturalGas Mitigated	2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7269	2.7269	5.0000e-005	5.0000e-005	2.7435
NaturalGas Unmitigated	3.9000e-004	3.5800e-003	3.0100e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.8956	3.8956	7.0000e-005	7.0000e-005	3.9193

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	51100	2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7269	2.7269	5.0000e-005	5.0000e-005	2.7435
Total		2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7269	2.7269	5.0000e-005	5.0000e-005	2.7435

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	191300	43.9788	2.0000e-003	4.3000e-004	44.1552
Total		43.9788	2.0000e-003	4.3000e-004	44.1552

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Unmitigated	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Total	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.6400	0.0933	2.3200e-003	17.3181
Unmitigated	17.3331	0.1166	2.8900e-003	20.6783

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.84374 / 2.04577	14.6400	0.0933	2.3200e-003	17.3181
Total		14.6400	0.0933	2.3200e-003	17.3181

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.7756	0.2231	0.0000	8.4614
Unmitigated	3.7756	0.2231	0.0000	8.4614

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	18.6	3.7756	0.2231	0.0000	8.4614
Total		3.7756	0.2231	0.0000	8.4614

Barstow - Dev Site 1 - Gen Hvy Ind - Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	725.00	1000sqft	16.64	725,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.50	1.20
tblVehicleTrips	SU_TR	1.50	1.20
tblVehicleTrips	WD_TR	1.50	1.20

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137
Energy	0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	2,694.3493	2,694.3493	0.0934	0.0359	2,707.4398
Mobile	0.6146	1.8041	8.8145	0.0150	0.9650	0.0336	0.9986	0.2581	0.0309	0.2890	0.0000	1,071.0824	1,071.0824	0.0392	0.0000	1,071.9064
Waste						0.0000	0.0000		0.0000	0.0000	91.2444	0.0000	91.2444	5.3924	0.0000	204.4847
Water						0.0000	0.0000		0.0000	0.0000	42.5517	401.4968	444.0485	4.3881	0.1070	569.3737
Total	4.3980	2.8149	9.6703	0.0210	0.9650	0.1104	1.0754	0.2581	0.1078	0.3658	133.7961	4,166.9415	4,300.7376	9.9131	0.1429	4,553.2181

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6146	1.8041	8.8145	0.0150	0.9650	0.0336	0.9986	0.2581	0.0309	0.2890	0.0000	1,071.0824	1,071.0824	0.0392	0.0000	1,071.9064
Unmitigated	0.6146	1.8041	8.8145	0.0150	0.9650	0.0336	0.9986	0.2581	0.0309	0.2890	0.0000	1,071.0824	1,071.0824	0.0392	0.0000	1,071.9064

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	870.00	870.00	870.00	2,539,975	2,539,975
Total	870.00	870.00	870.00	2,539,975	2,539,975

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,593.9635	1,593.9635	0.0723	0.0157	1,600.3573
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,845.0735	1,845.0735	0.0837	0.0182	1,852.4745
NaturalGas Mitigated	0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	1,100.3857	1,100.3857	0.0211	0.0202	1,107.0825
NaturalGas Unmitigated	0.1301	1.1831	0.9938	7.1000e-003		0.0899	0.0899		0.0899	0.0899	0.0000	1,287.9489	1,287.9489	0.0247	0.0236	1,295.7871

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	2.06205e+007	0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	1,100.3857	1,100.3857	0.0211	0.0202	1,107.0825
Total		0.1112	1.0108	0.8491	6.0600e-003		0.0768	0.0768		0.0768	0.0768	0.0000	1,100.3857	1,100.3857	0.0211	0.0202	1,107.0825

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	6.93347e+006	1,593.9635	0.0723	0.0157	1,600.3573
Total		1,593.9635	0.0723	0.0157	1,600.3573

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137
Unmitigated	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.8401					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.3000e-004	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137
Total	3.6722	6.0000e-005	6.7000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0130	0.0130	3.0000e-005	0.0000	0.0137

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	444.0485	4.3881	0.1070	569.3737
Unmitigated	555.0606	5.4859	0.1340	711.7870

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	134.125 / 0	444.0485	4.3881	0.1070	569.3737
Total		444.0485	4.3881	0.1070	569.3737

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	91.2444	5.3924	0.0000	204.4847
Unmitigated	182.4889	10.7848	0.0000	408.9693

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	449.5	91.2444	5.3924	0.0000	204.4847
Total		91.2444	5.3924	0.0000	204.4847

Barstow - Dev Site 2 - Gen Light Ind Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	500.00	1000sqft	11.48	500,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	506.83	CH4 Intensity (lb/MWhr)	0.023	N2O Intensity (lb/MWhr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	1.32	1.06
tblVehicleTrips	SU_TR	0.68	0.54
tblVehicleTrips	WD_TR	6.97	5.58

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5326	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003
Energy	0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	1,858.1719	1,858.1719	0.0644	0.0248	1,867.1998
Mobile	1.4885	4.3694	21.3488	0.0363	2.3371	0.0814	2.4185	0.6250	0.0749	0.6999	0.0000	2,594.1651	2,594.1651	0.0950	0.0000	2,596.1607
Waste						0.0000	0.0000		0.0000	0.0000	62.9272	0.0000	62.9272	3.7189	0.0000	141.0239
Water						0.0000	0.0000		0.0000	0.0000	29.3460	276.8944	306.2404	3.0262	0.0738	392.6715
Total	4.0977	5.0666	21.9389	0.0405	2.3371	0.1344	2.4715	0.6250	0.1279	0.7529	92.2732	4,729.2403	4,821.5135	6.9046	0.0986	4,997.0654

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4885	4.3694	21.3488	0.0363	2.3371	0.0814	2.4185	0.6250	0.0749	0.6999	0.0000	2,594.1651	2,594.1651	0.0950	0.0000	2,596.1607
Unmitigated	1.4885	4.3694	21.3488	0.0363	2.3371	0.0814	2.4185	0.6250	0.0749	0.6999	0.0000	2,594.1651	2,594.1651	0.0950	0.0000	2,596.1607

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	2,790.00	530.00	270.00	6,151,827	6,151,827
Total	2,790.00	530.00	270.00	6,151,827	6,151,827

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	1,099.2852	1,099.2852	0.0499	0.0108	1,103.6947
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	1,272.4645	1,272.4645	0.0577	0.0126	1,277.5686
Natural Gas Mitigated	0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	758.8867	758.8867	0.0146	0.0139	763.5052
Natural Gas Unmitigated	0.0898	0.8159	0.6854	4.9000e-003		0.0620	0.0620		0.0620	0.0620	0.0000	888.2406	888.2406	0.0170	0.0163	893.6463

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.4221e+07	0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	758.8867	758.8867	0.0146	0.0139	763.5052

Total		0.0767	0.6971	0.5856	4.1800e-003		0.0530	0.0530		0.0530	0.0530	0.0000	758.8867	758.8867	0.0146	0.0139	763.5052
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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.7817e+06	1,099.2852	0.0499	0.0108	1,103.6947
Total		1,099.2852	0.0499	0.0108	1,103.6947

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5326	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003
Unmitigated	2.5326	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5794					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9528					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.3000e-004	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003
Total	2.5326	4.0000e-005	4.6200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.9300e-003	8.9300e-003	2.0000e-005	0.0000	9.4400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	306.2404	3.0262	0.0738	392.6715
Unmitigated	382.8004	3.7834	0.0924	490.8876

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	92.5 / 0	306.2404	3.0262	0.0738	392.6715
Total		306.2404	3.0262	0.0738	392.6715

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.9272	3.7189	0.0000	141.0239
Unmitigated	125.8544	7.4378	0.0000	282.0478

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	310	62.9272	3.7189	0.0000	141.0239
Total		62.9272	3.7189	0.0000	141.0239

Barstow - Dev Site 3 - Casino Resort Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	88.50	User Defined Unit	0.00	88.50	0
Fast Food Restaurant w/o Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	4.00	1000sqft	0.09	4,000.00	0
High Turnover (Sit Down Restaurant)	5.00	1000sqft	0.11	5,000.00	0
Hotel	160.00	Room	5.33	232,320.00	0
User Defined Recreational	20.00	User Defined Unit	0.00	20,000.00	0
Strip Mall	4.50	1000sqft	0.10	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	88.50
tblLandUse	LandUseSquareFeet	0.00	20,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	CC_TTP	0.00	79.50
tblVehicleTrips	CC_TTP	0.00	79.50
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	1.50
tblVehicleTrips	CW_TTP	0.00	1.50
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	696.00	12.06
tblVehicleTrips	ST_TR	722.03	72.20
tblVehicleTrips	ST_TR	158.37	15.84
tblVehicleTrips	ST_TR	8.19	2.70
tblVehicleTrips	ST_TR	42.04	25.40
tblVehicleTrips	ST_TR	0.00	27.04
tblVehicleTrips	ST_TR	0.00	15.84
tblVehicleTrips	SU_TR	500.00	12.06
tblVehicleTrips	SU_TR	542.72	54.27
tblVehicleTrips	SU_TR	131.84	13.18
tblVehicleTrips	SU_TR	5.95	2.70
tblVehicleTrips	SU_TR	20.43	25.40
tblVehicleTrips	SU_TR	0.00	27.04
tblVehicleTrips	SU_TR	0.00	13.18
tblVehicleTrips	WD_TR	716.00	12.06

tblVehicleTrips	WD_TR	496.12	49.61
tblVehicleTrips	WD_TR	127.15	12.72
tblVehicleTrips	WD_TR	8.17	2.25
tblVehicleTrips	WD_TR	44.32	2.14
tblVehicleTrips	WD_TR	0.00	22.53
tblVehicleTrips	WD_TR	0.00	12.72

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003
Energy	0.0720	0.6548	0.5501	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	1,738.1152	1,738.1152	0.0602	0.0232	1,746.5660
Mobile	2.0528	5.5216	28.3007	0.0442	2.8237	0.0992	2.9229	0.7551	0.0914	0.8465	0.0000	3,156.2586	3,156.2586	0.1175	0.0000	3,158.7260
Waste						0.0000	0.0000		0.0000	0.0000	22.4254	0.0000	22.4254	1.3253	0.0000	50.2568
Water						0.0000	0.0000		0.0000	0.0000	1.9621	20.5963	22.5584	0.2024	4.9600e-003	28.3457
Total	3.4818	6.1764	28.8534	0.0481	2.8237	0.1490	2.9727	0.7551	0.1412	0.8963	24.3876	4,914.9751	4,939.3627	1.7054	0.0281	4,983.8999

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0528	5.5216	28.3007	0.0442	2.8237	0.0992	2.9229	0.7551	0.0914	0.8465	0.0000	3,156.2586	3,156.2586	0.1175	0.0000	3,158.7260
Unmitigated	2.0528	5.5216	28.3007	0.0442	2.8237	0.0992	2.9229	0.7551	0.0914	0.8465	0.0000	3,156.2586	3,156.2586	0.1175	0.0000	3,158.7260

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	24.12	24.12	24.12	38,895	38,895
Fast Food Restaurant with Drive Thru	198.44	288.80	217.08	199,956	199,956
High Turnover (Sit Down Restaurant)	63.60	79.20	65.90	76,760	76,760
Hotel	360.00	432.00	432.00	723,059	723,059
Strip Mall	9.63	114.30	114.30	60,886	60,886
User Defined Commercial	1,993.91	2,393.04	2393.04	5,626,548	5,626,548
User Defined Recreational	254.40	316.80	263.60	706,350	706,350
Total	2,904.10	3,648.26	3,510.04	7,432,455	7,432,455

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
User Defined Commercial	9.50	7.30	7.30	1.50	79.50	19.00	100	0	0
User Defined Recreational	9.50	7.30	7.30	1.50	79.50	19.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,025.2626	1,025.2626	0.0465	0.0101	1,029.3751
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,231.3126	1,231.3126	0.0559	0.0122	1,236.2517
Natural Gas Mitigated	0.0720	0.6548	0.5501	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	712.8526	712.8526	0.0137	0.0131	717.1909
Natural Gas Unmitigated	0.0953	0.8665	0.7278	5.2000e-003		0.0659	0.0659		0.0659	0.0659	0.0000	943.2575	943.2575	0.0181	0.0173	948.9980

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	1.01195e+006	5.4600e-003	0.0496	0.0417	3.0000e-004		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	54.0016	54.0016	1.0400e-003	9.9000e-004	54.3303
High Turnover (Sit Down Restaurant)	1.26494e+006	6.8200e-003	0.0620	0.0521	3.7000e-004		4.7100e-003	4.7100e-003		4.7100e-003	4.7100e-003	0.0000	67.5020	67.5020	1.2900e-003	1.2400e-003	67.9128
Hotel	1.05678e+007	0.0570	0.5180	0.4351	3.1100e-003		0.0394	0.0394		0.0394	0.0394	0.0000	563.9366	563.9366	0.0108	0.0103	567.3686
Strip Mall	7713	4.0000e-005	3.8000e-004	3.2000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4116	0.4116	1.0000e-005	1.0000e-005	0.4141
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	505976	2.7300e-003	0.0248	0.0208	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.0008	27.0008	5.2000e-004	5.0000e-004	27.1651
Total		0.0720	0.6548	0.5501	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	712.8526	712.8526	0.0137	0.0131	717.1909

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	92909.2	21.3593	9.7000e-004	2.1000e-004	21.4450
Fast Food Restaurant with Drive Thru	185818	42.7186	1.9400e-003	4.2000e-004	42.8899
High Turnover (Sit Down Restaurant)	232273	53.3982	2.4200e-003	5.3000e-004	53.6124
Hotel	3.89129e+006	894.5852	0.0406	8.8300e-003	898.1735
Strip Mall	57423.6	13.2014	6.0000e-004	1.3000e-004	13.2543
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,025.2626	0.0465	0.0101	1,029.3751

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003
Unmitigated	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3104					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003
Total	1.3570	2.0000e-005	2.6300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.3600e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	22.5584	0.2024	4.9600e-003	28.3457
Unmitigated	27.8126	0.2531	6.2000e-003	35.0484

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.485654 / 0.0363853	1.7008	0.0159	3.9000e-004	2.1550
Fast Food Restaurant with Drive Thru	0.971308 / 0.0727706	3.4016	0.0318	7.8000e-004	4.3099
High Turnover (Sit Down Restaurant)	1.21413 / 0.0909632	4.2520	0.0397	9.7000e-004	5.3874
Hotel	3.24695 / 0.423456	11.8313	0.1063	2.6000e-003	14.8695
Strip Mall	0.266661 / 0.191835	1.3728	8.7500e-003	2.2000e-004	1.6239
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		22.5584	0.2024	4.9600e-003	28.3457

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	44.8509	2.6506	0.0000	100.5137
Mitigated	22.4254	1.3253	0.0000	50.2568

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive-Through	11.52	2.3385	0.1382	0.0000	5.2406
Fast Food Restaurant with Drive-Through	23.04	4.6769	0.2764	0.0000	10.4813
High Turnover (Sit Down Restaurant)	29.75	6.0390	0.3569	0.0000	13.5338
Hotel	43.8	8.8910	0.5254	0.0000	19.9253
Strip Mall	2.365	0.4801	0.0284	0.0000	1.0759
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		22.4254	1.3253	0.0000	50.2568

**Barstow - Dev Site 4 - Active Seniors Housing Mitigated
San Bernardino-Mojave Desert County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	1,575.00	Dwelling Unit	315.00	1,575,000.00	4505

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearths

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	2.81	2.73
tblVehicleTrips	SU_TR	2.81	2.32
tblVehicleTrips	WD_TR	2.81	3.68

2.0 Emissions Summary

2.1 Overall Construction

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.7278	1.0000e-005	6.1500e-003	0.0000		0.0780	0.0780		0.0771	0.0771	0.0000	1,116.4936	1,116.4936	0.0214	0.0205	1,123.2884
Energy	0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	3,336.5312	3,336.5312	0.1169	0.0437	3,352.5451
Mobile	3.6920	10.7066	52.6561	0.0885	5.6930	0.1985	5.8915	1.5224	0.1827	1.7052	0.0000	6,324.8486	6,324.8486	0.2322	0.0000	6,329.7244
Waste						0.0000	0.0000		0.0000	0.0000	73.5335	0.0000	73.5335	4.3457	0.0000	164.7933
Water						0.0000	0.0000		0.0000	0.0000	26.0447	499.0322	525.0769	2.6975	0.0678	602.7447
Total	12.5572	11.8817	53.1622	0.0960	5.6930	0.3714	6.0644	1.5224	0.3549	1.8773	99.5781	11,276.9056	11,376.4838	7.4137	0.1320	11,573.0959

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6920	10.7066	52.6561	0.0885	5.6930	0.1985	5.8915	1.5224	0.1827	1.7052	0.0000	6,324.8486	6,324.8486	0.2322	0.0000	6,329.7244
Unmitigated	3.6920	10.7066	52.6561	0.0885	5.6930	0.1985	5.8915	1.5224	0.1827	1.7052	0.0000	6,324.8486	6,324.8486	0.2322	0.0000	6,329.7244

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	5,796.00	4,299.75	3,654.00	14,985,183	14,985,183
Total	5,796.00	4,299.75	3,654.00	14,985,183	14,985,183

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Retirement Community	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	1,975.6347	1,975.6347	0.0908	0.0188	1,983.3663
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	2,197.9012	2,197.9012	0.1010	0.0209	2,206.5028
NaturalGas Mitigated	0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	1,360.8966	1,360.8966	0.0261	0.0250	1,369.1788
NaturalGas Unmitigated	0.1750	1.4954	0.6364	9.5500e-003		0.1209	0.1209		0.1209	0.1209	0.0000	1,731.8535	1,731.8535	0.0332	0.0318	1,742.3933

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Retirement Community	2.55022e+007	0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	1,360.8966	1,360.8966	0.0261	0.0250	1,369.1788
Total		0.1375	1.1751	0.5000	7.5000e-003		0.0950	0.0950		0.0950	0.0950	0.0000	1,360.8966	1,360.8966	0.0261	0.0250	1,369.1788

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	6.90378e+006	1,975.6347	0.0908	0.0188	1,983.3663
Total		1,975.6347	0.0908	0.0188	1,983.3663

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.7278	1.0000e-005	6.1500e-003	0.0000		0.0780	0.0780		0.0771	0.0771	0.0000	1,116.4936	1,116.4936	0.0214	0.0205	1,123.2884
Unmitigated	107.4402	1.3408	121.7421	0.0476		17.1040	17.1040		17.1035	17.1035	1,626.9084	682.3017	2,309.2100	1.5014	0.1280	2,380.4090

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1512					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1128	1.0000e-005	6.1500e-003	0.0000		0.0780	0.0780		0.0771	0.0771	0.0000	1,116.4936	1,116.4936	0.0214	0.0205	1,123.2884
Landscaping						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.7278	1.0000e-005	6.1500e-003	0.0000		0.0780	0.0780		0.0771	0.0771	0.0000	1,116.4936	1,116.4936	0.0214	0.0205	1,123.2884

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	525.0769	2.6975	0.0678	602.7447
Unmitigated	620.6089	3.3708	0.0846	717.6058

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Retirement Community	82.0941 / 60.7474	525.0769	2.6975	0.0678	602.7447
Total		525.0769	2.6975	0.0678	602.7447

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	73.5335	4.3457	0.0000	164.7933
Unmitigated	147.0670	8.6914	0.0000	329.5865

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	362.25	73.5335	4.3457	0.0000	164.7933
Total		73.5335	4.3457	0.0000	164.7933

Barstow - Dev Site 5 - Hwy Commercial Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	20.00	1000sqft	0.46	20,000.00	0
High Turnover (Sit Down Restaurant)	30.00	1000sqft	0.69	30,000.00	0
Hotel	100.00	Room	3.33	300,000.00	0
Regional Shopping Center	100.00	1000sqft	2.30	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearths

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	145,200.00	300,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	8.19	12.27
tblVehicleTrips	ST_TR	49.97	44.97
tblVehicleTrips	SU_TR	5.95	8.92
tblVehicleTrips	SU_TR	25.24	22.72
tblVehicleTrips	WD_TR	8.17	8.92
tblVehicleTrips	WD_TR	42.94	38.43

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003
Energy	0.1427	1.2974	1.0898	7.7800e-003		0.0986	0.0986		0.0986	0.0986	0.0000	3,406.4172	3,406.4172	0.1176	0.0456	3,423.0112
Mobile	10.8394	21.3141	131.6844	0.1421	8.6986	0.3222	9.0208	2.3262	0.2967	2.6228	0.0000	10,114.7677	10,114.7677	0.4096	0.0000	10,123.3693
Waste						0.0000	0.0000		0.0000	0.0000	75.8303	0.0000	75.8303	4.4814	0.0000	169.9406
Water						0.0000	0.0000		0.0000	0.0000	6.3757	74.0454	80.4211	0.6581	0.0162	99.2548
Total	13.2613	22.6115	132.7765	0.1499	8.6986	0.4208	9.1194	2.3262	0.3953	2.7215	82.2060	13,595.2348	13,677.4408	5.6667	0.0617	13,815.5807

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	10.8394	21.3141	131.6844	0.1421	8.6986	0.3222	9.0208	2.3262	0.2967	2.6228	0.0000	10,114.7677	10,114.7677	0.4096	0.0000	10,123.3693
Unmitigated	10.8394	21.3141	131.6844	0.1421	8.6986	0.3222	9.0208	2.3262	0.2967	2.6228	0.0000	10,114.7677	10,114.7677	0.4096	0.0000	10,123.3693

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	9,922.40	14,440.60	10854.40	9,998,212	9,998,212
High Turnover (Sit Down Restaurant)	3,814.50	4,751.10	3955.20	4,604,394	4,604,394
Hotel	892.00	1,227.00	892.00	1,785,663	1,785,663
Regional Shopping Center	3,843.00	4,497.00	2272.00	6,508,268	6,508,268
Total	18,471.90	24,915.70	17,973.60	22,896,537	22,896,537

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,994.0266	1,994.0266	0.0905	0.0197	2,002.0251
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,360.3240	2,360.3240	0.1071	0.0233	2,369.7917
NaturalGas Mitigated	0.1427	1.2974	1.0898	7.7800e-003		0.0986	0.0986		0.0986	0.0986	0.0000	1,412.3906	1,412.3906	0.0271	0.0259	1,420.9862
NaturalGas Unmitigated	0.1778	1.6165	1.3579	9.7000e-003		0.1229	0.1229		0.1229	0.1229	0.0000	1,759.8050	1,759.8050	0.0337	0.0323	1,770.5149

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	7.58964e+006	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283	0.0000	405.0121	405.0121	7.7600e-003	7.4300e-003	407.4769
Hotel	1.36464e+007	0.0736	0.6689	0.5619	4.0100e-003		0.0508	0.0508		0.0508	0.0508	0.0000	728.2239	728.2239	0.0140	0.0134	732.6557
Regional Shopping Center	171400	9.2000e-004	8.4000e-003	7.0600e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1466	9.1466	1.8000e-004	1.7000e-004	9.2022
Fast Food Restaurant with Drive Thru	5.05976e+006	0.0273	0.2480	0.2083	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.0081	270.0081	5.1800e-003	4.9500e-003	271.6513
Total		0.1427	1.2974	1.0898	7.7800e-003		0.0986	0.0986		0.0986	0.0986	0.0000	1,412.3906	1,412.3906	0.0271	0.0259	1,420.9862

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	929092	213.5929	9.6900e-003	2.1100e-003	214.4497
High Turnover (Sit Down Restaurant)	1.39364e+006	320.3893	0.0145	3.1600e-003	321.6745
Hotel	5.07486e+006	1,166.6810	0.0529	0.0115	1,171.3608
Regional Shopping Center	1.27608e+006	293.3634	0.0133	2.8900e-003	294.5402
Total		1,994.0266	0.0905	0.0197	2,002.0251

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003
Unmitigated	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003
Total	2.2791	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	80.4211	0.6581	0.0162	99.2548
Unmitigated	97.9567	0.8226	0.0202	121.4989

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	4.85654 / 0.363853	17.0079	0.1589	3.8800e-003	21.5495
High Turnover (Sit Down Restaurant)	7.28481 / 0.545779	25.5119	0.2384	5.8300e-003	32.3243
Hotel	2.02934 / 0.26466	7.3945	0.0664	1.6300e-003	9.2934
Regional Shopping Center	5.9258 / 4.26299	30.5068	0.1944	4.8400e-003	36.0875
Total		80.4211	0.6581	0.0162	99.2548

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	151.6606	8.9629	0.0000	339.8813
Mitigated	75.8303	4.4814	0.0000	169.9406

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	115.19	23.3825	1.3819	0.0000	52.4018
High Turnover (Sit Down Restaurant)	178.5	36.2339	2.1414	0.0000	81.2025
Hotel	27.375	5.5569	0.3284	0.0000	12.4533
Regional Shopping Center	52.5	10.6570	0.6298	0.0000	23.8831
Total		75.8303	4.4814	0.0000	169.9406

Barstow - Dev Site 6 ST - Big Box Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	5.00	1000sqft	0.11	5,000.00	0
Free-Standing Discount Superstore	275.00	1000sqft	6.31	275,000.00	0
Regional Shopping Center	34.00	1000sqft	0.78	34,000.00	0
Strip Mall	32.00	1000sqft	0.73	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Both Pad and Shop fit profile of Regional Shopping Center.

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	CC_TTP	64.40	64.70
tblVehicleTrips	CW_TTP	16.60	16.30
tblVehicleTrips	DV_TP	40.00	35.00
tblVehicleTrips	PB_TP	15.00	11.00
tblVehicleTrips	PR_TP	45.00	54.00
tblVehicleTrips	ST_TR	86.32	69.06
tblVehicleTrips	ST_TR	64.07	56.86
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	42.04	39.98
tblVehicleTrips	SU_TR	31.90	25.52
tblVehicleTrips	SU_TR	56.12	45.09
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	20.43	20.19
tblVehicleTrips	WD_TR	148.15	24.75
tblVehicleTrips	WD_TR	53.13	45.79
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	44.32	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003
Energy	3.9200e-003	0.0356	0.0299	2.1000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	1,049.6000	1,049.6000	0.0466	0.0107	1,053.8906
Mobile	9.1151	20.3393	116.2058	0.1476	9.2284	0.3331	9.5615	2.4678	0.3067	2.7746	0.0000	10,524.0220	10,524.0220	0.4094	0.0000	10,532.6192
Waste						0.0000	0.0000		0.0000	0.0000	127.5453	0.0000	127.5453	7.5377	0.0000	285.8373
Water						0.0000	0.0000		0.0000	0.0000	6.4610	98.3831	104.8442	0.6680	0.0166	124.0236
Total	10.8716	20.3750	116.2389	0.1478	9.2284	0.3358	9.5642	2.4678	0.3095	2.7773	134.0063	11,672.0113	11,806.0177	8.6617	0.0273	11,996.3772

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.1151	20.3393	116.2058	0.1476	9.2284	0.3331	9.5615	2.4678	0.3067	2.7746	0.0000	10,524.0220	10,524.0220	0.4094	0.0000	10,532.6192
Unmitigated	9.1151	20.3393	116.2058	0.1476	9.2284	0.3331	9.5615	2.4678	0.3067	2.7746	0.0000	10,524.0220	10,524.0220	0.4094	0.0000	10,532.6192

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	123.75	345.30	127.60	144,250	144,250
Free-Standing Discount Superstore	12,592.25	15,636.50	12,399.75	20,328,530	20,328,530
Regional Shopping Center	1,161.44	1,359.32	686.46	1,966,953	1,966,953
Strip Mall	1,093.12	1,279.36	646.08	1,851,249	1,851,249
Total	14,970.56	18,620.48	13,859.89	24,290,982	24,290,982

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	9.50	7.30	7.30	6.60	74.40	19.00	27	26	47
Free-Standing Discount	9.50	7.30	7.30	13.20	67.80	19.00	47.5	35.5	17
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Strip Mall	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,010.8214	1,010.8214	0.0459	9.9700e-003	1,014.8760
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,240.3736	1,240.3736	0.0563	0.0122	1,245.3490
NaturalGas Mitigated	3.9200e-003	0.0356	0.0299	2.1000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	38.7786	38.7786	7.4000e-004	7.1000e-004	39.0146
NaturalGas Unmitigated	5.1600e-003	0.0469	0.0394	2.8000e-004		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	51.0996	51.0996	9.8000e-004	9.4000e-004	51.4106

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount	471350	2.5400e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1530	25.1530	4.8000e-004	4.6000e-004	25.3061
Regional Shopping Center	58276	3.1000e-004	2.8600e-003	2.4000e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1098	3.1098	6.0000e-005	6.0000e-005	3.1288
Strip Mall	54848	3.0000e-004	2.6900e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.9269	2.9269	6.0000e-005	5.0000e-005	2.9447
Bank (with Drive-Through)	142210	7.7000e-004	6.9700e-003	5.8600e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5889	7.5889	1.5000e-004	1.4000e-004	7.6351
Total		3.9200e-003	0.0356	0.0299	2.2000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	38.7786	38.7786	7.5000e-004	7.1000e-004	39.0146

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	48627	11.1791	5.1000e-004	1.1000e-004	11.2239
Free-Standing Discount	3.50922e+006	806.7494	0.0366	7.9600e-003	809.9854
Regional Shopping Center	430705	99.0166	4.4900e-003	9.8000e-004	99.4138
Strip Mall	408346	93.8763	4.2600e-003	9.3000e-004	94.2529
Total		1,010.8214	0.0459	9.9800e-003	1,014.8760

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003
Unmitigated	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4009					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003
Total	1.7525	3.0000e-005	3.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.1800e-003	6.1800e-003	2.0000e-005	0.0000	6.5300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	104.8442	0.6680	0.0166	124.0236
Unmitigated	124.1311	0.8348	0.0207	148.0882

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.158492 / 0.114018	0.8159	5.2000e-003	1.3000e-004	0.9652
Free-Standing Discount	16.296 / 11.7232	83.8937	0.5345	0.0133	99.2406
Regional Shopping Center	2.01477 / 1.44942	10.3723	0.0661	1.6400e-003	12.2698
Strip Mall	1.89626 / 1.36416	9.7622	0.0622	1.5500e-003	11.5480
Total		104.8442	0.6680	0.0166	124.0236

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	255.0906	15.0754	0.0000	571.6745
Mitigated	127.5453	7.5377	0.0000	285.8373

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	2.335	0.4740	0.0280	0.0000	1.0622
Free-Standing Discount Superstore	591.345	120.0377	7.0940	0.0000	269.0122
Regional Shopping Center	17.85	3.6234	0.2141	0.0000	8.1203
Strip Mall	16.8	3.4103	0.2015	0.0000	7.6426
Total		127.5453	7.5377	0.0000	285.8373

**Barstow - Dev Site 6 ST - Fitness Entertainment Mitigated
San Bernardino-Mojave Desert County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	5.00	1000sqft	0.11	5,000.00	0
User Defined Commercial	2.00	User Defined Unit	0.00	0.00	0
Fast Food Restaurant with Drive Thru	4.00	1000sqft	0.09	4,000.00	0
Health Club	35.00	1000sqft	0.80	35,000.00	0
High Turnover (Sit Down Restaurant)	11.00	1000sqft	0.25	11,000.00	0
Movie Theater (No Matinee)	11.00	1000sqft	0.25	11,000.00	0
Free-Standing Discount Store	30.00	1000sqft	0.69	30,000.00	0
Regional Shopping Center	19.00	1000sqft	0.44	19,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Visitors Center given the same trip profile as Regional Shopping Center.

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	CC_TTP	0.00	64.70
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	16.30
tblVehicleTrips	DV_TP	0.00	35.00
tblVehicleTrips	PB_TP	0.00	11.00
tblVehicleTrips	PR_TP	0.00	54.00
tblVehicleTrips	ST_TR	86.32	69.06
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	71.07	43.00
tblVehicleTrips	ST_TR	20.87	16.70
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	80.00	79.98
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	0.00	34.53
tblVehicleTrips	SU_TR	31.90	25.52
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	56.36	26.94
tblVehicleTrips	SU_TR	26.73	21.38
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	80.00	65.52
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	0.00	38.10
tblVehicleTrips	WD_TR	148.15	118.52
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	57.24	33.44
tblVehicleTrips	WD_TR	32.93	26.34
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	80.00	16.41
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	0.00	6.44

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5824					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0287	0.2612	0.2194	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	804.6725	804.6725	0.0294	0.0102	808.4394
Mobile	3.5781	7.3823	44.2535	0.0509	3.1459	0.1153	3.2612	0.8413	0.1062	0.9474	0.0000	3,628.4169	3,628.4169	0.1445	0.0000	3,631.4520
Waste						0.0000	0.0000		0.0000	0.0000	60.1686	0.0000	60.1686	3.5559	0.0000	134.8416
Water						0.0000	0.0000		0.0000	0.0000	3.7736	56.8222	60.5958	0.3901	9.6800e-003	71.7886
Total	4.1892	7.6436	44.4729	0.0525	3.1459	0.1351	3.2810	0.8413	0.1260	0.9673	63.9422	4,489.9116	4,553.8538	4.1199	0.0198	4,646.5215

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5781	7.3823	44.2535	0.0509	3.1459	0.1153	3.2612	0.8413	0.1062	0.9474	0.0000	3,628.4169	3,628.4169	0.1445	0.0000	3,631.4520
Unmitigated	3.5781	7.3823	44.2535	0.0509	3.1459	0.1153	3.2612	0.8413	0.1062	0.9474	0.0000	3,628.4169	3,628.4169	0.1445	0.0000	3,631.4520

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	592.60	345.30	127.60	454,018	454,018
Fast Food Restaurant with Drive Thru	1,587.60	2,310.48	1736.72	1,599,725	1,599,725
Free-Standing Discount Store	1,003.20	1,290.00	808.20	1,584,700	1,584,700
Health Club	921.90	584.50	748.30	1,466,616	1,466,616
High Turnover (Sit Down Restaurant)	1,118.92	1,393.70	1160.17	1,350,626	1,350,626
Movie Theater (No Matinee)	180.51	879.78	720.72	673,319	673,319
Regional Shopping Center	649.04	759.62	383.61	1,099,179	1,099,179
User Defined Commercial	12.88	69.06	76.20	52,514	52,514
Total	6,066.65	7,632.44	5,761.52	8,280,697	8,280,697

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	9.50	7.30	7.30	6.60	74.40	19.00	27	26	47
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Free-Standing Discount Store	9.50	7.30	7.30	12.20	68.80	19.00	47.5	35.5	17
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
User Defined Commercial	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	520.2782	520.2782	0.0239	4.9500e-003	522.3143
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	606.0757	606.0757	0.0279	5.7600e-003	608.4476
NaturalGas Mitigated	0.0287	0.2612	0.2194	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	284.3943	284.3943	5.4500e-003	5.2100e-003	286.1251
NaturalGas Unmitigated	0.0322	0.2929	0.2460	1.7600e-003		0.0223	0.0223		0.0223	0.0223	0.0000	318.8018	318.8018	6.1100e-003	5.8400e-003	320.7420

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive-Thru	1.01195e+006	5.4600e-003	0.0496	0.0417	3.0000e-004		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	54.0016	54.0016	1.0400e-003	9.9000e-004	54.3303
Free-Standing Discount Store	51420	2.8000e-004	2.5200e-003	2.1200e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7440	2.7440	5.0000e-005	5.0000e-005	2.7607
Health Club	995470	5.3700e-003	0.0488	0.0410	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	53.1221	53.1221	1.0200e-003	9.7000e-004	53.4454
High Turnover (Sit Down Restaurant)	2.78287e+006	0.0150	0.1364	0.1146	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.5044	148.5044	2.8500e-003	2.7200e-003	149.4082
Movie Theater (No Matinee)	312862	1.6900e-003	0.0153	0.0129	9.0000e-005		1.1700e-003	1.1700e-003		1.1700e-003	1.1700e-003	0.0000	16.6955	16.6955	3.2000e-004	3.1000e-004	16.7971
Regional Shopping Center	32566	1.8000e-004	1.6000e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7379	1.7379	3.0000e-005	3.0000e-005	1.7484
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Bank (with Drive-Through)	142210	7.7000e-004	6.9700e-003	5.8600e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5889	7.5889	1.5000e-004	1.4000e-004	7.6351
Total		0.0288	0.2613	0.2195	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	284.3943	284.3943	5.4600e-003	5.2100e-003	286.1251

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	48627	13.9154	6.4000e-004	1.3000e-004	13.9699
Fast Food Restaurant with Drive-Through	185818	53.1751	2.4400e-003	5.1000e-004	53.3832
Free-Standing Discount Store	382824	109.5516	5.0400e-003	1.0400e-003	109.9803
Health Club	340389	97.4081	4.4800e-003	9.3000e-004	97.7893
High Turnover (Sit Down Restaurant)	511001	146.2315	6.7200e-003	1.3900e-003	146.8037
Movie Theater (No Matinee)	106979	30.6140	1.4100e-003	2.9000e-004	30.7338
Regional Shopping Center	242455	69.3827	3.1900e-003	6.6000e-004	69.6542
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		520.2782	0.0239	4.9500e-003	522.3143

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	60.5958	0.3901	9.6800e-003	71.7886
Unmitigated	73.4317	0.4876	0.0121	87.4211

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.158492 / 0.114018	1.0034	5.2100e-003	1.3000e-004	1.1533
Fast Food Restaurant with Drive-Through	0.971308 / 0.0727706	4.1588	0.0318	7.8000e-004	5.0697
Free-Standing Discount Store	1.77774 / 1.2789	11.2542	0.0584	1.4700e-003	12.9356
Health Club	1.65601 / 1.19132	10.4836	0.0544	1.3700e-003	12.0499
High Turnover (Sit Down Restaurant)	2.6711 / 0.200119	11.4366	0.0875	2.1500e-003	13.9416
Movie Theater (No Matinee)	3.53409 / 0.264775	15.1317	0.1158	2.8500e-003	18.4460
Regional Shopping Center	1.1259 / 0.809969	7.1277	0.0370	9.3000e-004	8.1926
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		60.5958	0.3901	9.6800e-003	71.7886

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	120.3371	7.1117	0.0000	269.6832
Mitigated	60.1686	3.5559	0.0000	134.8416

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	2.335	0.4740	0.0280	0.0000	1.0622
Fast Food Restaurant with Drive-Through	23.04	4.6769	0.2764	0.0000	10.4813
Free-Standing Discount Store	64.51	13.0950	0.7739	0.0000	29.3466
Health Club	99.75	20.2484	1.1966	0.0000	45.3779
High Turnover (Sit Down Restaurant)	65.45	13.2858	0.7852	0.0000	29.7742
Movie Theater (No Matinee)	31.35	6.3638	0.3761	0.0000	14.2616
Regional Shopping Center	9.975	2.0248	0.1197	0.0000	4.5378
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		60.1686	3.5559	0.0000	134.8416

**Barstow - Dev Site 6 ST - Health Wellness Mitigated
San Bernardino-Mojave Desert County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	50.00	1000sqft	1.15	50,000.00	0
Pharmacy/Drugstore w/o Drive Thru	11.00	1000sqft	0.25	11,000.00	0
Day-Care Center	23.00	1000sqft	0.53	23,000.00	0
Regional Shopping Center	40.00	1000sqft	0.92	40,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	6.21	4.97
tblVehicleTrips	ST_TR	8.96	10.83
tblVehicleTrips	ST_TR	90.06	77.53
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	5.83	4.66
tblVehicleTrips	SU_TR	1.55	19.28
tblVehicleTrips	SU_TR	90.06	77.53
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	79.26	59.25
tblVehicleTrips	WD_TR	36.13	6.41
tblVehicleTrips	WD_TR	90.06	77.53
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	2.0200e-003	0.0184	0.0154	1.1000e-004		1.4000e-003	1.4000e-003		1.4000e-003	1.4000e-003	0.0000	381.2093	381.2093	0.0170	3.8000e-003	382.7446
Mobile	2.1220	4.5972	26.7405	0.0328	2.0392	0.0740	2.1132	0.5453	0.0681	0.6135	0.0000	2,334.8817	2,334.8817	0.0916	0.0000	2,336.8053
Waste						0.0000	0.0000		0.0000	0.0000	65.4626	0.0000	65.4626	3.8687	0.0000	146.7058
Water						0.0000	0.0000		0.0000	0.0000	2.7914	50.7650	53.5564	0.2890	7.2400e-003	61.8701
Total	2.7520	4.6156	26.7560	0.0329	2.0392	0.0754	2.1146	0.5453	0.0695	0.6149	68.2540	2,766.8560	2,835.1100	4.2663	0.0110	2,928.1258

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1220	4.5972	26.7405	0.0328	2.0392	0.0740	2.1132	0.5453	0.0681	0.6135	0.0000	2,334.8817	2,334.8817	0.0916	0.0000	2,336.8053
Unmitigated	2.1220	4.5972	26.7405	0.0328	2.0392	0.0740	2.1132	0.5453	0.0681	0.6135	0.0000	2,334.8817	2,334.8817	0.0916	0.0000	2,336.8053

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	1,362.75	114.31	107.18	1,183,558	1,183,558
Medical Office Building	320.50	541.50	964.00	869,019	869,019
Pharmacy/Drugstore w/o Drive Thru	852.83	852.83	852.83	1,001,041	1,001,041
Regional Shopping Center	1,366.40	1,599.20	807.60	2,314,062	2,314,062
Total	3,902.48	3,107.84	2,731.61	5,367,679	5,367,679

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Pharmacy/Drugstore w/o Drive	9.50	7.30	7.30	7.40	73.60	19.00	41	6	53
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	361.2241	361.2241	0.0166	3.4400e-003	362.6378
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	441.3352	441.3352	0.0203	4.2000e-003	443.0623
NaturalGas Mitigated	2.0200e-003	0.0184	0.0154	1.1000e-004		1.4000e-003	1.4000e-003		1.4000e-003	1.4000e-003	0.0000	19.9852	19.9852	3.8000e-004	3.7000e-004	20.1068
NaturalGas Unmitigated	2.7500e-003	0.0250	0.0210	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2588	27.2588	5.2000e-004	5.0000e-004	27.4247

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Medical Office Building	127750	6.9000e-004	6.2600e-003	5.2600e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8172	6.8172	1.3000e-004	1.2000e-004	6.8587
Pharmacy/Drugstore w/o Drive Thru	18854	1.0000e-004	9.2000e-004	7.8000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0061	1.0061	2.0000e-005	2.0000e-005	1.0122
Regional Shopping Center	68560	3.7000e-004	3.3600e-003	2.8200e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6586	3.6586	7.0000e-005	7.0000e-005	3.6809
Day-Care Center	159344	8.6000e-004	7.8100e-003	6.5600e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.5032	8.5032	1.6000e-004	1.6000e-004	8.5550
Total		2.0200e-003	0.0184	0.0154	1.2000e-004		1.4000e-003	1.4000e-003		1.4000e-003	1.4000e-003	0.0000	19.9852	19.9852	3.8000e-004	3.7000e-004	20.1068

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	170154	48.6924	2.2400e-003	4.6000e-004	48.8830
Medical Office Building	445050	127.3586	5.8500e-003	1.2100e-003	127.8570
Pharmacy/Drugstore w/o Drive Thru	140369	40.1689	1.8500e-003	3.8000e-004	40.3261
Regional Shopping Center	506712	145.0042	6.6700e-003	1.3800e-003	145.5717
Total		361.2241	0.0166	3.4300e-003	362.6378

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	53.5564	0.2890	7.2400e-003	61.8701
Unmitigated	63.6186	0.3611	9.0300e-003	74.0032

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.789168 / 2.38188	10.7637	0.0262	7.1000e-004	11.5327
Medical Office Building	5.01922 / 1.12215	23.8626	0.1646	4.0700e-003	28.5789
Pharmacy/Drugstore w/o Drive Thru	0.619938 / 0.445981	3.9246	0.0204	5.1000e-004	4.5110
Regional Shopping Center	2.37032 / 1.7052	15.0056	0.0779	1.9600e-003	17.2475
Total		53.5564	0.2890	7.2500e-003	61.8701

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	130.9251	7.7375	0.0000	293.4116
Mitigated	65.4626	3.8687	0.0000	146.7058

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	14.95	3.0347	0.1794	0.0000	6.8010
Medical Office Building	270	54.8076	3.2390	0.0000	122.8273
Pharmacy/Drugstore w/o Drive Thru	16.54	3.3575	0.1984	0.0000	7.5243
Regional Shopping Center	21	4.2628	0.2519	0.0000	9.5532
Total		65.4626	3.8687	0.0000	146.7058

Barstow - Dev Site 6 ST - Market Storage Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.00	1000sqft	0.11	5,000.00	0
Fast Food Restaurant with Drive Thru	12.00	1000sqft	0.28	12,000.00	0
High Turnover (Sit Down Restaurant)	10.00	1000sqft	0.23	10,000.00	0
Gasoline/Service Station	12.00	Pump	0.04	1,694.10	0
Regional Shopping Center	19.00	1000sqft	0.44	19,000.00	0
Supermarket	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	162.78	130.22
tblVehicleTrips	ST_TR	2.37	2.46
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	ST_TR	177.59	142.07
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	162.78	130.22
tblVehicleTrips	SU_TR	0.98	1.05
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	SU_TR	166.44	133.15
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	162.78	130.22
tblVehicleTrips	WD_TR	11.01	3.32
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	42.94	34.16
tblVehicleTrips	WD_TR	102.24	81.79

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4948					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0348	0.3165	0.2658	1.9000e-003		0.0241	0.0241		0.0241	0.0241	0.0000	1,233.9992	1,233.9992	0.0475	0.0148	1,239.5768
Mobile	7.2753	13.4672	86.4864	0.0856	5.1742	0.1946	5.3688	1.3837	0.1793	1.5629	0.0000	6,088.3049	6,088.3049	0.2524	0.0000	6,093.6047
Waste						0.0000	0.0000		0.0000	0.0000	57.8829	0.0000	57.8829	3.4208	0.0000	129.7193
Water						0.0000	0.0000		0.0000	0.0000	3.8823	51.9326	55.8149	0.4011	9.8900e-003	67.3045
Total	7.8048	13.7836	86.7522	0.0875	5.1742	0.2187	5.3929	1.3837	0.2033	1.5870	61.7652	7,374.2366	7,436.0018	4.1217	0.0247	7,530.2053

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.2753	13.4672	86.4864	0.0856	5.1742	0.1946	5.3688	1.3837	0.1793	1.5629	0.0000	6,088.3049	6,088.3049	0.2524	0.0000	6,093.6047
Unmitigated	7.2753	13.4672	86.4864	0.0856	5.1742	0.1946	5.3688	1.3837	0.1793	1.5629	0.0000	6,088.3049	6,088.3049	0.2524	0.0000	6,093.6047

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	4,762.80	6,931.44	5210.16	4,799,174	4,799,174
Gasoline/Service Station	1,562.64	1,562.64	1562.64	900,344	900,344
General Office Building	16.60	12.30	5.25	34,327	34,327
High Turnover (Sit Down Restaurant)	1,017.20	1,267.00	1054.70	1,227,842	1,227,842
Regional Shopping Center	649.04	759.62	383.61	1,099,179	1,099,179
Supermarket	4,089.50	7,103.50	6657.50	5,558,606	5,558,606
Total	12,097.78	17,636.50	14,873.86	13,619,471	13,619,471

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	889.5032	889.5032	0.0409	8.4600e-003	892.9843
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	998.5919	998.5919	0.0459	9.5000e-003	1,002.4999
NaturalGas Mitigated	0.0348	0.3165	0.2658	1.9000e-003		0.0241	0.0241		0.0241	0.0241	0.0000	344.4960	344.4960	6.6000e-003	6.3200e-003	346.5925
NaturalGas Unmitigated	0.0389	0.3539	0.2973	2.1200e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.2839	385.2839	7.3800e-003	7.0600e-003	387.6286

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Gasoline/Service Station	48183.6	2.6000e-004	2.3600e-003	1.9800e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5713	2.5713	5.0000e-005	5.0000e-005	2.5869
General Office Building	12775	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6817	0.6817	1.0000e-005	1.0000e-005	0.6859
High Turnover (Sit Down Restaurant)	2.52988e+006	0.0136	0.1240	0.1042	7.4000e-004		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	135.0040	135.0040	2.5900e-003	2.4800e-003	135.8256
Regional Shopping Center	32566	1.8000e-004	1.6000e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7379	1.7379	3.0000e-005	3.0000e-005	1.7484
Supermarket	796350	4.2900e-003	0.0390	0.0328	2.3000e-004		2.9700e-003	2.9700e-003		2.9700e-003	2.9700e-003	0.0000	42.4963	42.4963	8.1000e-004	7.8000e-004	42.7549
Fast Food Restaurant with Drive Thru	3.03586e+006	0.0164	0.1488	0.1250	8.9000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	162.0048	162.0048	3.1100e-003	2.9700e-003	162.9908
Total		0.0348	0.3165	0.2658	1.8800e-003		0.0241	0.0241		0.0241	0.0241	0.0000	344.4960	344.4960	6.6000e-003	6.3200e-003	346.5925

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	557455	159.5252	7.3300e-003	1.5200e-003	160.1495
Gasoline/Service Station	16475.8	4.7148	2.2000e-004	4.0000e-005	4.7333
General Office Building	44505	12.7359	5.9000e-004	1.2000e-004	12.7857
High Turnover (Sit Down Restaurant)	464546	132.9377	6.1100e-003	1.2600e-003	133.4579
Regional Shopping Center	242455	69.3827	3.1900e-003	6.6000e-004	69.6542
Supermarket	1.7829e+006	510.2070	0.0235	4.8500e-003	512.2037
Total		889.5032	0.0409	8.4500e-003	892.9843

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	55.8149	0.4011	9.8900e-003	67.3045
Unmitigated	68.5966	0.5014	0.0124	82.9617

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	2.91392 / 0.218312	12.4763	0.0955	2.3500e-003	15.2090
Gasoline/Service Station	0.127506 / 0.0917273	0.8072	4.1900e-003	1.1000e-004	0.9278
General Office Building	0.710935 / 0.511443	4.5007	0.0234	5.9000e-004	5.1731
High Turnover (Sit Down Restaurant)	2.42827 / 0.181926	10.3970	0.0796	1.9600e-003	12.6742
Regional Shopping Center	1.1259 / 0.809969	7.1277	0.0370	9.3000e-004	8.1926
Supermarket	4.93073 / 0.178993	20.5062	0.1615	3.9700e-003	25.1279
Total		55.8150	0.4011	9.9100e-003	67.3045

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	115.7658	6.8416	0.0000	259.4385
Mitigated	57.8829	3.4208	0.0000	129.7193

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	69.115	14.0297	0.8291	0.0000	31.4415
Gasoline/Service Station	3.235	0.6567	0.0388	0.0000	1.4717
General Office Building	2.325	0.4720	0.0279	0.0000	1.0577
High Turnover (Sit Down Restaurant)	59.5	12.0780	0.7138	0.0000	27.0675
Regional Shopping Center	9.975	2.0248	0.1197	0.0000	4.5378
Supermarket	141	28.6217	1.6915	0.0000	64.1431
Total		57.8829	3.4208	0.0000	129.7193

Barstow - Dev Site 6 ST - Gas and FF Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	13.80	1000sqft	0.32	13,800.00	0
High Turnover (Sit Down Restaurant)	84.00	1000sqft	1.93	84,000.00	0
Gasoline/Service Station	24.00	Pump	0.08	3,388.20	0
Regional Shopping Center	7.00	1000sqft	0.16	7,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Ony Natural Gas Hearths

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	722.03	577.62
tblVehicleTrips	ST_TR	162.78	130.22
tblVehicleTrips	ST_TR	158.37	126.70
tblVehicleTrips	ST_TR	49.97	39.98
tblVehicleTrips	SU_TR	542.72	434.18
tblVehicleTrips	SU_TR	162.78	130.22
tblVehicleTrips	SU_TR	131.84	105.47
tblVehicleTrips	SU_TR	25.24	20.19
tblVehicleTrips	WD_TR	496.12	396.90
tblVehicleTrips	WD_TR	162.78	130.22
tblVehicleTrips	WD_TR	127.15	101.72
tblVehicleTrips	WD_TR	42.94	34.16

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003
Energy	0.1340	1.2182	1.0233	7.3100e-003		0.0926	0.0926		0.0926	0.0926	0.0000	2,398.7022	2,398.7022	0.0741	0.0349	2,411.0751
Mobile	9.8926	18.0816	117.0788	0.1137	6.8530	0.2587	7.1117	1.8326	0.2383	2.0709	0.0000	8,086.0338	8,086.0338	0.3370	0.0000	8,093.1102
Waste						0.0000	0.0000		0.0000	0.0000	119.6469	0.0000	119.6469	7.0709	0.0000	268.1365
Water						0.0000	0.0000		0.0000	0.0000	7.7468	78.8702	86.6170	0.7991	0.0195	109.4564
Total	10.5746	19.2998	118.1032	0.1210	6.8530	0.3513	7.2043	1.8326	0.3309	2.1635	127.3937	10,563.6085	10,691.0022	8.2811	0.0544	10,881.7806

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.8926	18.0816	117.0788	0.1137	6.8530	0.2587	7.1117	1.8326	0.2383	2.0709	0.0000	8,086.0338	8,086.0338	0.3370	0.0000	8,093.1102
Unmitigated	9.8926	18.0816	117.0788	0.1137	6.8530	0.2587	7.1117	1.8326	0.2383	2.0709	0.0000	8,086.0338	8,086.0338	0.3370	0.0000	8,093.1102

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	5,477.22	7,971.16	5991.68	5,519,050	5,519,050
Gasoline/Service Station	3,125.28	3,125.28	3125.28	1,800,687	1,800,687
High Turnover (Sit Down Restaurant)	8,544.48	10,642.80	8859.48	10,313,870	10,313,870
Regional Shopping Center	239.12	279.86	141.33	404,961	404,961
Total	17,386.10	22,019.10	18,117.77	18,038,568	18,038,568

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,072.5800	1,072.5800	0.0487	0.0106	1,076.8824
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,211.9672	1,211.9672	0.0550	0.0120	1,216.8287
NaturalGas Mitigated	0.1340	1.2182	1.0233	7.3100e-003		0.0926	0.0926		0.0926	0.0926	0.0000	1,326.1222	1,326.1222	0.0254	0.0243	1,334.1928
NaturalGas Unmitigated	0.1470	1.3367	1.1229	8.0200e-003		0.1016	0.1016		0.1016	0.1016	0.0000	1,455.2050	1,455.2050	0.0279	0.0267	1,464.0611

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Gasoline/Service Station	96367.2	5.2000e-004	4.7200e-003	3.9700e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1425	5.1425	1.0000e-004	9.0000e-005	5.1738
High Turnover (Sit Down Restaurant)	2.1251e+07	0.1146	1.0417	0.8750	6.2500e-003		0.0792	0.0792		0.0792	0.0792	0.0000	1,134.0339	1,134.0339	0.0217	0.0208	1,140.9354
Regional Shopping Center	11998	6.0000e-005	5.9000e-004	4.9000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6403	0.6403	1.0000e-005	1.0000e-005	0.6442
Fast Food Restaurant with Drive Thru	3.49123e+06	0.0188	0.1711	0.1438	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	186.3056	186.3056	3.5700e-003	3.4200e-003	187.4394
Total		0.1340	1.2182	1.0233	7.3100e-003		0.0926	0.0926		0.0926	0.0926	0.0000	1,326.1222	1,326.1222	0.0254	0.0243	1,334.1928

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	641073	147.3791	6.6900e-003	1.4500e-003	147.9703
Gasoline/Service Station	32951.6	7.5754	3.4000e-004	7.0000e-005	7.6058
High Turnover (Sit Down Restaurant)	3.90219e+06	897.0901	0.0407	8.8500e-003	900.6885
Regional Shopping Center	89325.6	20.5354	9.3000e-004	2.0000e-004	20.6178
Total		1,072.5800	0.0487	0.0106	1,076.8824

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003
Unmitigated	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003
Total	0.5480	1.0000e-005	1.1900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3000e-003	2.3000e-003	1.0000e-005	0.0000	2.4300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	86.6170	0.7991	0.0195	109.4564
Unmitigated	107.2026	0.9990	0.0245	135.7603

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	3.35101 / 0.251059	11.7355	0.1097	2.6800e-003	14.8692
Gasoline/Service Station	0.255012 / 0.183455	1.3128	8.3600e-003	2.1000e-004	1.5530
High Turnover (Sit Down Restaurant)	20.3975 / 1.52818	71.4332	0.6675	0.0163	90.5081
Regional Shopping Center	0.414806 / 0.29841	2.1355	0.0136	3.4000e-004	2.5261
Total		86.6170	0.7991	0.0195	109.4564

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	239.2939	14.1419	0.0000	536.2730
Mitigated	119.6469	7.0709	0.0000	268.1365

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive-Thru	79.48	16.1337	0.9535	0.0000	36.1567
Gasoline/Service Station	6.465	1.3123	0.0776	0.0000	2.9410
High Turnover (Sit Down Restaurant)	499.8	101.4549	5.9958	0.0000	227.3669
Regional Shopping Center	3.675	0.7460	0.0441	0.0000	1.6718
Total		119.6469	7.0709	0.0000	268.1365

Barstow - Dev Site 6 ST - Hotel Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	100.00	Room	3.33	200,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	145,200.00	200,000.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	8.19	12.27
tblVehicleTrips	SU_TR	5.95	8.92
tblVehicleTrips	WD_TR	8.17	6.97

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Energy	0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	1,255.6144	1,255.6144	0.0443	0.0165	1,261.6582
Mobile	0.4971	1.2034	6.5505	9.1400e-003	0.5779	0.0206	0.5984	0.1545	0.0190	0.1735	0.0000	652.5960	652.5960	0.0249	0.0000	653.1181
Waste						0.0000	0.0000		0.0000	0.0000	5.5569	0.0000	5.5569	0.3284	0.0000	12.4533
Water						0.0000	0.0000		0.0000	0.0000	0.6438	6.7507	7.3945	0.0664	1.6300e-003	9.2934
Total	1.5591	1.6493	6.9260	0.0118	0.5779	0.0545	0.6323	0.1545	0.0529	0.2074	6.2007	1,914.9630	1,921.1637	0.4639	0.0181	1,936.5249

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4971	1.2034	6.5505	9.1400e-003	0.5779	0.0206	0.5984	0.1545	0.0190	0.1735	0.0000	652.5960	652.5960	0.0249	0.0000	653.1181
Unmitigated	0.4971	1.2034	6.5505	9.1400e-003	0.5779	0.0206	0.5984	0.1545	0.0190	0.1735	0.0000	652.5960	652.5960	0.0249	0.0000	653.1181

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	697.00	1,227.00	892.00	1,521,030	1,521,030
Total	697.00	1,227.00	892.00	1,521,030	1,521,030

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	770.1319	770.1319	0.0350	7.6000e-003	773.2210
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	931.9912	931.9912	0.0423	9.1900e-003	935.7296
NaturalGas Mitigated	0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	485.4826	485.4826	9.3100e-003	8.9000e-003	488.4372
NaturalGas Unmitigated	0.0678	0.6167	0.5180	3.7000e-003		0.0469	0.0469		0.0469	0.0469	0.0000	671.3167	671.3167	0.0129	0.0123	675.4022

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Hotel	9.0976e+006	0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	485.4826	485.4826	9.3100e-003	8.9000e-003	488.4372
Total		0.0491	0.4460	0.3746	2.6800e-003		0.0339	0.0339		0.0339	0.0339	0.0000	485.4826	485.4826	9.3100e-003	8.9000e-003	488.4372

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	3.34994e+006	770.1319	0.0350	7.6000e-003	773.2210
Total		770.1319	0.0350	7.6000e-003	773.2210

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Unmitigated	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Total	1.0129	1.0000e-005	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.3945	0.0664	1.6300e-003	9.2934
Unmitigated	9.1181	0.0830	2.0300e-003	11.4923

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	2.02934 / 0.26466	7.3945	0.0664	1.6300e-003	9.2934
Total		7.3945	0.0664	1.6300e-003	9.2934

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.5569	0.3284	0.0000	12.4533
Unmitigated	11.1138	0.6568	0.0000	24.9066

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	27.375	5.5569	0.3284	0.0000	12.4533
Total		5.5569	0.3284	0.0000	12.4533

Barstow - Dev Site 6 ST - MDR Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	20.00	Dwelling Unit	1.25	20,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	506.83	CH4 Intensity (lb/MWhr)	0.023	N2O Intensity (lb/MWhr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearths

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	6.39
tblVehicleTrips	SU_TR	6.07	5.86
tblVehicleTrips	WD_TR	6.59	6.65

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1154	1.7200e-003	0.1491	1.0000e-005		1.8100e-003	1.8100e-003		1.8000e-003	1.8000e-003	0.0000	14.4203	14.4203	5.1000e-004	2.6000e-004	14.5115
Energy	1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	28.5223	28.5223	9.9000e-004	3.8000e-004	28.6608
Mobile	0.0910	0.2638	1.2974	2.1800e-003	0.1403	4.8900e-003	0.1452	0.0375	4.5000e-003	0.0420	0.0000	155.8361	155.8361	5.7200e-003	0.0000	155.9563
Waste						0.0000	0.0000		0.0000	0.0000	0.9338	0.0000	0.9338	0.0552	0.0000	2.0926
Water						0.0000	0.0000		0.0000	0.0000	0.3307	5.0908	5.4215	0.0342	8.5000e-004	6.4035
Total	0.2075	0.2756	1.4507	2.2500e-003	0.1403	7.5100e-003	0.1478	0.0375	7.1100e-003	0.0446	1.2645	203.8695	205.1339	0.0966	1.4900e-003	207.6247

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0910	0.2638	1.2974	2.1800e-003	0.1403	4.8900e-003	0.1452	0.0375	4.5000e-003	0.0420	0.0000	155.8361	155.8361	5.7200e-003	0.0000	155.9563
Unmitigated	0.0910	0.2638	1.2974	2.1800e-003	0.1403	4.8900e-003	0.1452	0.0375	4.5000e-003	0.0420	0.0000	155.8361	155.8361	5.7200e-003	0.0000	155.9563

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	133.00	127.80	117.20	369,216	369,216
Total	133.00	127.80	117.20	369,216	369,216

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	16.8717	16.8717	7.7000e-004	1.7000e-004	16.9394
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	18.7494	18.7494	8.5000e-004	1.8000e-004	18.8246
NaturalGas Mitigated	1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.6506	11.6506	2.2000e-004	2.1000e-004	11.7215
NaturalGas Unmitigated	1.4800e-003	0.0127	5.3800e-003	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	14.6454	14.6454	2.8000e-004	2.7000e-004	14.7345

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	218323	1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.6506	11.6506	2.2000e-004	2.1000e-004	11.7215
Total		1.1800e-003	0.0101	4.2800e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.6506	11.6506	2.2000e-004	2.1000e-004	11.7215

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	73389	16.8717	7.7000e-004	1.7000e-004	16.9394
Total		16.8717	7.7000e-004	1.7000e-004	16.9394

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1154	1.7200e-003	0.1491	1.0000e-005		1.8100e-003	1.8100e-003		1.8000e-003	1.8000e-003	0.0000	14.4203	14.4203	5.1000e-004	2.6000e-004	14.5115
Unmitigated	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4300e-003	0.0000	8.0000e-005	0.0000		9.9000e-004	9.9000e-004		9.8000e-004	9.8000e-004	0.0000	14.1777	14.1777	2.7000e-004	2.6000e-004	14.2640
Landscaping	4.5400e-003	1.7200e-003	0.1490	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.4000e-004	0.0000	0.2475
Total	0.1154	1.7200e-003	0.1491	1.0000e-005		1.8100e-003	1.8100e-003		1.8000e-003	1.8000e-003	0.0000	14.4203	14.4203	5.1000e-004	2.6000e-004	14.5115

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4215	0.0342	8.5000e-004	6.4035
Unmitigated	6.4124	0.0427	1.0600e-003	7.6389

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.04246 / 0.771395	5.4215	0.0342	8.5000e-004	6.4035
Total		5.4215	0.0342	8.5000e-004	6.4035

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	1.8675	0.1104	0.0000	4.1852
Mitigated	0.9338	0.0552	0.0000	2.0926

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	4.6	0.9338	0.0552	0.0000	2.0926
Total		0.9338	0.0552	0.0000	2.0926

Barstow - Dev Site 7 - SFR Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	400.00	Dwelling Unit	129.87	720,000.00	1144

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Residential_Exterior	486000	170100
tblAreaCoating	Area_Residential_Interior	1458000	510300
tblConstructionPhase	NumDays	120.00	30.00
tblFireplaces	NumberGas	220.00	77.00
tblFireplaces	NumberNoFireplace	40.00	14.00
tblFireplaces	NumberWood	140.00	49.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	469.04	164.00
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	IndoorWaterUseRate	26,061,610.25	9,121,563.59
tblWater	OutdoorWaterUseRate	16,430,145.59	5,750,550.96
tblWoodstoves	NumberCatalytic	20.00	7.00
tblWoodstoves	NumberNoncatalytic	20.00	7.00

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3069	0.0345	2.9805	1.6000e-004		0.0233	0.0233		0.0232	0.0232	0.0000	104.0954	104.0954	6.6300e-003	1.8200e-003	104.7987
Energy	0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	1,210.9971	1,210.9971	0.0400	0.0168	1,217.0421
Mobile	2.6442	7.6681	37.7123	0.0634	4.0773	0.1421	4.2195	1.0904	0.1309	1.2212	0.0000	4,529.8648	4,529.8648	0.1663	0.0000	4,533.3569
Waste						0.0000	0.0000		0.0000	0.0000	16.6453	0.0000	16.6453	0.9837	0.0000	37.3031
Water						0.0000	0.0000		0.0000	0.0000	2.3151	35.6357	37.9507	0.2394	5.9600e-003	44.8245
Total	6.0090	8.1968	40.9031	0.0667	4.0773	0.2054	4.2827	1.0904	0.1941	1.2844	18.9603	5,880.5930	5,899.5533	1.4359	0.0246	5,937.3253

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6442	7.6681	37.7123	0.0634	4.0773	0.1421	4.2195	1.0904	0.1309	1.2212	0.0000	4,529.8648	4,529.8648	0.1663	0.0000	4,533.3569
Unmitigated	2.6442	7.6681	37.7123	0.0634	4.0773	0.1421	4.2195	1.0904	0.1309	1.2212	0.0000	4,529.8648	4,529.8648	0.1663	0.0000	4,533.3569

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,808.00	3,964.00	3,448.00	10,732,408	10,732,408
Total	3,808.00	3,964.00	3,448.00	10,732,408	10,732,408

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	638.6655	638.6655	0.0290	6.3000e-003	641.2273
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	706.2019	706.2019	0.0321	6.9700e-003	709.0347
NaturalGas Mitigated	0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	572.3317	572.3317	0.0110	0.0105	575.8148
NaturalGas Unmitigated	0.0728	0.6224	0.2648	3.9700e-003		0.0503	0.0503		0.0503	0.0503	0.0000	720.7726	720.7726	0.0138	0.0132	725.1591

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.07251e+007	0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	572.3317	572.3317	0.0110	0.0105	575.8148
Total		0.0578	0.4942	0.2103	3.1500e-003		0.0400	0.0400		0.0400	0.0400	0.0000	572.3317	572.3317	0.0110	0.0105	575.8148

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.77808e+006	638.6655	0.0290	6.3000e-003	641.2273
Total		638.6655	0.0290	6.3000e-003	641.2273

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3069	0.0345	2.9805	1.6000e-004		0.0233	0.0233		0.0232	0.0232	0.0000	104.0954	104.0954	6.6300e-003	1.8200e-003	104.7987
Unmitigated	12.0814	0.1537	13.8014	4.3800e-003		1.5367	1.5367		1.5367	1.5367	144.6141	65.5006	210.1146	0.1382	0.0114	216.5428

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8120					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0100	0.0000	5.5000e-004	0.0000		6.9300e-003	6.9300e-003		6.8600e-003	6.8600e-003	0.0000	99.2439	99.2439	1.9000e-003	1.8200e-003	99.8479
Landscaping	0.0907	0.0345	2.9799	1.6000e-004		0.0164	0.0164		0.0164	0.0164	0.0000	4.8515	4.8515	4.7300e-003	0.0000	4.9509
Total	3.3069	0.0345	2.9805	1.6000e-004		0.0233	0.0233		0.0233	0.0233	0.0000	104.0954	104.0954	6.6300e-003	1.8200e-003	104.7987

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.9507	0.2394	5.9600e-003	44.8245
Unmitigated	44.8864	0.2991	7.4300e-003	53.4723

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.29725 / 5.39977	37.9507	0.2394	5.9600e-003	44.8245
Total		37.9507	0.2394	5.9600e-003	44.8245

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	16.6453	0.9837	0.0000	37.3031
Unmitigated	33.2905	1.9674	0.0000	74.6062

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	82	16.6453	0.9837	0.0000	37.3031
Total		16.6453	0.9837	0.0000	37.3031

Barstow - Dev Site 8 - Sr Housing Attached Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	30.00	Dwelling Unit	1.88	30,000.00	86

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	506.83	CH4 Intensity (lb/MWhr)	0.023	N2O Intensity (lb/MWhr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	2.61
tblVehicleTrips	SU_TR	6.07	2.84
tblVehicleTrips	WD_TR	6.59	3.44

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1731	2.5900e-003	0.2236	1.0000e-005		2.7100e-003	2.7100e-003		2.7000e-003	2.7000e-003	0.0000	21.6304	21.6304	7.6000e-004	3.9000e-004	21.7673
Energy	2.6200e-003	0.0224	9.5200e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	56.1531	56.1531	1.8700e-003	7.7000e-004	56.4321
Mobile	0.0679	0.1970	0.9688	1.6300e-003	0.1047	3.6500e-003	0.1084	0.0280	3.3600e-003	0.0314	0.0000	116.3633	116.3633	4.2700e-003	0.0000	116.4531
Waste						0.0000	0.0000		0.0000	0.0000	1.4006	0.0000	1.4006	0.0828	0.0000	3.1389
Water						0.0000	0.0000		0.0000	0.0000	0.4961	7.6362	8.1323	0.0513	1.2800e-003	9.6053
Total	0.2436	0.2220	1.2019	1.7800e-003	0.1047	8.1700e-003	0.1129	0.0280	7.8700e-003	0.0359	1.8967	201.7830	203.6798	0.1410	2.4400e-003	207.3966

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0679	0.1970	0.9688	1.6300e-003	0.1047	3.6500e-003	0.1084	0.0280	3.3600e-003	0.0314	0.0000	116.3633	116.3633	4.2700e-003	0.0000	116.4531
Unmitigated	0.0679	0.1970	0.9688	1.6300e-003	0.1047	3.6500e-003	0.1084	0.0280	3.3600e-003	0.0314	0.0000	116.3633	116.3633	4.2700e-003	0.0000	116.4531

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	103.20	78.30	85.20	275,695	275,695
Total	103.20	78.30	85.20	275,695	275,695

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	30.2312	30.2312	1.3700e-003	3.0000e-004	30.3525
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	33.6324	33.6324	1.5300e-003	3.3000e-004	33.7673
NaturalGas Mitigated	2.6200e-003	0.0224	9.5200e-003	1.4000e-004	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	0.0000	25.9218	25.9218	5.0000e-004	4.8000e-004	26.0796
NaturalGas Unmitigated	3.3300e-003	0.0285	0.0121	1.8000e-004	2.3000e-003	2.3000e-003	2.3000e-003	2.3000e-003	2.3000e-003	2.3000e-003	0.0000	32.9877	32.9877	6.3000e-004	6.0000e-004	33.1884

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	485757	2.6200e-003	0.0224	9.5200e-003	1.4000e-004	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	0.0000	25.9218	25.9218	5.0000e-004	4.8000e-004	26.0796
Total		2.6200e-003	0.0224	9.5200e-003	1.4000e-004	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	1.8100e-003	0.0000	25.9218	25.9218	5.0000e-004	4.8000e-004	26.0796

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	131501	30.2312	1.3700e-003	3.0000e-004	30.3525
Total		30.2312	1.3700e-003	3.0000e-004	30.3525

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1731	2.5900e-003	0.2236	1.0000e-005		2.7100e-003	2.7100e-003		2.7000e-003	2.7000e-003	0.0000	21.6304	21.6304	7.6000e-004	3.9000e-004	21.7673
Unmitigated	2.0533	0.0281	2.5424	9.2000e-004		0.3270	0.3270		0.3270	0.3270	30.9887	13.3601	44.3488	0.0290	2.4400e-003	45.7124

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0469					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.1500e-003	0.0000	1.2000e-004	0.0000		1.4800e-003	1.4800e-003		1.4700e-003	1.4700e-003	0.0000	21.2665	21.2665	4.1000e-004	3.9000e-004	21.3960
Landscaping	6.8100e-003	2.5800e-003	0.2235	1.0000e-005		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	0.3639	0.3639	3.5000e-004	0.0000	0.3713
Total	0.1731	2.5800e-003	0.2236	1.0000e-005		2.7100e-003	2.7100e-003		2.7000e-003	2.7000e-003	0.0000	21.6304	21.6304	7.6000e-004	3.9000e-004	21.7673

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.1323	0.0513	1.2800e-003	9.6053
Unmitigated	9.6185	0.0641	1.5900e-003	11.4583

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	1.5637 / 1.15709	8.1323	0.0513	1.2800e-003	9.6053
Total		8.1323	0.0513	1.2800e-003	9.6053

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.4006	0.0828	0.0000	3.1389
Unmitigated	2.8013	0.1656	0.0000	6.2778

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	6.9	1.4006	0.0828	0.0000	3.1389
Total		1.4006	0.0828	0.0000	3.1389

Barstow - Dev Site 9 - SFR Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	140.00	Dwelling Unit	45.45	252,000.00	400

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	10.08	9.91
tblVehicleTrips	SU_TR	8.77	8.62
tblVehicleTrips	WD_TR	9.57	9.52

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4202	0.0121	1.0435	5.0000e-005		0.0127	0.0127		0.0126	0.0126	0.0000	100.9419	100.9419	3.5600e-003	1.8200e-003	101.5807
Energy	0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	423.8490	423.8490	0.0140	5.8800e-003	425.9647
Mobile	0.9255	2.6838	13.1993	0.0222	1.4271	0.0498	1.4768	0.3816	0.0458	0.4274	0.0000	1,585.4527	1,585.4527	0.0582	0.0000	1,586.6749
Waste						0.0000	0.0000		0.0000	0.0000	16.6453	0.0000	16.6453	0.9837	0.0000	37.3031
Water						0.0000	0.0000		0.0000	0.0000	2.3151	35.6357	37.9507	0.2394	5.9600e-003	44.8245
Total	2.3659	2.8689	14.3164	0.0233	1.4271	0.0764	1.5035	0.3816	0.0724	0.4540	18.9603	2,145.8792	2,164.8396	1.2988	0.0137	2,196.3479

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9255	2.6838	13.1993	0.0222	1.4271	0.0498	1.4768	0.3816	0.0458	0.4274	0.0000	1,585.4527	1,585.4527	0.0582	0.0000	1,586.6749
Unmitigated	0.9255	2.6838	13.1993	0.0222	1.4271	0.0498	1.4768	0.3816	0.0458	0.4274	0.0000	1,585.4527	1,585.4527	0.0582	0.0000	1,586.6749

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,332.80	1,387.40	1206.80	3,756,343	3,756,343
Total	1,332.80	1,387.40	1,206.80	3,756,343	3,756,343

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.5329	223.5329	0.0101	2.2100e-003	224.4296
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	247.1707	247.1707	0.0112	2.4400e-003	248.1621
Natural Gas Mitigated	0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	200.3161	200.3161	3.8400e-003	3.6700e-003	201.5352
Natural Gas Unmitigated	0.0255	0.2178	0.0927	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.2704	252.2704	4.8400e-003	4.6200e-003	253.8057

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.75378e+006	0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	200.3161	200.3161	3.8400e-003	3.6700e-003	201.5352
Total		0.0202	0.1730	0.0736	1.1000e-003		0.0140	0.0140		0.0140	0.0140	0.0000	200.3161	200.3161	3.8400e-003	3.6700e-003	201.5352

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	972329	223.5329	0.0101	2.2100e-003	224.4296
Total		223.5329	0.0101	2.2100e-003	224.4296

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4202	0.0121	1.0435	5.0000e-005		0.0127	0.0127		0.0126	0.0126	0.0000	100.9419	100.9419	3.5600e-003	1.8200e-003	101.5807
Unmitigated	10.1946	0.1312	11.8645	4.2800e-003		1.5261	1.5261		1.5261	1.5261	144.6141	62.3471	206.9612	0.1351	0.0114	213.3247

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0100	0.0000	5.5000e-004	0.0000		6.9300e-003	6.9300e-003		6.8600e-003	6.8600e-003	0.0000	99.2439	99.2439	1.9000e-003	1.8200e-003	99.8479
Landscaping	0.0318	0.0121	1.0430	5.0000e-005		5.7300e-003	5.7300e-003		5.7300e-003	5.7300e-003	0.0000	1.6980	1.6980	1.6600e-003	0.0000	1.7328
Total	1.4202	0.0121	1.0435	5.0000e-005		0.0127	0.0127		0.0126	0.0126	0.0000	100.9419	100.9419	3.5600e-003	1.8200e-003	101.5807

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.9507	0.2394	5.9600e-003	44.8245
Unmitigated	44.8864	0.2991	7.4300e-003	53.4723

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.29725 / 5.39977	37.9507	0.2394	5.9600e-003	44.8245
Total		37.9507	0.2394	5.9600e-003	44.8245

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	16.6453	0.9837	0.0000	37.3031
Unmitigated	33.2905	1.9674	0.0000	74.6062

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	82	16.6453	0.9837	0.0000	37.3031
Total		16.6453	0.9837	0.0000	37.3031

Barstow - Dev Site 10 - Condos Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	20.00	Dwelling Unit	1.25	20,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearths

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	5.67
tblVehicleTrips	SU_TR	6.07	4.84
tblVehicleTrips	WD_TR	6.59	5.81

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1154	1.7200e-003	0.1491	1.0000e-005		1.8100e-003	1.8100e-003		1.8000e-003	1.8000e-003	0.0000	14.4203	14.4203	5.1000e-004	2.6000e-004	14.5115
Energy	1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	37.4354	37.4354	1.2500e-003	5.2000e-004	37.6214
Mobile	0.0791	0.2294	1.1280	1.9000e-003	0.1220	4.2500e-003	0.1262	0.0326	3.9100e-003	0.0365	0.0000	135.4918	135.4918	4.9700e-003	0.0000	135.5963
Waste						0.0000	0.0000		0.0000	0.0000	0.9338	0.0000	0.9338	0.0552	0.0000	2.0926
Water						0.0000	0.0000		0.0000	0.0000	0.3307	5.0908	5.4215	0.0342	8.5000e-004	6.4035
Total	0.1962	0.2460	1.2834	2.0100e-003	0.1220	7.2700e-003	0.1292	0.0326	6.9200e-003	0.0395	1.2645	192.4383	193.7028	0.0961	1.6300e-003	196.2253

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0791	0.2294	1.1280	1.9000e-003	0.1220	4.2500e-003	0.1262	0.0326	3.9100e-003	0.0365	0.0000	135.4918	135.4918	4.9700e-003	0.0000	135.5963
Unmitigated	0.0791	0.2294	1.1280	1.9000e-003	0.1220	4.2500e-003	0.1262	0.0326	3.9100e-003	0.0365	0.0000	135.4918	135.4918	4.9700e-003	0.0000	135.5963

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	116.20	113.40	96.80	321,015	321,015
Total	116.20	113.40	96.80	321,015	321,015

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	20.1542	20.1542	9.1000e-004	2.0000e-004	20.2350
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	22.4216	22.4216	1.0200e-003	2.2000e-004	22.5115
NaturalGas Mitigated	1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2812	17.2812	3.3000e-004	3.2000e-004	17.3864
NaturalGas Unmitigated	2.2200e-003	0.0190	8.0800e-003	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	21.9918	21.9918	4.2000e-004	4.0000e-004	22.1256

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	323838	1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2812	17.2812	3.3000e-004	3.2000e-004	17.3864
Total		1.7500e-003	0.0149	6.3500e-003	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.2812	17.2812	3.3000e-004	3.2000e-004	17.3864

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	87667.1	20.1542	9.1000e-004	2.0000e-004	20.2350
Total		20.1542	9.1000e-004	2.0000e-004	20.2350

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1154	1.7200e-003	0.1491	1.0000e-005		1.8100e-003	1.8100e-003		1.8000e-003	1.8000e-003	0.0000	14.4203	14.4203	5.1000e-004	2.6000e-004	14.5115
Unmitigated	1.3689	0.0188	1.6949	6.1000e-004		0.2180	0.2180		0.2180	0.2180	20.6592	8.9067	29.5659	0.0193	1.6200e-003	30.4750

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4300e-003	0.0000	8.0000e-005	0.0000		9.9000e-004	9.9000e-004		9.8000e-004	9.8000e-004	0.0000	14.1777	14.1777	2.7000e-004	2.6000e-004	14.2640
Landscaping	4.5400e-003	1.7200e-003	0.1490	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.4000e-004	0.0000	0.2475
Total	0.1154	1.7200e-003	0.1491	1.0000e-005		1.8100e-003	1.8100e-003		1.8000e-003	1.8000e-003	0.0000	14.4203	14.4203	5.1000e-004	2.6000e-004	14.5115

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4215	0.0342	8.5000e-004	6.4035
Unmitigated	6.4124	0.0427	1.0600e-003	7.6389

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	1.04246 / 0.771395	5.4215	0.0342	8.5000e-004	6.4035
Total		5.4215	0.0342	8.5000e-004	6.4035

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.9338	0.0552	0.0000	2.0926
Unmitigated	1.8675	0.1104	0.0000	4.1852

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	4.6	0.9338	0.0552	0.0000	2.0926
Total		0.9338	0.0552	0.0000	2.0926

Barstow - Dev Site 11 - SFR Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	500.00	Dwelling Unit	162.34	900,000.00	1430

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearths

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	10.08	7.93
tblVehicleTrips	SU_TR	8.77	6.90
tblVehicleTrips	WD_TR	9.57	7.62

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0721	0.0431	3.7269	2.0000e-004		0.0452	0.0452		0.0450	0.0450	0.0000	360.5068	360.5068	0.0127	6.5000e-003	362.7881
Energy	0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	1,513.7464	1,513.7464	0.0499	0.0210	1,521.3026
Mobile	2.6455	7.6718	37.7309	0.0634	4.0793	0.1422	4.2215	1.0909	0.1310	1.2218	0.0000	4,532.0910	4,532.0910	0.1664	0.0000	4,535.5848
Waste						0.0000	0.0000		0.0000	0.0000	59.5068	0.0000	59.5068	3.5168	0.0000	133.3586
Water						0.0000	0.0000		0.0000	0.0000	8.2682	127.2702	135.5383	0.8549	0.0213	160.0877
Total	7.7899	8.3327	41.7206	0.0676	4.0793	0.2374	4.3167	1.0909	0.2259	1.3168	67.7750	6,533.6144	6,601.3894	4.6006	0.0488	6,713.1217

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6455	7.6718	37.7309	0.0634	4.0793	0.1422	4.2215	1.0909	0.1310	1.2218	0.0000	4,532.0910	4,532.0910	0.1664	0.0000	4,535.5848
Unmitigated	2.6455	7.6718	37.7309	0.0634	4.0793	0.1422	4.2215	1.0909	0.1310	1.2218	0.0000	4,532.0910	4,532.0910	0.1664	0.0000	4,535.5848

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,810.00	3,965.00	3450.00	10,737,682	10,737,682
Total	3,810.00	3,965.00	3,450.00	10,737,682	10,737,682

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated:							0.0000	0.0000		0.0000	0.0000	798.3318	798.3318	0.0362	7.8800e-003	801.5341
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	882.7524	882.7524	0.0401	8.7100e-003	886.2933
NaturalGas Mitigated	0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.4146	715.4146	0.0137	0.0131	719.7685
NaturalGas Unmitigated	0.0910	0.7780	0.3311	4.9700e-003		0.0629	0.0629		0.0629	0.0629	0.0000	900.9657	900.9657	0.0173	0.0165	906.4489

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.34064e+007	0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.4146	715.4146	0.0137	0.0131	719.7685
Total		0.0723	0.6177	0.2629	3.9400e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.4146	715.4146	0.0137	0.0131	719.7685

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	3.47261e+006	798.3318	0.0362	7.8800e-003	801.5341
Total		798.3318	0.0362	7.8800e-003	801.5341

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0721	0.0431	3.7269	2.0000e-004		0.0452	0.0452		0.0450	0.0450	0.0000	360.5068	360.5068	0.0127	6.5000e-003	362.7881
Unmitigated	36.4094	0.4687	42.3732	0.0153		5.4503	5.4503		5.4502	5.4502	516.4789	222.6681	739.1470	0.4825	0.0406	761.8740

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.4079					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0358	0.0000	1.9500e-003	0.0000		0.0247	0.0247		0.0245	0.0245	0.0000	354.4424	354.4424	6.7900e-003	6.5000e-003	356.5995
Landscaping	0.1134	0.0431	3.7249	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0644	6.0644	5.9100e-003	0.0000	6.1886
Total	5.0721	0.0431	3.7269	2.0000e-004		0.0452	0.0452		0.0450	0.0450	0.0000	360.5068	360.5068	0.0127	6.5000e-003	362.7881

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	135.5383	0.8549	0.0213	160.0877
Unmitigated	160.3087	1.0683	0.0265	190.9724

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	26.0616 / 19.2849	135.5383	0.8549	0.0213	160.0877
Total		135.5383	0.8549	0.0213	160.0877

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	59.5068	3.5168	0.0000	133.3586
Unmitigated	119.0136	7.0335	0.0000	266.7172

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	293.15	59.5068	3.5168	0.0000	133.3586
Total		59.5068	3.5168	0.0000	133.3586

Barstow - Dev Site 11 - Diverse Use Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	75.00	User Defined Unit	0.00	75,000.00	0
User Defined Retail	75.00	User Defined Unit	0.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow. Given same trip profile as Residential

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances.

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	0.00	75,000.00
tblLandUse	LandUseSquareFeet	0.00	75,000.00
tblVehicleTrips	CC_TTP	0.00	40.20
tblVehicleTrips	CC_TTP	0.00	40.20
tblVehicleTrips	CNW_TTP	0.00	40.60
tblVehicleTrips	CNW_TTP	0.00	40.60
tblVehicleTrips	CW_TTP	0.00	19.20
tblVehicleTrips	CW_TTP	0.00	19.20
tblVehicleTrips	DV_TP	0.00	11.00
tblVehicleTrips	DV_TP	0.00	11.00
tblVehicleTrips	PB_TP	0.00	3.00
tblVehicleTrips	PB_TP	0.00	3.00
tblVehicleTrips	PR_TP	0.00	86.00
tblVehicleTrips	PR_TP	0.00	86.00
tblVehicleTrips	ST_TR	0.00	1.10
tblVehicleTrips	ST_TR	0.00	7.52
tblVehicleTrips	SU_TR	0.00	1.10
tblVehicleTrips	SU_TR	0.00	7.52
tblVehicleTrips	WD_TR	0.00	1.10
tblVehicleTrips	WD_TR	0.00	7.52

2.0 Emissions Summary

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.4337	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1934	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4337	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044
Unmitigated	0.4337	1.1873	6.0264	9.5800e-003	0.6130	0.0215	0.6345	0.1639	0.0198	0.1837	0.0000	684.1714	684.1714	0.0254	0.0000	684.7044

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	82.50	82.50	82.50	205,905	205,905
User Defined Retail	564.00	564.00	564.00	1,407,639	1,407,639
Total	646.50	646.50	646.50	1,613,543	1,613,543

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	9.50	7.30	7.30	19.20	40.20	40.60	86	11	3
User Defined Retail	9.50	7.30	7.30	19.20	40.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	0.0000	0.0000	0.0000	0.0000
Mitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Barstow - Dev Site 12 - MDR Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	60.00	Dwelling Unit	3.75	60,000.00	172

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	506.83	CH4 Intensity (lb/MWhr)	0.023	N2O Intensity (lb/MWhr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Land Use - Site Specifics

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	6.39
tblVehicleTrips	SU_TR	6.07	5.86
tblVehicleTrips	WD_TR	6.59	6.65

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3461	5.1700e-003	0.4472	2.0000e-005		5.4300e-003	5.4300e-003		5.4000e-003	5.4000e-003	0.0000	43.2608	43.2608	1.5200e-003	7.8000e-004	43.5346
Energy	3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	85.5668	85.5668	2.9700e-003	1.1400e-003	85.9825
Mobile	0.2729	0.7914	3.8921	6.5400e-003	0.4208	0.0147	0.4355	0.1125	0.0135	0.1260	0.0000	467.5084	467.5084	0.0172	0.0000	467.8688
Waste						0.0000	0.0000		0.0000	0.0000	2.8013	0.0000	2.8013	0.1656	0.0000	6.2778
Water						0.0000	0.0000		0.0000	0.0000	0.9922	15.2724	16.2646	0.1026	2.5500e-003	19.2105
Total	0.6225	0.8267	4.3522	6.7500e-003	0.4208	0.0225	0.4433	0.1125	0.0214	0.1339	3.7935	611.6084	615.4018	0.2898	4.4700e-003	622.8742

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2729	0.7914	3.8921	6.5400e-003	0.4208	0.0147	0.4355	0.1125	0.0135	0.1260	0.0000	467.5084	467.5084	0.0172	0.0000	467.8688
Unmitigated	0.2729	0.7914	3.8921	6.5400e-003	0.4208	0.0147	0.4355	0.1125	0.0135	0.1260	0.0000	467.5084	467.5084	0.0172	0.0000	467.8688

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	399.00	383.40	351.60	1,107,647	1,107,647
Total	399.00	383.40	351.60	1,107,647	1,107,647

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	50.6152	50.6152	2.3000e-003	5.0000e-004	50.8182
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	56.2480	56.2480	2.5500e-003	5.5000e-004	56.4737
NaturalGas Mitigated	3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9516	34.9516	6.7000e-004	6.4000e-004	35.1644
NaturalGas Unmitigated	4.4400e-003	0.0379	0.0161	2.4000e-004		3.0700e-003	3.0700e-003		3.0700e-003	3.0700e-003	0.0000	43.9361	43.9361	8.4000e-004	8.1000e-004	44.2035

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	654969	3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9516	34.9516	6.7000e-004	6.4000e-004	35.1644
Total		3.5300e-003	0.0302	0.0128	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9516	34.9516	6.7000e-004	6.4000e-004	35.1644

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	220167	50.6152	2.3000e-003	5.0000e-004	50.8182
Total		50.6152	2.3000e-003	5.0000e-004	50.8182

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3461	5.1700e-003	0.4472	2.0000e-005		5.4300e-003	5.4300e-003		5.4000e-003	5.4000e-003	0.0000	43.2608	43.2608	1.5200e-003	7.8000e-004	43.5346
Unmitigated	4.1066	0.0563	5.0848	1.8400e-003		0.6540	0.6540		0.6540	0.6540	61.9775	26.7202	88.6976	0.0579	4.8700e-003	91.4249

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0939					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3000e-003	0.0000	2.3000e-004	0.0000		2.9700e-003	2.9700e-003		2.9400e-003	2.9400e-003	0.0000	42.5331	42.5331	8.2000e-004	7.8000e-004	42.7919
Landscaping	0.0136	5.1700e-003	0.4470	2.0000e-005		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	0.7277	0.7277	7.1000e-004	0.0000	0.7426
Total	0.3461	5.1700e-003	0.4472	2.0000e-005		5.4300e-003	5.4300e-003		5.4000e-003	5.4000e-003	0.0000	43.2608	43.2608	1.5300e-003	7.8000e-004	43.5346

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.2646	0.1026	2.5500e-003	19.2105
Unmitigated	19.2371	0.1282	3.1900e-003	22.9167

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	3.12739 / 2.31419	16.2646	0.1026	2.5500e-003	19.2105
Total		16.2646	0.1026	2.5500e-003	19.2105

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.8013	0.1656	0.0000	6.2778
Unmitigated	5.6026	0.3311	0.0000	12.5557

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	13.8	2.8013	0.1656	0.0000	6.2778
Total		2.8013	0.1656	0.0000	6.2778

Barstow - Dev Site 12 - Office Mitigated
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	506.83	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS In Effect. 506.83 CO2, 0.023 CH4, 0.005 N2O

Vehicle Trips - Trip Generation Rates from Advantec Consulting Engineers/Traffic Study for Barstow

Energy Mitigation - 2014 Title 24 Standards 25 percent more efficient than 2008 Title 24 for residential land uses, 30 percent more for non-residential land uses. CAPCOA LE-1 High Efficiency Lighting. Energy Efficient Appliances

Water Mitigation - 2013 Green Building Standards

Area Mitigation - Only Natural Gas Hearth

Waste Mitigation - 50 percent diversion/recycling

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	630.89	506.83
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	2.37	2.46
tblVehicleTrips	SU_TR	0.98	1.05
tblVehicleTrips	WD_TR	11.01	3.32

2.0 Emissions Summary

2.1 Overall Construction

Not Applicable

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	43.2871	43.2871	1.8900e-003	4.5000e-004	43.4664
Mobile	0.0380	0.1021	0.5239	8.2000e-004	0.0522	1.8300e-003	0.0540	0.0140	1.6900e-003	0.0156	0.0000	58.3190	58.3190	2.1700e-003	0.0000	58.3646
Waste						0.0000	0.0000		0.0000	0.0000	1.8878	0.0000	1.8878	0.1116	0.0000	4.2307
Water						0.0000	0.0000		0.0000	0.0000	0.9022	13.7378	14.6400	0.0933	2.3200e-003	17.3181
Total	0.1396	0.1046	0.5262	8.4000e-004	0.0522	2.0200e-003	0.0542	0.0140	1.8800e-003	0.0158	2.7900	115.3442	118.1342	0.2089	2.7700e-003	123.3802

3.0 Construction Detail

Not Applicable

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0380	0.1021	0.5239	8.2000e-004	0.0522	1.8300e-003	0.0540	0.0140	1.6900e-003	0.0156	0.0000	58.3190	58.3190	2.1700e-003	0.0000	58.3646
Unmitigated	0.0380	0.1021	0.5239	8.2000e-004	0.0522	1.8300e-003	0.0540	0.0140	1.6900e-003	0.0156	0.0000	58.3190	58.3190	2.1700e-003	0.0000	58.3646

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	66.40	49.20	21.00	137,308	137,308
Total	66.40	49.20	21.00	137,308	137,308

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.431121	0.068220	0.184097	0.161063	0.046501	0.007847	0.006802	0.077745	0.000804	0.001145	0.010347	0.000572	0.003736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated:						0.0000	0.0000		0.0000	0.0000	0.0000	40.5602	40.5602	1.8400e-003	4.0000e-004	40.7229
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	49.1514	49.1514	2.2300e-003	4.8000e-004	49.3485
NaturalGas Mitigated	2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005	1.9000e-004	1.9000e-004	1.9000e-004	1.9000e-004	1.9000e-004	1.9000e-004	0.0000	2.7269	2.7269	5.0000e-005	5.0000e-005	2.7435
NaturalGas Unmitigated	3.9000e-004	3.5800e-003	3.0100e-003	2.0000e-005	2.7000e-004	2.7000e-004	2.7000e-004	2.7000e-004	2.7000e-004	2.7000e-004	0.0000	3.8956	3.8956	7.0000e-005	7.0000e-005	3.9193

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	51100	2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7269	2.7269	5.0000e-005	5.0000e-005	2.7435
Total		2.8000e-004	2.5000e-003	2.1000e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7269	2.7269	5.0000e-005	5.0000e-005	2.7435

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	176430	40.5602	1.8400e-003	4.0000e-004	40.7229
Total		40.5602	1.8400e-003	4.0000e-004	40.7229

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Unmitigated	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Total	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.6400	0.0933	2.3200e-003	17.3181
Unmitigated	17.3331	0.1166	2.8900e-003	20.6783

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.84374 / 2.04577	14.6400	0.0933	2.3200e-003	17.3181
Total		14.6400	0.0933	2.3200e-003	17.3181

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.8878	0.1116	0.0000	4.2307
Unmitigated	3.7756	0.2231	0.0000	8.4614

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	9.3	1.8878	0.1116	0.0000	4.2307
Total		1.8878	0.1116	0.0000	4.2307