

CHAPTER 7

NATURAL RESOURCES AND SUSTAINABILITY

7.1 INTRODUCTION

This chapter provides a framework for development that supports sustainable design practices for development within the Project Area. Included are strategies for energy conservation, identifying programs to promote alternative modes of transportation, reducing solid waste through recycling and reuse, promoting water conservation and landscape and irrigation design, preserving the existing open space and biological resources, increasing public health through pedestrian and bicycle connectivity to parks and open spaces, and encouraging the use of City economic development programs to provide incentives for existing and emerging industries.



Clerestory Windows

7.2 RELATIONSHIP TO CITY OF TRACY SUSTAINABILITY ACTION PLAN

The City of Tracy adopted a Sustainability Action Plan (SAP) in February of 2011. The SAP requires the City to reduce its GHG emissions, conserve and protect natural resources, improve public health, and promote economic vitality. The SAP establishes targets related to a variety of sustainability goals, and sets forth measures that will assist the City of Tracy in reaching these goals. The Cordes Ranch Specific Plan has incorporated a variety of measures throughout the plan to assist in reaching these goals.

7.3 SUSTAINABILITY GUIDELINES

Promoting alternative means of transportation and minimizing vehicle miles traveled is a major goal of the Project. The Project will include opportunities to increase sustainability and minimize greenhouse gas emissions and reduce water and energy consumption, as well as decrease the impacts of construction activities and waste generation. Presented below is a list of sustainability measures that will be incorporated into the project that will support the SAP goals.

a. Energy

- The Master Owners Association in coordination with the City of Tracy will provide education about:
 1. City of Tracy's water conservation programs
 2. PG&E's energy efficiency programs
 3. San Joaquin Regional Transit District transit service

Information regarding these programs shall be readily available to employees and clients.

- Streets within Cordes Ranch are on an east/west axis to allow buildings to be sited to take advantage of shade and work with the existing topography.
- The site has been designed to reduce mass grading to the extent feasible and to decrease the use of earth moving equipment needed to grade the site. Large warehouse and logistic buildings will utilize sloped floors that will better conform to the existing topography. The reduction in grading and earth movement will assist in decreasing the total emissions from construction equipment.
- Energy efficient lighting and control systems will be utilized as an integral part of lighting systems in all buildings.



Utilize Canopies and Awnings to Minimize Heat Gain



Provide lighting to meet minimum standards for safety

- Architectural guidelines in Chapter 4 encourage the use of daylight or clerestory windows as a means of providing natural light and reducing the need for lighting during day light hours.
- Light colored “cool” roofs will be required for all new buildings.
- Tree species will be chosen based on their large canopy characteristics at maturity, and will be strategically placed on the west and east portions of the site to shade paving areas and building elevations to minimize heat gain.
- Canopies, awnings, and architectural shade structures are encouraged as part of the design guidelines. These design elements will be strategically sized to shade paving areas and building elevations and minimize heat gain.
- Locally sourced, salvaged and recycled materials will be considered for use throughout the landscape and hardscape design.
- High efficiency lighting, such as LED, will be utilized for traffic, street and other outdoor lighting.
- Lighting levels for outdoor illumination will be required to meet the minimum standards required for safety. All exterior lighting will be required to be controlled by timers, and unless otherwise required, only lighting required for parking lot security and safety will be provided at night.
- Building construction in the project shall meet applicable standards for energy efficiency such as:
 1. Energy efficient heating and cooling systems;
 2. Energy efficient appliances, equipment, and HVAC control systems;

b. Transportation & Land Use

As part of the application process for individual, site specific development projects that generate 50 or more employees (equivalent to a 40,000 square foot warehouse building, 22,000 square foot light industrial building, or 14,000 square foot office building), an employee commute trip reduction program (CTR) shall be established, in conformance with the San Joaquin Valley Unified Air Pollution Control District Rule 9410.



Provide bus stops as required



As required under Rule 9410, the program will provide information about commute options and connects commuters for carpooling, ridesharing and other activities. The CTR program will identify alternative modes of transportation to the Project site, including transit schedules, bike and pedestrian routes, and carpool/vanpool availability. Information regarding these programs shall be readily available to employees and clients. In addition, as required under Rule 9410, the program will include incentives for commuters to use alternative modes of transportation. For example, such incentives may include:

1. Ride-matching assistance (e.g., subsidized public transit passes)
2. Preferential carpool parking
3. Flexible work schedules for carpools
4. Vanpool assistance or employer-provided vanpool/shuttle
5. Telecommute and/or flexible work hour programs
6. Car-sharing program (e.g., Zipcar)
7. Bicycle end-trip facilities, including bike parking, showers, and lockers

As part of the application process for individual, site specific development projects, preferential parking space locations shall be provided for electric vehicles and compressed natural gas vehicles in all parking structures and lots. In addition, individual developments projects with over 200 spaces shall designate a minimum of two percent of total parking spaces for carpool and/or ridesharing vehicles. The location of these reserved parking spaces shall be identified on the site plan. Preferential parking spaces shall be shown on striping plans submitted to the Director of Development Services.

As part of the application process for individual, site specific development projects located along existing and planned transit routes, coordination shall occur with the San Joaquin Regional Transit District or other agencies to ensure that bus pads and shelters are incorporated, as necessary.

- A requirement that large employers establish employee trip reduction programs, in conformance with the San Joaquin Valley Unified Air Pollution Control District Rule 9410. The content of the trip reduction plans should be strategically assembled

from the suggestions provided in Rule 9410 and from the Facility-based Measures For New Development described in the SJCOG TDM Plan. Special consideration should be given to Parking Cash-Out programs and Transit Pass programs, which are included in Tracy SAP Transportation Measures T-14 and T-16.



Provide bike racks to encourage bicycle commuting

- A requirement that businesses promote the SJCOG Commute Connection program, which provides information about commute options and connects commuters for carpooling, ride-sharing and other activities.
- Class I and/or II bicycle paths are included on all streets wider than 75 feet, and within ½ mile of all uses within the project so that destinations can be reached conveniently by alternatives to vehicle trips.
- All streets within the project include sidewalks on both sides to promote pedestrian access and connectivity between uses.
- Street designs are based on a grid system instead of cul-de-sacs to promote shorter travel distances and encourage pedestrian and bicycle connectivity.
- It is anticipated that the City of Tracy will take a phased approach to providing public transportation to the Project. The City will explore the needs based on construction phasing and will evaluate appropriate routes to serve multiple businesses. The businesses in Cordes Ranch will work cooperatively with the City to modify and expand routes as necessary to efficiently accommodate demand.
- Electrical service connections will be required at all loading docks for plug in of refrigerated trailers to reduce idling time and emissions. Delivery and loading areas, and truck parking spaces will include signage as a reminder to limit idling of vehicles while parked to load and/or unload.
- A pre-construction meeting and information pamphlet will be prepared and distributed outlining the idling procedures for all construction vehicles.





Reclaimed Water System



Native/Climate Adapted Plants in Simple Designs

- Adequate bicycle parking will be required near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.

c. Solid Waste

- Individual developers of projects will be encouraged to reuse and recycle construction and demolition waste, including soil, vegetation (green waste), concrete, lumber, metal, and cardboard, to the extent feasible.
- Individual developers of projects will be encouraged to locate interior and exterior storage bins for recyclables and green waste and adequate recycling containers in public areas.

d. Water

- Landscaping will consist of native species selected for water-efficient characteristics and will include drought tolerant planting materials common to the region.
- Turf will be discouraged and minimized throughout the project.
- Irrigation systems and devices will be water efficient and will include satellite soil moisture-based irrigation controls and systems.
- The landscape design will meet requirements of the State Water Conservation in Landscaping Act (G.C. Section 65591 et. seq.) by complying with the State's model water efficient landscape ordinance, or equivalent, adopted by the City of Tracy. A purple pipe system will be constructed as part of the infrastructure for the project. Reclaimed water will be utilized for landscape irrigation of public and private landscaped areas when available.
- Watering of non-vegetated surfaces and practices for cleaning outdoor surfaces and vehicles will be discouraged.
- Low-impact development practices will be implemented to the extent feasible, to maintain the existing hydrologic character of the drainage and manage and treat storm water to protect the environment.

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Bioswale



Open Space Walking Trail

CORDES RANCH SPECIFIC PLAN: TRACY, CALIFORNIA

- Buildings will be designed to be water-efficient and will include water-efficient fixtures and appliances.
- e. Ag & Open Space**
- Turf will be minimized.
- f. Biological Resources**
- The landscape palette includes a large number of native and climate adapted species in an effort to optimize biodiversity, to sequester carbon, and create habitat and minimize resource use (water, fertilizers, and pesticides/herbicides).
 - The riparian corridor will be protected and enhanced, and will meet federal, state and regional regulations for habitat and species protection.
 - Invasive species listed on the California Invasive Plant Council (CAL-IPC) list have not been included in the planting palette.
 - The natural hydrologic conditions will be incorporated into the design to the extent feasible, by avoiding the existing drainage channel that runs through the site as a dry creek/wash/riparian corridor with open space trail.
 - Storm water best management practices (BMPs) including vegetated bioswales, vegetated detention basins and pervious paving will be incorporated to the extent feasible into individual development sites and along streets.
 - Detention basins in the Central Green, and East-side Park will serve multiple uses as open space and passive or active recreation opportunities and may include picnic areas, open greens, and sports fields.
- g. Public Health**
- Open space and passive or active recreation opportunities have been incorporated into the design of the project. Walking trails will provide access to picnic areas, open greens to provide opportunities for exercise.
 - Sidewalks have been included on both sides of all streets. Trails and sidewalks may also be included within the open spaces and PG & E easements. These proposed improvements will make the project walkable and will provide connections to adjacent development.



h. Economic Development

- Project developers in coordination with the City staff and the WorkNet program to facilitate job placement for City of Tracy residents.
- Project developers will work with City's staff to retain and recruit businesses that provide high-wage jobs and support existing and emerging industries to the extent feasible..
- Project developers, in coordination with the City staff, will develop information to provide prospective business with a skills and education inventory of Tracy residents. Information will be used to market potential tenants within Cordes Ranch as a means of improving the city's jobs/housing match.
- Project developers will provide businesses in Cordes Ranch with information about local vendors, service providers, and material suppliers.

7.4 GREEN BUILDING

The purpose of the California Green Building Code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories:

1. Planning and design
2. Energy efficiency
3. Water efficiency and conservation
4. Material conservation and resource efficiency
5. Environmental quality

The code establishes minimum green building standards for most projects. The Code is composed of several parts with the requirements of:

- Reducing water consumption by 20 percent.
- Diverting 50 percent of construction waste from landfills.
- Installation of low pollutant-emitting materials.
- Installation of separate water meters for nonresidential buildings' indoor and outdoor water use.

- Moisture-sensing irrigation systems for larger landscape projects.
- Mandatory inspections of energy systems (e.g., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies.
- The project will comply with the applicable requirements in the Green Building Code.



7.5 LEED

Leadership in Energy Efficient Design (LEED) and sustainable development is a relatively new field of expertise and focus. The United States Green Building Council (USGBC) LEED system of environmental standards is currently the most recognized system of rating projects and construction. The Specific Plan implements energy efficient design and water conservation, and strongly encourages that individual developers consider the merits of LEED certification not only as a means to conserve energy but also to promote stewardship of the environment and green business practices.