AGENDA

General Plan Advisory Committee Meeting #2

Monday, October 2, 2017 – 6:00 pm

Manteca Transit Center Meeting Room, 220 Moffat Boulevard, Manteca, CA

6:00 PM - GPAC Workshop

1. Roll call
2. General Plan Update - Safety Discussion
3. General Plan Update - Noise Discussion
4. Public Comment
5. Adjournment

The next scheduled meeting of the General Plan Advisory Committee of the City of Manteca is Monday, October 2, 2017, at 6:00 p.m. in the Manteca Transit Center, 220 Moffat Boulevard, Manteca, CA.

I hereby certify that the agenda for the above stated meeting was posted at a location accessible to members of the public at City Hall, 1001 W. Center Street, Manteca, CA prior to Friday September 29, 2017, by 5:00 pm.

[Signature]

LISA SCHIMMELFENNIG
ADMINISTRATIVE ASSISTANT III

In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call (209) 456 8017. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting (28 CFR 35.102 35.104 ADA Title II).
MEMORANDUM
Meeting 2 – October 2, 2017

TO: Manteca General Plan Advisory Committee (GPAC)
FROM: Beth Thompson, De Novo Planning Group
SUBJECT: General Plan Safety and Noise Policy Discussion
DATE: October 2, 2017

The October 2nd GPAC meeting will focus on the topics of noise and safety. This meeting packet includes specific reading materials related to safety and noise and raises key issues to consider in preparation of the second GPAC meeting.

The Safety and Noise Elements are required elements of the General Plan. The Safety Element must address fire hazards, seismic/geologic hazards, flood hazards, landslides, hazardous materials, and emergency management coordination. Please note that police and fire protection services will be addressed in the Public Facilities and Services Element.

The Noise Element is intended to limit the exposure of the community to excessive noise levels. The Noise Element must address noise from roadways, airports, and major stationary sources. It must also identify maximum allowable noise exposure levels to noise-sensitive land uses such as hospitals, schools, churches, residences, and sensitive habitat areas.

REQUIRED READING

Prior to the meeting on October 2nd, please read the following items:

- Existing Conditions Report Chapter 4, Hazards, Safety, and Noise

- Current City of Manteca General Plan Safety Element (Chapter 5), including the SB 5 Safety Element Amendment to address flood control

- Current City of Manteca General Plan Noise Element (Chapter 9)

WORK EXERCISE

After reading the materials identified above, please consider the following questions and be prepared to discuss.
Safety
1. In developing a goal and policy framework to address safety, what top three issues or actions should the City prioritize?

2. In reviewing the existing General Plan goals, policies, and action programs related to safety:
   a. Which existing General Plan goals, policies, and action programs best address the concerns you identified?
   b. Which priorities are not addressed in the existing General Plan?

3. What additional input do you have that the GPAC should consider and discuss?

Noise
1. In developing a goal and policy framework to address noise, what top three issues or actions should the City prioritize?

2. In reviewing the existing General Plan goals, policies, and action programs related to noise:
   a. Which existing General Plan goals, policies, and action programs best address the concerns you identified?
   b. Which priorities are not addressed in the existing General Plan?

3. What types of measures should the City implement to reduce noise exposure to sensitive receptors?

4. What additional input do you have that the GPAC should consider and discuss?

Attachments
1. City of Manteca General Plan 2023
2. Manteca SB 5 Safety Element Amendment
3. Existing Conditions Report, Chapter 4.0 – Hazards, Safety, and Noise
Table of Contents

1 General Plan Context and Vision
   1.1 General Plan Purpose ................................................................. 1-1
   1.2 Manteca General Plan Context ................................................ 1-1
   1.3 Time Horizon .............................................................................. 1-3
   1.4 General Plan Study Area ............................................................. 1-3
   1.5 Organization of the General Plan ............................................... 1-5
   1.6 Participants and Process ............................................................. 1-7
   1.7 Key Land Use Issues and Development Concepts ..................... 1-7

2 Land Use Element
   2.1 Summary of Proposed Land Use ............................................... 2-1
   2.2 Land Use Categories ................................................................. 2-3
   2.3 Land Use Goals and Policies ..................................................... 2-11

3 Community Design Element
   3.1 Compact Community Form ....................................................... 3-1
   3.2 City Identity .............................................................................. 3-3
   3.3 Resource Efficient Buildings .................................................... 3-8
   3.4 Pedestrians and Bicycles ........................................................... 3-8
   3.5 Agricultural Heritage ............................................................... 3-9

4 Circulation Element (Amended April 5, 2011)
   4.1 Introduction .............................................................................. 4-1
   4.2 Key Assumptions ...................................................................... 4-1
   4.3 Relationship to Other General Plan Elements ......................... 4-3
   4.4 Relationship to Regional Transportation .................................. 4-4
   4.5 Time Horizon for the Circulation Element ............................... 4-4
   4.6 Circulation Goals ..................................................................... 4-4
   4.7 Street Network and Classification ............................................. 4-6
   4.8 Traffic Calming ........................................................................ 4-10
   4.9 Level of Service Standards ...................................................... 4-10
   4.10 Major Streets Master Plan ....................................................... 4-16
   4.11 Parking .................................................................................... 4-24
   4.12 Bikeway and Pedestrian Systems ............................................. 4-26
   4.13 Public Transit ......................................................................... 4-30
   4.14 Goods Movement ................................................................... 4-32
   4.15 Transportation Demand Management .................................. 4-33

5 Economic Development Element
   5.1 Context and Potential for Growth ....... ................................. 5-1
   5.2 Local Government’s Role in Economic Development ............ 5-2
   5.3 Land Use ................................................................................. 5-3
   5.4 Labor Force ............................................................................. 5-6
   5.5 Business Sector ....................................................................... 5-8
5.6 Housing ................................................................................................................... 5-11
5.7 Quality of Life ........................................................................................................... 5-12
5.8 Infrastructure .......................................................................................................... 5-14

6 Public Facilities and Services Element
6.1 Purpose ................................................................. 6-1
6.2 Relationship to Other General Plan Elements ....................................................... 6-2
6.3 Projected Growth Relative to Public Facilities and Services ................. 6-2
6.4 General Services ................................................ 6-2
6.5 Domestic Water ....................................................... 6-3
6.6 Sewer .................................................................. 6-7
6.7 Major Drainage ......................................................... 6-10
6.8 Electricity .............................................................. 6-12
6.9 Solid Waste ............................................................ 6-13
6.10 Education ............................................................ 6-15
6.11 Police ................................................................. 6-17
6.12 Fire Protection ....................................................... 6-17
6.13 Recreation and Parks .............................................. 6-18

7 Safety Element (Amended December 17, 2013)
7.1 Geologic and Seismic Hazards ................................................. 7-1
7.2 Flood Hazards ................................................................................. 7-4
7.3 Hazardous Materials ................................................................. 7-7
7.4 Emergency Procedures ......................................................... 7-10

8 Resource Conservation Element
8.1 Authority ........................................................................ 8-1
8.2 Relationship to Other General Plan Elements ............................................... 8-2
8.3 Water Conservation .......................................................... 8-2
8.4 Energy Conservation ......................................................... 8-3
8.5 Soils and Erosion Control ..................................................... 8-5
8.6 Water Quality ................................................................ 8-6
8.7 Open Space .................................................................... 8-7
8.8 Agricultural Resources ...................................................... 8-9
8.9 Biological Resources ....................................................... 8-12
8.10 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan ...... 8-12
8.11 Mineral Resources ......................................................... 8-14
8.12 Cultural Resources ......................................................... 8-14

9 Noise Element
9.1 Introduction .................................................................... 9-1
9.2 Sensitive Land Uses ........................................................ 9-2
9.3 Noise Goals .................................................................... 9-2
9.4 Policies and Implementation Measures ........................................ 9-3
10 Air Quality Element
10.1 Introduction ............................................................................................................. 10-1
10.2 Existing Conditions in Manteca ............................................................................... 10-2
10.3 Air Quality Goals ...................................................................................................... 10-2

11 Administration and Implementation Element
11.1 Introduction ............................................................................................................. 11-1
11.2 Administration and Implementation Goals ............................................................. 11-1

12 Housing Element

(UPDATED AND REPLACED JUNE 15, 2010)
PLEASE REFER TO UPDATED DOCUMENT ON FILE WITH THE COMMUNITY
DEVELOPMENT DEPARTMENT.
List of Figures

1-1 General Plan Study Area Boundary ................................................................. 1-4
2-1 Land Use Map (in Binder Pocket)
2-2 Conceptual Neighborhood Scale Commercial Mixed Use Development ........ 2-6
2-3 Primary Urban Service Boundaries ............................................................... 2-14
4-1 Downtown Level of Service Exemption Area ............................................... 4-12
4-2 Manteca Major Street Master Plan .................................................. 4-17
4-3 Major Street Master Plan 2023 General Plan Land Use Element Buildout
   Number of Lanes .................................................................................. 4-18
12-1 Residential Land Designation in the PFIP ........................................... 12-43

List of Tables

2-1 Summary of 2023 General Plan Land Use ........................................ 2-2
2-2 Summary of Urban Reserve Land Use ...................................................... 2-3
9-1 Maximum Allowable Noise Exposure Mobile Noise Sources .................. 9-5
9-2 Performance Standards for Stationary Noise Sources or
   Projects Affected by Stationary Noise Sources ......................................... 9-6
12-1 Categories of Household Income ....................................................... 12-6
12-2 Summary of Housing Program Activity ............................................... 12-12
12-3 Manteca Housing Characteristics ......................................................... 12-18
12-4 Manteca Building Permit History ......................................................... 12-18
12-5 Physical Housing Characteristics ............................................................ 12-19
12-6 Tenure of Housing Units ....................................................................... 12-20
12-7 Median Home Value ........................................................................... 12-21
12-8 Comparison of Rental Costs ................................................................. 12-22
12-9 General Demographic Characteristics .................................................. 12-25
12-10 Household Type ................................................................................ 12-26
12-11 Household Type by Type of Housing Unit ......................................... 12-26
12-12 Household Size ................................................................................ 12-27
12-13 Household Earnings ........................................................................ 12-28
12-14 Manteca Poverty Status In 1999 (Below Poverty Level)..................... 12-28
12-15 Characteristics Of Manteca Households Below Poverty Level .......... 12-29
12-16 Percentage Of Rent, By Income Level ............................................... 12-30
12-17 Employment Status (Over 16 Years of Age) ....................................... 12-31
12-18 Commuting Patterns of Manteca Workers (Over Age 16) ................. 12-31
12-19 Housing Characteristics of Manteca Seniors (Over Age 65) ............... 12-32
12-20 Female Head of Household ............................................................... 12-35
12-21 Population Projections .................................................................... 12-37
12-22 Population Projection at 3.9% Annual Growth ................................. 12-38
12-23 Regional Housing Needs Allocation .................................................. 12-39
12-24 Land Area Available for Housing Development in 5 Years ............... 12-41
12-25 Residential Development Potential of Vacant Sites ......................... 12-44
12-26 Projected Expenditure of Agency Funds on Affordable Housing ....... 12-46
12-27 Fair Housing Service Agencies ................................................................. 12-48
12-28 Services Provided For Special Needs Populations ................................. 12-48
12-29 Schedule of Manteca Development Fees (effective as of January, 2003) 12-54
12-30 Governmental and Non-Governmental Housing Development Constraints 12-55
12-31 Construction Costs Per Square Foot .......................................................... 12-57
12-32 Housing Plan Program Summary .............................................................. 12-76
12-33 Summary of Quantified Objectives: 2004-2007 ....................................... 12-82
12-34 HCD Income Definitions ........................................................................ 12-83
1. **GENERAL PLAN CONTEXT AND VISION**

1.1 **General Plan Purpose**

California law requires each city to adopt a comprehensive, long-term general plan for the physical development of the city. The general plan must be an integrated, internally consistent, and compatible statement of policies for the city. It serves as a framework for public and private development, and establishes requirements for additional planning studies where greater specificity is needed.

The general plan is the constitution for the City's development, and governs all land use regulations, including zoning.

The General Plan has the following purposes:

- To identify the community's land use, transportation, environmental, economic and social goals and policies as they relate to land use, conservation and development.
- To enable the City Council and the Planning Commission to establish long-range conservation and development policies.
- To provide a basis for judging whether specific private development proposals and public projects are in harmony with these policies.
- To inform citizens, developers, decision makers, and other jurisdictions of the policies that will guide development and conservation within the City of Manteca.

1.2 **Manteca General Plan Context**

This revision of the Manteca General Plan updates the plan adopted in 1988, the last time the City comprehensively revised its General Plan.

The City of Manteca, incorporated May 28, 1918, is located in the “heartland” of California, with historical roots as an important agricultural center. For much of the early 20th century, the Manteca area has been predominantly an agricultural area due to the excellent soil, mild climate, and access to clean water. While agriculture still
plays an important role in Manteca’s economy, the City’s economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing.

The preparation of this General Plan coincides with new circumstances that promise a bright future for Manteca. The City is truly at a crossroads created by circumstances beyond its borders. If properly prepared, the City can ensure sustained economic growth, and maintain the existing quality of life for current and future residents. This General Plan defines a future based on these new circumstances.

The new circumstances that will drive economic development in Manteca reflect broad changes in technology and demographic trends far beyond this community. Technology will change the way in which people will work, shop, and communicate with others socially and in business, and engage in leisure activities. These changes will make it more likely that individuals will choose a place to live based on quality of life issues, rather than traditional economic considerations.

Regional, national and international trends present opportunities and challenges that can lead to the achievement of the long standing goal of a balanced economy with a wide range of employment opportunities and retail services. Manteca is located in the center of an emerging interregional metropolitan area that is undergoing an economic transformation. The traditional economic engine of agriculture and food processing, although still important, is being supplanted by warehousing and distribution industries that take advantage of the central location, relatively affordable land, and transportation network. Manteca is also characterized by the high percentage of interregional commuters who are attracted by the community’s quality of life and relatively affordable housing. This skilled workforce, presently commuting long distances, is a resource for economic development. Due in part to the skills of the commuter workforce, Manteca will become increasingly competitive for the location of manufacturing and office uses.

1.2.1 Vision 2020

The General Plan builds upon the work of a community visioning process concluded in 1998. Vision 2020, crafted by a task force of community volunteers, is a comprehensive statement of community goals and objectives. The Vision 2020
document addresses the downtown area, economic development, and residential development and community amenities.

1.3 Time Horizon

This Plan guides the City to the year 2023. The "build-out," or full development, allowed by the General Plan is based on current projections of population and employment growth over the next twenty years. It is possible, however, that the total amount of development allowed by the Plan will not be constructed over this 20-year period, due to changes in economic conditions and other factors.

1.4 General Plan Study Area

The city may include in its general plan any land outside its boundaries which relates to its planning. The General Plan Study Area encompasses approximately 25,975 acres within and outside of the existing City limits. The purpose in establishing the Study Area boundary larger than the existing City is to identify and evaluate the areas surrounding the City that may affect the future economic viability, traffic, services, and aesthetic quality of the City.

In addition, since many issues such as air quality, traffic and economic development, extend beyond political boundaries, the law provides for planning outside of the jurisdiction’s territory.

The General Plan must cover all territory within its boundaries as well as “any land outside its boundaries which in the planning agency’s judgment bears relation to its planning,” (Government Code Section 65300). A local government can formally communicate its concerns for the future of lands under its neighbors’ jurisdictions by this means. “Cooperative ‘extraterritorial’ planning can be used to guide the orderly and efficient extension of services and utilities, ensure the preservation of open space, agricultural, and resource conservation lands, and establish consistent standards for development in the plans of adjoining jurisdictions” (State of California General Plan Guidelines). It is for these purposes that the City of Manteca General Plan Study Area boundary extends beyond the existing Sphere of Influence. However, the City of Manteca will not necessarily seek to initiate annexation of land that is either in the Sphere of Influence or the General Plan Study Area.
1.5 Organization of the General Plan

The General Plan includes a policy document, background information, technical data, and an environmental impact report that evaluates the impacts of the General Plan on the environment.

The Manteca General Plan includes the seven state-mandated elements and four optional elements. The eleven total elements that comprise this General Plan include:

- **Land Use** - establishes land use designations with types and intensities of use and sets policies and programs regarding future development of the City.
- **Community Design** - establishes urban design guidelines to ensure that new development is attractive and contributes to the sense of Manteca as a location.
- **Circulation** - contains policies for the City’s roadway system, transit, pedestrian and bicycle circulation, and methods of managing transportation demand, accounting for the relationship between land use and circulation.
- **Economic Development** - addresses the need for Manteca to broaden its employment base to maintain the high quality of life currently enjoyed and implementing an economic development strategy.
- **Housing** - includes policies and programs to increase the variety and types of housing in the City, emphasizing infill sites, increased density, and mixed uses downtown, and also includes a discussion of housing needs and programs to provide additional housing for special needs populations.
- **Public Facilities and Services** - discusses public facilities including domestic water, sewer, storm drainage, electricity services, solid waste, education, police protection, fire protection, and parks and recreation.
- **Safety** - contains policies and programs to protect the community from injury, loss of life, and property damage resulting from natural disasters and hazardous conditions.
- Resource Conservation- emphasizes the accommodation of population growth while conserving and protecting the area’s natural resources and quality of life.

- Noise- identifies policies that will protect the community from noise hazards.

- Air Quality- addresses the community’s need to cooperate regionally so that increased development does not further degrade the air quality.

Administration

Each General Plan element is organized in a similar format: 1) explanatory text to provide additional information about existing conditions or policies and programs; 2) the intent of the element; and 3) goals, policies, and implementation programs for that element.

The key section of each element is the statement of goals, policies, and implementation programs. The issues addressed and goals and policies identified are based on input received from the community and the Steering Committee.

The Housing Element differs slightly because State law specifies issues that must be addressed in housing elements. In addition to broad goals and policies, the Housing Element contains numeric goals for housing rehabilitation and new housing construction, as well as descriptions of programs the City will pursue toward those goals.

Planning Goals are statements of the community’s desires and are comprised of broad statements of purpose or direction. The policies serve as guides to the City Council, Planning Commission, and City staff in their review of development proposals and execution of decisions that affect development. Implementation actions and programs are directives that carry out General Plan policies and goals.

Goals, policies, and implementation measures are distributed among the various General Plan elements. Each goal, policy, and implementation measure is numbered, based on the specific element. For example, in the Land Use Element goals are numbered as “Goal LU-1”, policies are numbered “LU-P-1”, and implementation measures as “LU-I-1”.
Additional explanatory material is available in a Background Report that contains information and analysis for each of the topic areas covered by the General Plan. It is a reference document that provides the factual basis for General Plan policies.

The Environmental Impact Report (EIR) determines the type and extent of environmental impacts that would result from implementation of the General Plan. It is a program-level analysis and identifies requirements for more detailed environmental analysis that may be required for site-specific projects.

1.6 Participants and Process

The Manteca General Plan Update commenced on September 24, 2001 with a "kickoff" meeting at the Manteca Senior Center. From the beginning, the Manteca General Plan Update was aided by the leadership of an appointed Steering Committee. The Steering Committee had 10 regular members and 12 alternate members appointed by the City Council. The Steering Committee participated in regular meetings with staff and consultants, sponsored Public Workshops designed to afford members of the public opportunity to participate in General Plan development, and provided direction and review of the Draft General Plan.

1.7 Key Land Use Issues and Development Concepts

The General Plan is a reflection of community vision and values, and the conditions that influence development of the community. This section provides a summation of the principle issues and concepts incorporated in this Plan.

1.7.1 Logical Growth of the City

Manteca has generally grown in a compact pattern around the historic center of the city at the crossroads of Yosemite Avenue and Main Street. Residential neighborhoods have developed within boundaries established by the major streets spaced one mile apart. This General Plan directs land use to continue the historic pattern of compact urbanization. The developed portion of the city should retain its distinct, compact form with clear, well-defined edges.
The expansion of the urbanized area is enabled by the extension of basic public services, notably sewer, drainage and streets. The City plans the extension of these services through periodic preparation of various public facility master plans, such as water, sewer and drainage. These master plans are coordinated through a Public Facilities Implementation Plan (PFIP) that identifies and establishes the funding mechanism for specific capital improvements. The PFIP is a key to implementing the land use goals (Land Use Element) and public facilities goals (Public Services and Facilities Element) of the General Plan.

1.7.2 Community Form, Scale and Identity

The community identity is established by important visual characteristics that provide cues for travelers, as well as residents. Among these are:

- the scale or size of the city
- well-defined edges and gateways
- an identifiable pattern of streets and land uses
- attractive streetscapes and public places
- notable landmarks, both natural and man-made

Attractive new land uses along the major highways, new landmarks visible from several vantage points throughout the city, and new gateway features along the highways and other major roads at city boundaries can contribute significantly to establishing a strong positive identity for Manteca.

The existing commercial core area should be retained and reinforced as the functional and social center of the city for residents. Urbanization should generally extend outward from this center.

In the future, population increases and a growing regional role for Manteca may generate the need for a second commercial, office, residential, institutional and entertainment core area east of the existing downtown. The Land Use Map identifies such a site designated as Commercial Mixed Use along Austin Road between
Yosemite Avenue and the future extension of SR 120. This site would provide a new town center complex that would include employment, high density residential use, entertainment, and regional retail use under a comprehensive master plan.

1.7.3 Attractive, Sustainable Neighborhoods

Neighborhoods are the fundamental organizing concept for residential land use. The neighborhoods are typically not more than one mile in any dimension to provide a reasonable walking distance from any part of the neighborhood to the schools, parks, and commercial centers.

The land use in each neighborhood is predominantly residential, but will typically include a neighborhood school, parks, and a mixed-use commercial area that includes retail or commercial goods or service facilities.

Preservation of the existing housing and enhancement of existing neighborhoods is important to maintaining the quality of life in the city.

1.7.4 Support of Public Transit and Bicycle and Pedestrian Circulation

High activity areas should be located to facilitate the use of public transit.

The organization of land use and circulation networks should permit and encourage walking and bicycling to major activity centers such as shopping, recreation facilities, and schools. Commercial, employment, recreational and institutional land uses should be conveniently located near the residential neighborhoods.

1.7.5 Housing Opportunity

The General Plan responds to the need for diversity in housing opportunity and changes in market demand for housing types in two primary ways. First, the residential density (dwelling units per acre) categories are broadened to provide more flexibility and diversity in the types of dwelling units in each neighborhood.

The Land Use Map identifies more sites distributed throughout the community for specific residential categories in order to ensure more diversity in the housing supply.
1.7.6 Employment and Economic Development

During the twenty-year horizon of this General Plan, Manteca will experience economic development that will add to and diversify the local economy. This will consist of additional growth in warehousing and distribution, but should also include significant new components, such as office and service sectors, research and development, and manufacturing.

Increases in population have the potential to drive a demand for new retail establishments and local-serving professional office uses. The range of commercial and professional services will expand as Manteca reaches threshold populations.

The General Plan Land responds to the needs of economic development by designating locations for:

- warehouse, distribution and manufacturing;
- business park
- research and development and light manufacturing, and
- a major mixed-use regional retail and service center.

The General Plan also provides two new land use categories not previously used in the General Plan. The newly-established Commercial Mixed Use (CMU) and Business Industrial Park (BIP) categories are intended to expand the opportunities for economic development by providing opportunities to integrate high density residential, office and retail/service uses on a single site.

1.7.7 Live/Work Housing

It is anticipated that the percentage of individuals working at home will increase over the next twenty years. At home workers may include telecommuters, professional services, small service businesses, mail order, and any number of other entrepreneurial endeavors. It is the intent of this General Plan to support such activities. The residential design policies provide the flexibility to include most types of small business within the premises, and the mixed use commercial sites are
intended to include services and facilities that would support workers in the neighborhood. Such support services include technical services, such as copy and secretarial services, teleconferencing centers and day care. The commercial sites will also typically contain coffee shops and plazas that provide a social setting for people who work at home.

1.7.8 Public Services and Fiscal Stability

Growth will provide additional revenue sources, but will also place additional service burdens on the City of Manteca. The challenge is to balance growth with funds for required new services. The Land Use Element provides a mix of land use categories and implementation measures to ensure that the overall balance of land use is sustained over time.

The City will monitor the mix of land use to gauge future decisions on land use, public service levels and capital investments.

1.7.9 Access to Open Space

Existing open space is found in the neighborhood parks, a few agricultural areas within and on the perimeter of the urban area, and the utility corridors.

The city is surrounded by agricultural land that provides visual open space on the north, east and south. Agricultural activity has significantly altered most of the natural features that predated the urban development of the area. Consequently, there are no natural drainage ways, significant stands of trees, or other natural features that would guide or provide the core of an open space network within the city.

In the absence of natural features that could define an open space network, the General Plan encourages the creation of a network of open spaces in the storm drainage channels and naturalized landscaping along major thoroughfares and bike paths. The open drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on, the open space corridor.
1.7.10 Agricultural Productivity

Agricultural productivity will remain a significant element of the economy in San Joaquin County. This General Plan supports the existing level of agricultural production by directing development in a compact, concentric form in order to reduce the demand for new development areas. Existing agricultural activities will be retained within the city where practical.
2. **LAND USE ELEMENT**

The Land Use Element establishes the goals that define the characteristics of land uses throughout the city. Policies based on these goals will guide the overall development of Manteca including in-fill development, and addition of new land use areas.

The General Plan Diagram (Land Use Map, Exhibit 2-1, included in the attached pocket) defines the location and relationships between land uses.

The Land Use Element is a cornerstone of the General Plan. All other elements of the General Plan relate to the land uses and the physical form of the city. The type, intensity and location of land uses described in the General Plan are influenced by many diverse factors. These include economic development potential, housing, traffic generation and circulation patterns, requirements for public services and utilities, safety from hazards, and environmental conditions.

2.1 **Summary of Proposed Land Use**

Table 2-1 summarizes the proposed land use. The land use mix includes a diverse mix of dwelling types and densities, as well as major new employment centers.

The General Plan land use is designed to achieve an adequate supply of land to accommodate the projected population through the General Plan horizon, within the City’s Growth Management ordinance.

The total land use proposed in the Plan will accommodate a population of 94,000 to 144,000. The projected population is derived from the General Plan land use through assumptions relating to residential density, the average density, the efficiency of the land use, vacancy factors, and a market reserve for each residential land use type. The General Plan Steering Committee reviewed and affirmed these assumptions for use in the General Plan process.
## TABLE 2-1

**SUMMARY OF 2023 GENERAL PLAN LAND USE**

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>Proposed Developable Land Use</th>
<th>Existing Urbanized Land Use</th>
<th>Total 2023 Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG Agriculture</td>
<td>3956.4</td>
<td></td>
<td>3956.4</td>
</tr>
<tr>
<td>GC General Commercial</td>
<td>800.6</td>
<td>154.0</td>
<td>954.6</td>
</tr>
<tr>
<td>NC Neighborhood Commercial</td>
<td>-101.2</td>
<td>380.0</td>
<td>278.8</td>
</tr>
<tr>
<td>CMU Commercial Mixed Use</td>
<td>233.0</td>
<td></td>
<td>233.0</td>
</tr>
<tr>
<td>HI Heavy Industrial</td>
<td>758.4</td>
<td>194.9</td>
<td>953.3</td>
</tr>
<tr>
<td>LI Light Industrial</td>
<td>822.3</td>
<td>226.0</td>
<td>1048.3</td>
</tr>
<tr>
<td>BIP Business Industrial Park</td>
<td>233.0</td>
<td></td>
<td>233.0</td>
</tr>
<tr>
<td>BP Business Professional</td>
<td>88.3</td>
<td></td>
<td>88.3</td>
</tr>
<tr>
<td>HDR High Density Residential (15.1 to 25 du/ac)</td>
<td>229.8</td>
<td>191.0</td>
<td>420.8</td>
</tr>
<tr>
<td>MDR Medium Density Residential (8.1 to 15 du/ac)</td>
<td>319.8</td>
<td>187.6</td>
<td>507.4</td>
</tr>
<tr>
<td>LDR Low Density Residential (2.1 to 8 du/ac)</td>
<td>4021.7</td>
<td>2741.7</td>
<td>6763.4</td>
</tr>
<tr>
<td>VLDR Very Low Density Residential (0.5 to 2 du/ac)</td>
<td>1189.5</td>
<td>109.8</td>
<td>1299.3</td>
</tr>
<tr>
<td>P/Quasi-public</td>
<td>336.0</td>
<td>788.3</td>
<td>1124.3</td>
</tr>
<tr>
<td>OS Open Space</td>
<td>389.6</td>
<td>27.0</td>
<td>416.6</td>
</tr>
<tr>
<td>P Park</td>
<td>193.9</td>
<td>342.4</td>
<td>536.3</td>
</tr>
<tr>
<td>Subtotal</td>
<td>12517.4</td>
<td>5342.7</td>
<td>17860.1</td>
</tr>
<tr>
<td>Urban Uses</td>
<td>7394.0</td>
<td>4973.3</td>
<td>12950.8</td>
</tr>
</tbody>
</table>

The Plan also identifies substantial Urban Reserve land uses. These reserved categories are intended to accommodate growth beyond the twenty year horizon of this General Plan, but may be needed in the nearer term.

Table 2-2 summarizes the Urban Reserve lands identified on the Land Use Diagram.
### TABLE 2-2

#### SUMMARY OF URBAN RESERVE LAND USE

<table>
<thead>
<tr>
<th>RESERVE LAND USE</th>
<th>Total 2023 Land Use Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR Urban Reserve</td>
<td>1758.0</td>
</tr>
<tr>
<td>AG-UR Agriculture - Urban Reserve</td>
<td>1726.0</td>
</tr>
<tr>
<td>UR-MDR Medium Density Residential – Urban Reserve</td>
<td>20.0</td>
</tr>
<tr>
<td>UR-LDR Low Density Residential – Urban Reserve</td>
<td>1432.0</td>
</tr>
<tr>
<td>UR-VLDR Very Low Density Residential – Urban Reserve</td>
<td>722.9</td>
</tr>
<tr>
<td>UR-BIP Business Industrial Park – Urban Reserve</td>
<td>425.2</td>
</tr>
<tr>
<td>UR-CMU Commercial Mixed Use - Urban Reserve</td>
<td>43.3</td>
</tr>
<tr>
<td>UR-GC General Commercial – Urban Reserve</td>
<td>44.0</td>
</tr>
<tr>
<td>UR-LI Light Industrial – Urban Reserve</td>
<td>115.0</td>
</tr>
<tr>
<td>UR-P Park – Urban Reserve</td>
<td>80.0</td>
</tr>
<tr>
<td>UR-P/QP Public/Quasi-Public – Urban Reserve</td>
<td>12.0</td>
</tr>
<tr>
<td>County Approved LDR (included only for environmental analysis)</td>
<td>304.0</td>
</tr>
<tr>
<td>County Approved GC (included only for environmental analysis)</td>
<td>59.0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>6741.4</td>
</tr>
<tr>
<td>Urban Uses</td>
<td>2814.4</td>
</tr>
</tbody>
</table>

#### 2.2 Land Use Categories

The Land Use Element establishes land use categories tailored to meet the specific needs of the city. Economic development opportunities, housing needs and environmental characteristics are among the factors that determine the appropriate land use categories. The land use categories established in this General Plan shall be implemented through the Manteca Municipal Code, Zoning Ordinance.

**Very Low Density Residential (VLDR) (less than 2 dwelling units per gross acre)**

The Very Low Density Residential land use category will provide for residences on larger lots and small, quasi-agricultural activities, including raising and boarding livestock. Residential units shall be permitted to deviate from standard lot dimensions within agricultural areas in order to cluster dwellings together and thereby allow for
continued agricultural use. The agricultural use areas that remain on the residential parcel shall be subject to an easement dedicated to the City that allow continued agricultural use, but prohibits any further non-agricultural related development.

**Low Density Residential (LDR)** (2.1 to 8.0 dwelling units per gross acre)

The Low Density Residential land use will establish a mix of dwelling unit types and character determined by the individual site and market conditions. The density range allows substantial flexibility in selecting dwelling unit types and parcel configurations to suit particular site conditions and housing needs. The type of dwelling units anticipated in this density range include small lots and clustered lots as well as conventional large lot detached residences.

**Medium Density Residential (MDR)** (8.1 to 15 dwelling units per gross acre)

The medium density residential use includes single family homes, smaller scale multi-family developments, including garden apartments, townhouses, and cluster housing. The density range will accommodate small-lot single family homes that will typically be smaller in size and more affordable to residents.

**High Density Residential (HDR)** (15.1 to 25 dwelling units per acre)

The high density residential use includes multi-family apartment style housing. The multi-family dwelling sites are typically located with direct access to arterial streets. The sites have access to the pedestrian and bikeway network along the street corridor and are located along the conceptual route of a public transportation shuttle route. Most sites are near a neighborhood park and a neighborhood commercial center or larger commercial facility.
2.2.1 **Commercial Mixed Use (CMU)** (15.1 to 25 dwelling units per acre)

Floor Area Ratio: 1.0

Maximum Site Coverage: 50%

The Commercial Mixed Use designation will accommodate a variety of purposes including high density residential, employment centers, retail commercial, and professional offices.

The mixed use concept would integrate a mix of compatible uses on a single site that include sales, services and activities which residents may need on a daily basis. With pedestrian access, these sites will enable residents to walk or bike for many local trips, instead of driving for convenience trips.

The sites may be integrated vertically with mixed uses above one another, such as residential or office uses over a commercial use. Sites may also be mixed horizontally with the uses side-by-side, but linked together through common walkways, plazas and parking areas. In-fill sites in the existing urban area, particularly along the Main Street, Airport Way and Yosemite Avenue corridors may be developed entirely as multi-family residential projects. Sites developed primarily as residential may also include office and retail components. The Commercial Mixed-Use designation may also be applied to smaller parcels within neighborhoods. These small parcels accommodate a variety of uses, but on a smaller, less intense scale that is compatible with the adjacent residential uses.

The residential component of any Commercial Mixed-Use development shall provide dwellings at densities of 15.1 to 25 units per acre. The residential component shall be considered to be that portion of a site or plan area allocated exclusively to residential use, net of any commercial or office use.

Commercial Mixed Use developments in the new urbanizing areas of the city may also develop primarily as multi-family residential, but are also intended to provide a commercial and office component designed to serve the surrounding neighborhood. In new urbanizing areas the mixed-use concept would accommodate approximately
35% of the land area allocated to High-Density Residential use, however, individual sites may be permitted to have significantly higher percentages of residential.

The characteristics of the CMU developments will distinguish them from conventional neighborhood commercial or office development. Figure 2-1 illustrates the plan of a conceptual, neighborhood-scale, commercial mixed use development.

**FIGURE 2-2**

**CONCEPTUAL NEIGHBORHOOD SCALE COMMERCIAL MIXED USE DEVELOPMENT**
• The CMU developments will be truly mixed use. There will be a strong relationship between the different land uses so that pedestrian access is convenient and there is a clear common design theme.

• The CMU developments will include space for community activities within the center or on an adjacent park. It is intended that the park and neighborhood commercial center together form a neighborhood gathering place for recreation and socializing much as does a small town square.

• Where required, detention facilities will be designed as an amenity within the CMU site landscaping, and may also provide recreation opportunities.

• CMU developments will include public facilities where feasible, such as a post office, library, fire station, or satellite government office.

• CMU developments may also include neighborhood work centers that provide space for private offices that use telecommunications services such that telecommuters and other residents in the neighborhood may work near their homes.

• CMU developments will have a shared parking program with the objective of reducing the parking required for each individual use.

**Business Industrial Park (BIP)**

Floor Area Ratio: 1.0

Maximum Site Coverage: 50%

The Business Industrial Park designation is intended to provide sites for large uses in an office park environment that would include multi-tenant buildings. Business parks of this nature are well suited for research and development facilities and also provide an attractive business environment for unrelated businesses. Typical uses permitted within the Business Industrial Park land use include:

- administrative and general office
- corporate or regional headquarters
- research and development facilities
- medical offices
- professional services such as attorneys, accountants and insurance
- light industrial, including manufacturing and assembly

Warehouse, storage and distribution shall be for the purpose of supporting the industrial uses and shall be limited to not more than 20% of the total land area in any Business-Industrial Park use. Commercial storage facilities (mini-storage) that are compatible with the landscape and building design standards for the business park will be permitted. All outdoor storage shall be screened so to not be visible from any public street or highway.

The business industrial park land use will also permit a limited amount of service commercial and retail activities provided for the convenience of the employees within the area. The goal is to provide a mix of basic services in close proximity to employees to reduce daily convenience trips. Typical service uses include restaurants, banks, day care, and personal services, such as hair care and shoe repair, specialty retail, and similar uses. Such uses may not account for more than ten percent (10%) of the total gross floor area allowed for the individual parcels. Convenience services within the business-professional land use should be distributed within the area to be easily accessible by employees. These uses should generally be located within the building complexes and not as freestanding structures.

The Business Industrial Park uses shall incorporate the following characteristics.

- Common recreation/open space, landscaping, dining and meeting areas are amenity features that are desirable within all business-park developments.
- Required detention facilities shall be incorporated in the site landscaping as a visual amenity.
• A common area lighting, landscaping and signage theme shall be adopted and applied throughout the business park.

• Pedestrian paths shall be provided on site and connecting between sites within the business park.

**Business-Professional (BP)**

Floor Area Ratio: 1.5

Maximum Site Coverage: 50%

The Business Professional land use is intended primarily for office and related uses in a landscaped site. The use category is specifically intended for the frontage along SR 120, and along other major roads and in the Central Business District to provide an attractive, landscaped setting for one, two and three story office buildings.

This designation provides for professional and administrative offices, medical and dental clinics, laboratories, financial institutions, public and quasi-public uses, and similar and compatible uses.

**Neighborhood Commercial (NC)**

Floor Area Ratio: 2.0 in the CBD and .6 outside the CBD

This designation provides for locally oriented retail and service uses, offices, restaurants, and service stations, public and quasi-public uses and similar and compatible uses. The mix of uses anticipated in these centers includes supermarket/drug store configuration including associated smaller retail stores and services. Pad sites will provide restaurant and service station opportunities.

**General Commercial (GC)**

Floor Area Ratio: .6

Maximum Site Coverage: 40%

The General Commercial category provides for wholesale, warehousing, and heavy commercial uses, highway oriented commercial retail, public and quasi-public uses,
and similar and compatible uses. The designation is also intended to accommodate visitor commercial, lodging, commercial recreation and public gathering facilities, such as amphitheaters, or public gardens.

**Light Industrial (LI)**

Floor Area Ratio: .7

Maximum Site Coverage: 60%

The Light Industrial designation provides for industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses and similar and compatible uses.

**Heavy Industrial (HI)**

Floor Area Ratio: .5

Maximum Site Coverage: 40%

This designation provides for manufacturing, processing, assembling, research, wholesale, and storage uses, trucking terminals, railroad and freight stations, and similar activities that require separation from residential uses due to noise, vibration or other characteristics incompatible with residential use.

**Agriculture (AG)**

This designation provides for agricultural uses (such as vineyards, orchards, and row crops), single family homes directly related to the agricultural use of the property, limited industrial uses directly related to agriculture, and similar and compatible uses.

**Open Space (OS)**

The Open Space category encompasses habitat, open space, natural areas, lands of special status species, wetlands and riparian areas. These areas are set aside as permanent open space preserves to protect environmentally sensitive areas.

**Park (P)**
This designation provides for neighborhood, community and regional parks, golf courses, and other outdoor recreational facilities within urban development. Specific uses include public recreation sites, including ball fields, tot lots and play apparatus, adult softball and soccer playing fields, swimming pools, community center buildings, meeting facilities, libraries, art centers, after school care facilities, art in public places, facilities for night-time recreation, trails benches, interpretive markers, picnic areas, barbecue facilities, landscaping, irrigation, city wells, trees and natural habitat areas.

**Public/Quasi-Public (P/QP)**

This designation provides for government owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and churches.

**Urban Reserve**

Urban Reserve is applied to many properties around the perimeter of the City. In most instances the Urban Reserve category overlies another land use category. In these instances the underlying land use is the intended use when the land is ultimately annexed to the City. Urban Reserve with no underlying land use indicates that the City intends to expand in the time horizon beyond the current General Plan and that it is premature to indicate a specific future land use in this area. Urban Reserve is shown on the Land Use Map to the north and east of the proposed growth areas.

### 2.3 Land Use Goals and Policies

**Goal LU-1.** To provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the city’s infrastructure and the city’s ability to assimilate new development.

**2.3.1 Policies:**

LU-P-1: Growth shall mitigate its own impacts and shall provide a positive benefit to the City of Manteca.
LU-P-2: Growth must contribute to a strong diversified economic base and an effective balance between employment and housing opportunities for all income levels.

LU-P-3: The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.

LU-P-4: The City shall encourage a development pattern that is contiguous with the boundary of the City.

LU-P-5: The City shall establish and maintain a Primary Urban Service Boundary line designating lands eligible for annexation and urban development prior to the year 2013 (see Figure 2-3).

LU-P-6: The City shall establish and maintain a Secondary Urban Service Boundary line designating lands eligible for annexation and urban development beyond the year 2013 (see Figure 2-3). Lands outside the Primary Urban Service Boundary line, but within the Secondary Urban Service Boundary line, shall not be annexed to the City of Manteca prior to their inclusion within the Primary Urban Service Boundary line. Prior to 2013, the Primary Urban Service Boundary line may be amended through adoption of a specific plan, an area plan, or comparable planning process, or an amendment to the General Plan.

LU-P-7: All lands within the Primary and Secondary Urban Service Boundary lines to be ultimately developed to urban standards should be developed under the jurisdiction of the City of Manteca. Pending annexation to the City, all such lands should remain in agricultural, open space, or other low intensity uses. The City shall work cooperatively with the County to ensure that development approved by the County on unincorporated lands within the Primary and Secondary Urban Service Boundary lines is developed according to standards consistent with those of the City of Manteca. The City shall request all proposals for development on unincorporated lands within the Primary and Secondary Urban Service boundary lines be
referred to the City for review and comment prior to formal consideration by the County.

LU-P-8: The City will review proposals for residential, commercial or industrial development in unincorporated areas within the General Plan Study Area. Urban development should occur within the City boundary.
LU-P-9: The City will consider applications for annexations that:

- are contiguous with city boundaries and provide for a logical expansion of the city;
- create clear and reasonable boundaries;
- ensure the provision of adequate municipal services;
- reflect a long-term fiscal balance to the city and its residents, when reviewed cumulatively with other annexations;
- are consistent with State law and San Joaquin County Local Agency Formation Commission standards; and
- are consistent with the General Plan.

LU-P-10: The City will consider expanding its sphere of influence to incorporate areas that logically should be planned and serviced by Manteca. The City shall consider the following factors when making determinations involving sphere of influence boundaries:

- Present and planned land uses in the area;
- Present and probable need for public facilities and services in the area;
- Present capacity of public facilities and adequacy of public services; and
- Existence of any social or economic communities of interest in the area.

LU-P-11: The City shall manage the rate and type of growth in Manteca according to a growth management program that provides for an annual allocation of residential, commercial and industrial development. The growth management program shall consider the capacities of City facilities and services, and the ability of the
community to assimilate new development, and fluctuations in the balance of market demand for new housing and new job development.

LU-P-12: The City will encourage the use of specific plans as needed to ensure orderly, well-planned growth.

LU-P-13: The City may designate areas on the Land Use Map as Urban Reserve. Such areas are not planned for development prior to 2023, but are recognized by the City as areas of future growth that may be annexed to the City at the appropriate time.

Goal LU-2. To provide adequate land in a range of densities to meet the housing needs of all income groups expected to reside in Manteca, and to regulate residential growth consistent with the capacities of City facilities and services and the ability of the community to assimilate new development.

2.3.2 Policies:

LU-P-14: The City shall promote the development of a variety of housing types and prices to meet the needs of all households, including very low-, low-, and moderate-income households.

LU-P-15: Higher density housing shall be located in areas served by the full range of urban services, preferably along collector and arterial streets, and within walking distance of shopping areas.

LU-P-16: The City shall promote the preservation and integrity of existing stable residential neighborhoods.

LU-P-17: The City shall encourage neighborhood revitalization and improvement including replacement, renovation or conversion to alternative use of buildings in serious disrepair.

LU-P-18: The City shall seek funding to undertake neighborhood improvement programs designed to stabilize and enhance the quality of existing
neighborhoods. Such improvements may include, but are not limited to sidewalk upgrade and repair, street tree programs, street lighting, signage, trash collectors, bus stop shelters and benches and similar improvements to the public areas.

**Goal LU-3.** Provide adequate land for the development of commercial uses that provide goods and services to Manteca residents and Manteca’s market area.

### 2.3.3 Policies:

**LU-P-19:** The City shall promote and assist the maintenance and expansion of Manteca’s commercial sector to meet the needs of both Manteca residents and those living within Manteca’s market area.

**LU-P-20:** The City shall promote the establishment, maintenance and expansion of businesses in Manteca that generate high retail sales taxes as important contributors to the local economy.

**LU-P-21:** The City shall promote the downtown as a significant pedestrian-oriented, commercial and financial center of Manteca and as the primary civic and cultural center.

**LU-P-22:** New commercial development serving citywide and regional shopping needs shall be located along major arterial streets.

**LU-P-23:** New visitor-serving commercial development shall be located in areas with easy access to freeway interchanges.

**LU-P-24:** New commercial development shall be designed to avoid the appearance of strip development.

**LU-P-25:** The City and Redevelopment Agency will continue to support the downtown merchants in the improvement of facades, promotion of downtown and the solution of problems specific to downtown.
LU-P-26: Redevelopment incentives shall be used judiciously to promote and assist commercial development and revitalization in approved Project Areas and in areas benefiting the approved Project Areas.

LU-P-27: The City shall monitor commercial development to balance growth in residential, commercial and industrial development.

LU-P-28: The City shall monitor revenues relative to new growth to ensure that projected cumulative revenue of all land uses in the City would be sufficient to support public service costs.

LU-P-29: The City shall support and encourage small business development and retention through providing appropriately zoned land and through such programs to reduce development and operations costs as may be available to the City.

Goal LU-4. Provide for land uses that expand employment, education, recreation and cultural opportunities for residents and enhance Manteca as the commercial and service center for southern San Joaquin County.

2.3.4 Policies:

LU-P-30: The City shall promote, cooperate in, and assist in the maintenance and expansion of Manteca’s industrial sector employment development within the City of Manteca and in the south San Joaquin County area that will help reduce the home-to-work commute distance for Manteca residents.

LU-P-31: New employment centers that may include office, business-professional, research and development, and light industrial or industrial development and shall be located in areas served by full City services or served by suitable facilities approved by the City. Employment centers should be located along major arterials with easy freeway access and with access from public transit, and accessible to bicyclists and pedestrians.
LU-P-32: The City shall continue to support full development of its existing industrial park.

LU-P-33: The City shall promote the development of “clean” industries that do not create problems or pose health risks associated with water and air pollution or potential leaks or spills. However, the City will designate appropriate locations that accommodate light industrial and heavy industrial uses.

LU-P-34: Redevelopment incentives shall be used judiciously to promote industrial employment development in approved Project Areas and for projects benefiting approved Project Areas.

LU-P-35: The City shall monitor employment development to maintain the balance of residential, commercial, and industrial development.

LU-P-36: The City shall promote and plan for at least one Primary Employment Center to accommodate a variety of employment opportunities compatible with the employment skills of the Manteca resident labor force.

Goal LU-5. To provide adequate land for development of public and quasi-public uses to support existing and new residential, commercial, and industrial land uses.

2.3.5 Policies:

LU-P-37: The City shall designate adequate land, appropriately located for City, County, and School District facilities.

LU-P-38: The City shall designate adequate land, appropriately located for quasi-public uses such as hospitals, churches, private school facilities and utility uses.

LU-P-39: In determining appropriate locations for public and quasi-public uses, the City shall consider, among other things, proximity to major
streets, the cost to develop access to public facilities, and the safety of pedestrians and motorists.

LU-P-40: Development shall be managed to ensure that adequate public facilities and services, as defined in the Public Services and Facilities Element, are planned and provided.

Goal LU-6. Provide open space as a framework for the city, and meet the active and passive recreational needs of the community.

2.3.6 Policies:

LU-P-41: The City shall encourage the continuation of agricultural uses on lands within the Primary and Secondary Urban Services Boundary lines pending their development as urban uses consistent with the General Plan.

LU-P-42: The City will encourage the continuation of small, specialty agricultural operations and demonstration or educational agricultural operations that are compatible with the adjacent urban uses.

LU-P-43: The City shall promote the provision of both public and private open space within urbanized Manteca to provide visual contrast with the built-environment and to provide for the recreational needs of Manteca residents. Private open space shall not be considered for public use, other than as visual open space, and shall not be constrained from other uses as identified in the General Plan, unless as provided for by agreement with the land owner.

LU-P-44: The City shall develop an Open Space Master Plan that is consistent with the General Plan, the Bicycle Master Plan and Recreation Master Plan. The Open Space Master Plan should address the potential linkages between public plazas, promenades, parks, utility easements suitable for public access, landscape areas, nature preserves, open drainages, parks and similar public lands and right-of-ways that provide open space. The Open Space Master Plan may
also identify future extensions of pedestrian and bikeway corridors, natural features, and nature preserve areas that may be suitable for acquisition by the City as public land or other agency to be held as public land in or in a public trust.

LU-P-45: The City shall encourage commercial recreation uses at the Oakwood Lake Resort, and on other appropriate lands within the City.

Goal LU-7. Reinforce land use and development patterns that encourage walking and the use of public transit within the community.

2.3.7 Policies:

LU-P-46: The City shall allow for higher density housing opportunities along major streets so as to provide residents with access to the public transit system.

LU-P-47: The City shall develop and apply standards for pedestrian circulation that enable residents to select a reasonably direct and safe pedestrian route to schools, parks, transit stops and commercial services.

LU-P-48: Storm drainage systems within new development areas should include open drainage corridors, where feasible, that would provide bike and pedestrian paths, and visual open space within neighborhoods. The pedestrian connection should link parks and open space to residential neighborhoods.

Goal LU-8. To reinforce strong urban design, quality development and a compact city form.

2.3.8 Policies:

LU-P-49: The City shall give priority to in-fill development and new development contiguous to existing developed areas, whenever practical.
LU-P-50: The City shall encourage and direct growth that supports the downtown as the geographic, civic, cultural, and economic center of Manteca.

LU-P-51: New residential land uses (developments with no less than 5 units) within the Stockton Metro Airport Area of Influence must have an avigation easement recorded in favor of the airport. The Deed of Avigation and Hazard Easement must be filed with the County Recorder prior to development construction.

- Occupied structures must be soundproofed to reduce interior noise to 45 dB.

- Reflective materials are not permitted to be used in structures or signs to avoid distracting pilots.

- All proposed acquisitions of property within a 2 mile radius of an airport runway for the purpose of constructing a school requires a review and approval by the State Department of Transportation, Division of Aeronautics.

- No transmission which would interfere with aircraft communications or navigation are permitted. Power lines must be under grounded if necessary to prevent hazard to aircraft.

LU-P-52: The City of Manteca shall refer all applications for development within the Stockton Metro Airport Area of Influence to the Airport Land Use Commission, and the Stockton Metro Airport.

LU-P-53: The City of Manteca shall cooperate with City of Ripon in implementing the principle points of the Memorandum of Understanding regarding future land use and public services and facilities in the area between the two cities.

LU-P-54: The City of Manteca shall cooperate with City of Ripon in identifying a suitable location for an interchange at Highway 99 connecting to major roads in Ripon and Manteca.
2.3.9 Implementation:

LU-I-1. The City shall maintain a growth management system that provides a mechanism for the annual allocation of the amount of residential, commercial, and industrial development that may occur. The growth management system shall have the following objectives:

- Maintain, and where necessary enhance, the community’s current public services and facilities;
- Protect against the construction of development projects which will require sewage treatment capacity in excess of that determined available by the City Council;
- Preserve and protect the environment;
- Preserve and protect the quality of life and character of the community.
- Provide for the orderly and adequate expansion of the City’s housing stock in order to advance housing opportunities and to accommodate a reasonable share of expected regional growth.
- Provide for the adequate and orderly expansion of the City’s commercial and employment development base in balance with the city’s housing stock;
- Provide for a balance between multi-family and single family residential development;
- Conserve viable agricultural and open space lands; and
- Encourage and facilitate development proposals that accomplish the goals, policies, and programs of the General Plan through development innovations that cannot be accomplished by conventional zoning.
LU-I-2.  The growth management system shall consist of the following features:

- Establishment of the maximum number and types of residential dwelling units and the acres or square feet of commercial, industrial, and public facility projects that may be approved for a subsequent period, as determined by the City Council based on the following considerations:
  
  i. The goals, policies, and programs of the General Plan including the Housing Element goals, objectives, and programs for affordable housing, housing mix, and jobs/housing balance.

  ii. The number of projects previously approved but not developed, including exempt projects.

  iii. The general availability of existing and projected public utilities, facilities, and services. The City shall establish and maintain a geographic information system (GIS) that is common to all departments to provide a base for data collection and management relative to city growth and provision of public services and infrastructure maintenance and expansion.

  iv. The specific availability of sewage capacity.

  v. The development review report to be drafted by the Staff and/or Growth Management Committee in order to assist the City Council in their growth management determinations.

The City Manager shall address the status of public services in the annual budget report. This report should document growth trends the capacity and level of service for public services and facility planning efforts.
The City Manager shall address land use in the annual budget report. This report will document the growth in residential and commercial development and estimate the increase in employment in the City over the previous year.

The land use summary shall include a reference to the range of land use projected for future needs in the Land Use Element and determine the then current and five-year projection of land use in the City.

vi. Comments received at public hearings held in conjunction with the annual growth determinations. In a public hearing process, the City shall establish guidelines and procedures for periodic monitoring and evaluation of the growth in the City budget, the number of dwelling units, growth in sales tax revenue and other factors that affect the fiscal stability and health of the City. The intent is to maintain balance over time, rather than on a project-by-project basis.

- Exemptions of certain small residential projects and specific plans, vested subdivision maps, income-restricted residential developments, and other projects subject to a development agreement that are exempt from the annual allocations.

- A competitive rating system for evaluating and approving developments. Such rating system shall at a minimum include the following general categories of criteria:
  
  i. Availability of or contribution toward public utilities, facilities, and services.

  ii. Location factors (in-fill/redevelopment area).

  iii. Response to housing needs specified in the Housing Element.
iv. Environmental impacts.

v. Traffic impacts.

vi. Employment impacts.

vii. Contribution to tax base.

viii. Other community benefits.

LU-I-3. The City shall monitor implementation of the growth management system and new commercial and industrial development so that General Plan objectives for a balanced community are achieved.

LU-I-4. The City shall request the San Joaquin County LAFCo to adopt a sphere of influence for Manteca based on the long-term growth plans of the City as reflected in the General Plan goals and policies and proposed land use.

LU-I-5. The City shall review and revise, as necessary, the Zoning Ordinance to accomplish the following purposes:

- Ensure consistency with the General Plan in terms of zoning districts and development standards;

- Ensure consistency with the General Plan in terms of the distribution and boundaries of zoning districts;

- Establish a Central Business District Zoning District;

- Provide for density bonuses for projects that reserve units for low- and/or moderate-income households.

- Provide for a mixed-use zone that permits residential, commercial, office, business-professional and commercial recreation subject to a use permit.
• Provide for an accelerated project review and entitlement process for commercial, office, business-professional, research and development, industrial and light industrial uses.

LU-I-6. The City shall maintain a Main Street program to promote economic development in the downtown area.

LU-I-7. The City will continue to cooperate with planning efforts among local jurisdictions to minimize the impacts of growth to Manteca and in the south San Joaquin County area.
The Community Design Element addresses the community form and quality of the built environment.

The City of Manteca has developed in a compact urban form around the historic downtown centered on the intersection of Yosemite Avenue and Main Street. Residential development in the past few decades has occurred in relatively compact neighborhoods defined by the established grid of major streets at one-mile intervals. Growth has occurred in a predominately northwest direction away from downtown and has diminished the downtown as the geographical center.

3.1 Compact Community Form

Goal CD-1. Retain the compact and cohesive community form of the City.

Policies:

CD-P-1: Retain the existing central city core as the geographical center of the City.

CD-P-2: Provide institutional and leisure activity uses in the downtown core to attract residents and visitors.

CD-P-3: Retain a diversity of small businesses in the downtown core.

CD-P-4: Provide adequate parking and circulation within the downtown core area.

CD-P-5: Provide a public transportation hub in the central area.

CD-P-6: Provide public spaces such as small parks and plazas, including a single plaza or City park that is recognized as the City center.

CD-P-7: The City shall implement neighborhood design standards in the Residential districts that contribute to the overall character of the
neighborhood by emphasizing traditional residential features that enhance the sense of community, ensure a safe pedestrian orientation, and minimize the visual prominence of garages.

Implementation:

CD-I-1. The City shall implement an urban design plan for the Central Business District (CBD). The plan should be designed to achieve the following objectives:

- Assess the urban design implications of each use of the vacant parcels in the CBD and establish an overall urban design strategy;
- Establish an overall parking strategy for the CBD in order to provide a more unified and aesthetically desirable complex of parking lots, including an overall strategy for landscaping and screening such areas;
- Establish design standards and design review procedures for controlling height, bulk, and design of buildings, and for signs in the CBD;
- Establish a coordinated and unified street tree program for the CBD;
- Establish guidelines for street furniture in the CBD, such as benches, trash containers, street lights, and street signs. Determine strategies for enhancing the recently installed trellis/street/sign/bench structures;
- Assess the potential for developing public and private open spaces in the CBD, particularly with an eye toward tempering the hot summer microclimate with aesthetically pleasing, shaded exterior spaces;
• Explore the potential for creating a landmark (e.g., sculpture, town clock, and fountain) at the intersection of Main Street and Yosemite Avenue.

CD-I-2. Approve development projects within new growth areas that support the downtown area as the geographical center of the city.

CD-I-3. Approve and apply neighborhood design standards.

3.2 City Identity

Goal CD-2. Maintain a memorable City identity characterized by distinctive, high quality buildings and streetscapes.

Goal CD-3. Establish distinct, attractive identities for neighborhoods, gateways and commercial areas.

Goal CD-4. Promote the upgrading and aesthetic improvement of the downtown.

Goal CD-5. Strengthen the aesthetic and functional links between the Central Business District (CBD) and the Civic Center.

Goal CD-6. Promote the aesthetic development of Main Street and Yosemite Avenue.

Goal CD-7. Develop attractive and memorable entries to Manteca.

Goal CD-8. Upgrade and enhance the visual quality of Manteca’s arterial and collector streets.

Policies:

CD-P-8: The CBD should be visually linked to adjacent parks and open spaces through the use of street trees, groundcover in parking strips, and sidewalk treatment. The CBD should be visually linked to the Civic Center area through street trees, groundcover in parking strips, sidewalk treatment, and street lights along both Yosemite Avenue and Center Street. The City shall develop design standards for the area
bounded by Yosemite, Center, Union, and Main to strengthening the relationship between the CBD and the Civic Center. The emphasis in these design standards should be on providing/maintaining unifying elements and preserving the built landscape character of the area.

CD-P-9: The City shall develop a set of design standards for Yosemite Avenue and Main Street as a means of visually upgrading the commercial development along these streets. Such standards shall include provisions for setbacks, signs, landscaping, and parking.

CD-P-10: Establish City gateway features at intersections where gateway features can be established, such as Lathrop Road/SR 99, Austin Road/SR 99, Main Street/SR 120, Union Road/SR 120, McKinley Road/SR 120, Airport Way/SR 120, and Yosemite Avenue/SR 99.

CD-P-11: Establish a landscape program and design standards that will provide an attractive view of Manteca along SR 99 and SR 120. This would include trees, shrubs, wildflowers, and other landscape appropriate to the Manteca climate along the highway right-of-way and within the interchanges.

CD-P-12: Limit uses that require soundwalls adjacent to the highways.

CD-P-13: Allow recreation uses adjacent to the highways, where practical, that are attractive and provide a high level of day and evening activity.

CD-P-14: Establish design guidelines for non-residential uses within 200 feet of SR 99 and SR 120. The guidelines should address the following concepts.

- New office and commercial land use shall provide attractive landscaping, lighting, and signage adjacent to all buildings oriented to SR 99 or SR 120.
• Encourage buildings that include attractive focal elements, such as a tower or articulated roofline in each non-residential development adjacent to SR 99 or SR 120 to serve as visual landmarks.

• New non-residential buildings oriented to SR 99 or SR 120 shall provide an attractive facade similar in articulation, and using the same materials and colors, as the primary facade of the building.

• Truck loading and refuse collection areas adjacent to SR 99 and SR 120 shall be screened from view.

• The landscape along SR 120 and SR 99 will reflect the natural character of the region in the selection of trees and groundcover.

CD-P-15: Major arterial streets shall include a common landscape theme that includes primary street trees, groundcover, sidewalks, bus shelters where required, and lighting applied throughout the City.

CD-P-16: The City shall develop special design standards for the perimeter road system comprising Lathrop Road, Austin Road, Woodward Avenue, and Airport Way to ensure their development as divided roadways.

CD-P-17: Opportunities for public art should be incorporated in the public walkways and parking areas.

CD-P-18: The City shall encourage the use of murals and similar public art on buildings.

CD-P-19: The City will identify a program of local improvements such as street tree planting, annual clean-up days, sidewalk installation and repair, and similar local activities to enhance the visual quality of the city.

CD-P-20: The City will establish an inventory of dilapidated properties as candidates for restoration or removal and establish an on-going program of community participation in fix-up and clean-up of dilapidated properties.
CD-P-21: Provide parks and schools as distinct centers for neighborhoods.

CD-P-22: Provide features that distinguish one neighborhood from another, such as natural features, entry gateways, street lighting, or signage.

CD-P-23: Provide pedestrian systems that connect the center of adjacent neighborhoods.

CD-P-24: The City shall ensure through design guidelines that the walls surrounding residential area neighborhoods are attractive and well designed.

CD-P-25: The City shall encourage mixed land uses but provide physical separation or design buffers between incompatible land uses.

CD-P-26: Residential neighborhoods shall be designed to provide access from the neighborhood streets to these open space corridors.

CD-P-27: The City shall encourage designs for new construction and renovation in in-fill neighborhoods that are compatible with the adjacent buildings and the existing residential scale and character of the neighborhood.

CD-P-28: The City shall establish residential design guidelines and standards.

CD-P-29: The City shall establish a street tree program for residential neighborhoods.

CD-P-30: Neighborhoods in new growth areas shall incorporate the following characteristics:

- The edges of the neighborhood shall be identifiable by use of landscaped areas along major streets or natural features, such as permanent open space. Primary arterial streets may be used to define the boundaries of neighborhoods. The street system shall be designed to discourage high volume and high speed traffic through the neighborhood.
• Neighborhoods shall be not more than one mile in length or width.

• Each neighborhood shall include a distinct center, such as an elementary school, neighborhood park(s), and/or a mixed-use commercial area within a reasonable walking distance of the homes, approximately one-half mile.

• Each neighborhood shall include an extensive pedestrian and bikeway system comprised of sidewalks and bike lanes along streets and dedicated trails.

CD-P-31: The pedestrian and bikeway system shall be linked to other pedestrian and bikeways in adjacent neighborhoods and, ultimately, to the City-wide Pedestrian and Bikeway Trail System to provide a continuous interconnected system.

**Implementation:**

CD-I-4. Work with Caltrans to include gateway features in the future design of the designated arterial street and highway interchanges.

CD-I-5. Work with Caltrans to include landscape improvements and maintenance utilizing recycled wastewater within the highway right-of-way and highway interchanges.

CD-I-6. Adopt design guidelines for non-residential uses.

CD-I-7. Amend the zoning ordinance as appropriate to allow for murals and similar public art on buildings.

CD-I-8. The City should attempt to negotiate an easement along a section of the railroad right-of-way between South Main Street and North Street and upgrade the area by planting into lawn.

CD-I-9. The City should provide landscaping to screen views of the electrical substation (located at the intersection of North Street and Elm Avenue) from Center Street.
3.3 Resource Efficient Buildings

**Goal CD-9.** Establish a durable sustainable community that utilizes resources efficiently.

**Policies:**

CD-P-32: New buildings shall be designed to be responsive to the local climate in a manner that provides shelter from sun and rain for pedestrians.

CD-P-33: Passive solar design features are encouraged whenever possible. Design of buildings should consider energy-efficient concepts such as natural heating and/or cooling, sun and wind exposure and orientation, and other solar energy opportunities.

CD-P-34: Solar collectors, if used, shall be oriented away from public view or designed as an integral element of the roof structure.

CD-P-35: Architectural elements that contribute to a building’s character, aid in climate control, and enhance pedestrian scale are encouraged. Examples include canopies, roof overhangs, projections or recessions of stories, balconies, reveals, and awnings.

CD-P-36: Encourage the creation of an urban forest comprised of street trees, residential lot trees, and trees in non-residential parking lots and other public open space.

3.4 Pedestrians and Bicycles

**Goal CD-10.** Establish a pedestrian and bicycle friendly environment in neighborhoods and commercial and office land use areas.

**Policies:**

CD-P-37: Commercial centers should provide for convenient, attractive pedestrian access from street fronts and from adjacent commercial, office, and residential land uses.
CD-P-38: Commercial centers should provide for convenient, attractive pedestrian access within the center with dedicated pedestrian ways between all buildings and pedestrian spaces such as plazas, courtyards, and terraces at natural gathering areas within the site.

CD-P-39: Integrating the pedestrian elements (walkways, plazas, and terraces) with the buildings will enhance the pedestrian experience. The pedestrian relationship to buildings should be comfortable, convenient, and protected from extremes of sun and wind.

CD-P-40: Outdoor plazas or other common areas that provide space for special landscaping, public art, food service, outdoor retail sales, or seating areas for patrons are encouraged in retail settings appropriate to such pedestrian activity. The plaza or other common area shall be appropriately scaled to the retail use and shall be directly connected to the primary walkway.

CD-P-41: Buildings adjoining public spaces, including pedestrian ways shall be designed to allow the sun to reach sidewalks and plazas in the winter.

CD-P-42: Building configurations that provide “outdoor rooms,” courtyards, paseos, and promenades are encouraged.

CD-P-43: Where practical, and in compliance with ADA standards, common areas that provide seating should be separated from the primary walkway by informal barriers, such as planters, bollards, fountains, low fences and/or changes in elevation.

3.5 Agricultural Heritage

Goal CD-11. To the extent possible, new development shall retain or incorporate visual reminders of the agricultural heritage of the community.
Policies:

CD-P-44: Provide minimal levels of street, parking, building, site and public area lighting to meet safety standards and provide direction.

CD-P-45: Provide directional shielding for all exterior lighting to minimize the annoyance of direct or indirect glare.

CD-P-46: Provide automatic shutoff or motion sensors for lighting features in newly developed areas.

CD-P-47: The City shall adopt light and glare standards that minimize the creation of new light source and the annoyance of direct and indirect glare.

CD-P-48: Allow pockets of agricultural activity to remain within the urban areas of the city where such uses are compatible with the surrounding urban use.

CD-P-49: Allow use of small under-utilized parcels or undeveloped portions of parcels for temporary, seasonal agricultural activity, such as truck farms, strawberries, and small orchards.

CD-P-50: In order to retain a visual reminder of the agricultural heritage, the City will permit the use of non-fruiting species, such as flowering pear and plum, as secondary accent trees in landscape corridors along major streets. The primary street tree shall provide a shade canopy over the street and sidewalk.
4 CIRCULATION ELEMENT (Adopted April 5, 2011)

4.1 Introduction

California Government Code Section 65302(b) that states that the General Plan is required to include:

“A Circulation Element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the Land Use Element of the plan.”

The statute specifically identifies public utilities and facilities as components of the Circulation Element, but permits jurisdictions to organize elements in a manner appropriate to the community. The Manteca General Plan addresses the public infrastructure, including sewer, water, energy and utilities, in the Public Facilities and Infrastructure Element.

The Circulation Element addresses all aspects of transportation including commuter and truck traffic, intra-city vehicle traffic, rail, buses, bicycles, and pedestrians. Circulation master planning has traditionally focused on automobiles and truck traffic by ensuring that the road system will be adequate to accommodate future traffic demands. While automobile and truck traffic will continue to be important modes of transportation in the time horizon for this General Plan, the future is not necessarily a simple continuation of past trends. Several factors suggest that the conventional use of automobiles will change in significant ways within the time frame of this plan. While these factors cannot be predicted with assurance, the General Plan seeks to provide a balanced transportation system that accommodates all modes of travel and supports the City’s goals of remaining a vibrant community where people want to live, work, shop, and recreate.

4.2 Key Assumptions

The following assumptions guide the goals and policies of this Circulation Element.

- People will continue to demand high levels of access and mobility. Therefore, the transportation network and land uses within the City must be
developed in a coordinated manner to provide high degrees of mobility and access via a variety of travel modes.

- A significant percentage of the aging population will grow less capable of driving automobiles, but will demand the same level of independence in their daily lives. This will require a more comprehensive system of complete streets to facilitate mobility via other modes of travel, such as walking, bicycling, and transit.

- The actual cost of operating automobiles will continue to rise and consume a significantly higher percentage of household income. Increasing the viability of other travel modes through transportation investments and land use decisions will become more important in the future.

- An efficient circulation system will also help to reduce construction costs through designs and standard plans that reduce the length and width of roads.

- Vehicles are the single largest source of air pollution and greenhouse gas emissions in the Central Valley. Transportation and land use goals and policies to minimize vehicle travel and promote alternative fuels (e.g., hydrogen, electric vehicles) will reduce the emission of air pollution and greenhouse gasses into the community.

- Recognition about the health benefits of physical activity will increase the amount of recreational bicycle and pedestrian travel.

- As the population of Manteca and the surrounding area grows, there will be an increasing number of bicycles and pedestrians sharing the transportation network.

- Maintaining a high automobile level of service (LOS) is not feasible over the long run from a financial or environmental perspective.

- Manteca is developing into a significant regional retail and freight distribution center within the Northern San Joaquin Valley. The transportation system must be designed in such a way to support these important industries.

- Manteca will continue to see new industrial, office, and retail development. This development, combined with increasing traffic congestion on area
freeways will reduce the number of Manteca residents who will work and shop outside of the City.

- Personal safety, on the road and in public places, will become increasingly important to the general public. This will result in higher demands for complete street designs, which accommodate not only vehicles and trucks, but also buses, pedestrians, and cyclists.

- The railroad is an inherent safety concern because of the existing at-grade street crossings and the potential for vehicle, bicycle, or pedestrian versus train collisions.

The circulation plan must be flexible enough to accommodate today’s travel needs while looking to address future travel trends that may emerge within the timeframe of this General Plan. In general, the City seeks to develop a circulation system which reflects the resident’s values and also fits within fiscal and environmental realities. The City does not wish to invest in outdated ideas or in improvements that do not increase the mobility of its citizens.

4.3 Relationship to Other General Plan Elements

Circulation and land use are closely linked elements that provide the framework for much of the General Plan. The policies and strategies should demonstrate a balance between land uses and the transportation facilities that serve them. The location and intensity of land uses determines the need for circulation system components and, in turn, the capacity of the circulation system often determines the location and feasibility of land use. Within the context of the General Plan, the circulation policies are also interwoven with economic, housing, open space, air quality, noise, and safety policies.

Coordination between the Land Use Element and the Circulation Element:

- encourages walking and bicycle trips by promoting a compact urban form with neighborhood destinations close to residents;

- makes public transit feasible through coordination of the intensity and location of land uses; and
• reduces the length and number of vehicle trips outside of the community by promoting mixed-use development and by providing employment centers, shopping, and services within the city.

4.4 Relationship to the Regional Transportation System

This Circulation Element is intended to be compatible with the 2007 San Joaquin County Regional Transportation Plan and to support local transportation linkages to the regional transportation network. These linkages include the Altamont Commuter Express (ACE) train and the regional bus systems as well as future opportunities for rail and bus transportation.

4.5 Time Horizon for the Circulation Element

Perhaps more than other elements in the General Plan, the Circulation Element must take a very long-term view. Physical infrastructure, such as the road system, establishes a framework that is very difficult to alter. Land uses may change and buildings may be reconstructed, but the route of the public streets and utility corridors are typically fixed in place over time. Therefore, the circulation system components must be carefully considered for their long-term impacts on land use and community form. Major new roads are relatively expensive and must be planned long in advance in order to obtain sufficient funding and sufficient right-of-way. For these reasons, the Circulation Element must look beyond the twenty-year horizon typical of other elements in the General Plan.

4.6 Circulation Goals

The goals for the circulation system reflect the broader goals of this General Plan. These include improvement of the existing community, economic development, expanded tourism, improved aesthetic quality in the built environment, better public and personal health, improved safety, improved quality of life, and environmental protection.

The circulation system goals are, in part a reflection of the City’s historic development pattern, which has built a system that is heavily focused on moving cars quickly through and around the City. While this type of circulation system provides a high degree of mobility and access to those who have cars, it does not adequately serve residents who
cannot or choose not to drive. Moreover, this type of circulation system is expensive to build and maintain since roadways and intersections are designed to accommodate the traffic volumes that occur during the peak one or two hours of the day. The majority of the time the roads are relatively empty, which promotes high vehicle speeds and decreases the viability of alternative modes.

More recently, additional emphasis has been given to other modes. Examples include the construction of the Tidewater Bikeway, the adoption and implementation of a Bicycle Master Plan, streetscape improvements in Downtown, new street standards with improved pedestrian facilities, and the initiation of the City’s own transit service. While the City has made great strides toward developing a circulation system that better serves all modes of travel, this Circulation Element stresses the need for a balanced circulation system based on the concept of “complete streets.”

Complete streets describes a comprehensive approach to the practice of mobility planning. The complete street concept recognizes that transportation corridors have multiple users with different abilities and mode preferences (e.g., driving, biking, walking, and taking transit). A well-integrated street system considers the complementary relationship between land use, local and regional travel needs, and the context that it serves. Complete streets apply equally to facilities like Yosemite Avenue through downtown and commercial corridors like Main Street near the State Route 120 interchange. Complete streets consider the full range of users including vehicles, trucks, pedestrians, bicycles, children, the disabled, and seniors.

**Goal C-1.** Provide for a circulation system that allows for the efficient movement of people, goods, and services within and through Manteca while minimizing public costs to build and maintain the system.

**Goal C-2.** Provide complete streets designed to serve a broad spectrum of travel modes, including automobiles, public transit, walking, and bicycling.

**Goal C-3.** Develop attractive streetscapes that include landscaping, street trees, planted berms, and landscaped medians.

**Goal C-4.** Support the development of a Downtown area that is highly accessible to all modes of travel, focusing primarily on pedestrians, bicyclists, and transit riders.
Goal C-5. Balance the level of service for all modes so that residents and visitors have a variety of transportation choices.

Goal C-6. Maintain a safe transportation system for all modes.

Goal C-7. Accommodate truck and freight movements by developing city-wide truck routes and encouraging the development of freight and warehousing centers near existing rail lines and spurs.

Goal C-8. Establish reasonable parking requirements (minimum and maximum rates for uses) that limit parking encroachment while minimizing the amount of land consumed by parking lots.

Goal C-9. Provide a safe, secure, and convenient bicycle route system that connects to retail, employment centers, public facilities, and parks.

Goal C-10. Provide for safe and convenient pedestrian circulation.

Goal C-11. Maintain a coordinated, efficient bus service that provides both an effective alternative to automobile use and serves members of the community that cannot drive.

Goal C-12. Support and encourage regional transit connections that link Manteca to other cities.

The following sections of this Circulation Element will describe the components of the circulation system and will define policies and implementation actions to meet the goals defined above.

4.7 Street Network and Classification

Manteca is built on a grid of major streets spaced at intervals of about one mile. This grid forms the backbone of the local street system and defines the boundaries of many residential neighborhoods. Between the major streets are a series of minor streets that provide access to neighborhoods, offices, and industrial areas. Along with the City’s trail system, the sidewalks and bike lanes on these streets also serve pedestrian and bicycle modes. Transit and goods movement needs are also served on the City’s street network. The street system in Manteca consists of four general classes of streets:
expressways;
arterial streets;
major collector streets;
minor collector streets; and
local, small scale streets that serve residential neighborhoods.

Each street classification is designed to standards appropriate to the conditions and intended use. In general, the standards use the minimum level of street cross-section needed for traffic safety and emergency access and evacuation.

The Circulation Element does not establish street standards that specify the widths of overall pavement, travel lanes, medians, corridors, bike lanes, or sidewalk dimensions. Such standards may be adjusted over time to accommodate different needs and new conditions, and are therefore adopted as separate improvement standards. The Circulation Element establishes the general parameters and intent for each street classification.

Beyond fundamental traffic safety concerns, street design should emphasize ease and expense of maintenance, simplicity of construction, visual character, and multi-modal access. Street widths should be designed at the minimum necessary curb-to-curb width that can safely accommodate the number of vehicle lanes, bicycle lanes, and parking needed for the street. All streets should also feature sidewalks and/or multi-use paths on both sides where right-of-way is available.

**Expressways**

Manteca currently does not have any expressways; however, the proposed McKinley Avenue extension between SR 120 and SR 99 is planned as an expressway between SR 120 and SR 99, consistent with the *San Joaquin Regional Expressway Study* (SJCOG May 2009). Expressways are high-capacity routes designed to serve through traffic. Expressway access would be limited to intersections with arterials and collectors with intersection spacing of no less than one-half mile. Based on the posted speed limit of the expressway, bicycle travel should be accommodated with either Class II bike lanes or a parallel off-street bike trail. Sidewalks should be provided on both sides of the street (or on one side if a bike trail is present on the opposite side). Roundabouts should be
considered at intersections to reduce maintenance and operations costs associated with traffic signals.

**Arterial Streets**

Arterial streets are designed to serve through traffic and major local traffic generators such as high density housing areas, commercial, industrial, and institutional uses. Examples of arterials include Airport Way and Lathrop Road.

Arterial streets are intended to provide high-capacity routes to serve vehicle, transit, and goods movement. The streets should have an aesthetically appealing character with curbside landscaping and a landscaped median islands, where appropriate. Existing arterial streets should provide sidewalks and bike lanes where space is available. Additional space may be provided by re-striping with narrower lanes to accommodate sidewalks and bike lanes to complete connections or close gaps in the bicycle and pedestrian systems.

In general, new arterial streets should be designed to accommodate both bike and pedestrian facilities on both sides of the street while balancing concerns regarding traffic volumes, operations, and the safety of drivers, bicyclists, and pedestrians. Arterial streets shall also be designed to accommodate public transit routes by providing adequate lane widths and corner radii for safe operation of trucks and buses and bus turnouts where deemed appropriate.

**Major Collector Streets**

Major collector streets serve as smaller-scale parallel routes to arterial streets and provide access to neighborhoods. Examples include Center Street, Powers Avenue, and Daniels Street west of Airport Way. Major collector streets will typically provide two travel lanes, a Class II bike lane and a sidewalk on both sides. Median islands and turn lanes may be appropriate in certain conditions. For newly constructed major collector streets, on-street parking should be prohibited to reduce pavement width, pedestrian crossing distances, and maintenance costs. On-street parking for existing major collector streets should be restricted or limited by eliminating the parking lane or through the use of bulb-outs to minimize the cross section and discourage speeding.
Minor Collector Streets

Minor collector streets serve as the backbone circulation routes within larger neighborhoods and commercial/industrial areas. These streets provide primary access to light industrial and office properties and provide a link between low volume residential streets and larger collector and arterial streets. Examples include Pestana Avenue, North Street, DuPont Court, and Vanderbilt Circle. The minor collector street should be small scale, two lane streets. The streets should be wide enough to safely accommodate traffic flows, but not so wide as to encourage high-speed travel. On-street parking should be restricted or limited by eliminating the parking lane or through the use of bulb-outs to minimize the cross section and discourage speeding. Depending on the surrounding land uses (e.g., office, commercial, or residential areas), the minor collector may accommodate Class II bike lanes. Sidewalks should be provided on each side of the street.

Residential Streets

While they carry relatively light traffic loads, residential streets constitute the majority of Manteca’s street system. These streets are intended to serve residential driveways, providing access between homes and larger streets. In general, these streets should include narrow travel and parking lanes to slow travel and discourage through trips. Features like corner bulb-outs and traffic circles (which are a smaller version of a roundabout) should be incorporated to improve the aesthetic quality of the street, while calming traffic. Class II bike lanes should not be included on residential streets as volumes and speeds are slow enough to safely accommodate bikes and cars. However, Class III bike routes and special pavement markings for bicycles may be appropriate to provide continuity for the bicycle system. Sidewalks should be provided on both sides of the street. Where a residential street ends in a cul-de-sac, a shared bicycle/pedestrian path should be constructed (as appropriate and where right-of-way is available) to connect the cul-de-sac to other residential, collector, or arterial streets. These bicycle and pedestrian connections shorten travel distances and encourage the use of these modes.
Intersections of City Streets

Intersections are critical components of the street network since they tend to define how well the system operates. Drivers and transit users typically experience most of their traveling delay at intersections. In addition, intersections are important for pedestrians and bicycles since they provide controlled points where these modes can cross major roadways. The City’s Standard Plans should be updated to include a set of typical intersection treatments.

In general, intersections should have minimum lane widths to serve the type of vehicles expected on the roadway (e.g., lanes should be sufficiently wide to accommodate trucks in industrial areas). Narrower lanes pose less of a barrier for pedestrians to cross and reduce maintenance costs. In addition, u-turn movements should be accommodated in the intersection design to the extent feasible to extend the length of landscaped medians. Also, bus bays should be included in intersection designs for expressways, arterials, and major collectors to maintain traffic flow while busses are loading and unloading.

4.8 Traffic Calming

Traffic speed is a concern where local and collector streets are relatively straight and there are few intersections. Within the developed portions of the city, in residential and school areas, and where there are substantial numbers of pedestrians, it is desirable to maintain traffic flow at safe speeds. This may be accomplished through “traffic calming” measures. These may include modified signing and striping, roundabouts and traffic circles, bulb-outs, and other physical improvements that cause drivers to slow and be more aware of other vehicles and pedestrian or bicycle traffic. To assist in determining where and what type of traffic calming measures are appropriate, the City of Manteca has a Neighborhood Traffic Calming Program that is based on public participation. This “bottom up” approach is common throughout California and relies on neighborhood participation to identify issues and solutions.

4.9 Level of Service Standards

Level of Service (LOS) is a qualitative measure used to describe operations on transportation facilities for different user types, including vehicles, transit riders, bicyclists, and pedestrians. The Highway Capacity Manual provides guidance on state-
of-the-practice methods to measure LOS. Traditionally, the City has evaluated vehicular LOS on roadway facilities. This analysis compares existing or projected traffic volumes with the theoretical capacity of the street or intersection. Factors taken into consideration include volume of traffic, street and intersection design, signal timing, and other variables.

Each LOS is assigned a letter, ranging from “A” (free flow conditions) to “F” (severe congestion). Vehicular LOS letter “grades” should not necessarily be viewed like school grades where A is best and F is worst. Striving to provide free flow traffic conditions (LOS A) at all hours of the day requires wide streets, large intersections, substantial right-of-way, and considerable funds to construct and maintain these streets. “Good” vehicular LOS also tends to lead to poor LOS for bicycle and pedestrian modes since the larger streets and intersections, higher speeds, and longer waiting times to cross streets makes bicycling and walking more uncomfortable and less safe. Thus vehicular LOS must be balanced against mobility needs for other modes, environmental impact, and construction and maintenance costs. This General Plan establishes an LOS Standard that will guide street improvements in the City while meeting the City’s goals of developing an efficient circulation system that promotes travel via other modes.

Policies: Level of Service

C-P-1: The City shall strive to balance levels of service (LOS) for all modes (vehicle, transit, bicycle, and pedestrian) to maintain a high level of access and mobility, while developing a complete and efficient circulation system. The impact of new development and land use proposals on LOS and accessibility for all modes should be considered in the review process.

C-P-2: To the extent feasible, the City shall strive for a vehicular LOS of D or better at all streets and intersections, except in the Downtown area where right-of-way is limited, pedestrian, bicycle, and transit mobility are most important and vehicular LOS is not a consideration. See Figure 4.1 for a map defining the Downtown area. While vehicular LOS is not a consideration in the Downtown area, traffic studies shall disclose whether any proposed transportation or land use action will substantially increase traffic at intersections and roadways within this area of the City.
C-P-3: At the discretion of City staff, certain locations may be allowed to fall below the City’s LOS standard under the following circumstances:

a. Where constructing facilities with enough capacity to provide LOS D is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS D than is deemed reasonable by City staff.

b. Where it is difficult or impossible to maintain LOS D because surrounding facilities in other jurisdictions operate at LOS E or worse.

c. Where maintaining LOS D will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel. Examples include roadway or intersection widening in areas with substantial pedestrian activity or near major transit centers.

d. In the Downtown area the City cannot maintain the vehicular LOS D standard because of the historic nature of development and limited street right-of-way. However, it is the City’s goal to maintain high quality access and mobility in the area with a priority toward non-auto modes. Therefore, the City shall require that new discretionary land use action within the Downtown area, which generate net new PM peak hour auto trips, to participate in enhancing access and mobility for transit, bicycle, and pedestrian modes. These enhancements may include, but are not limited to:

- Enhancing sidewalks to create a high quality pedestrian environment, including wider sidewalks and improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting, increased availability of benches, provisions for café-style seating, and usage of monument elements and other public art.
• Improving bicycle facilities to include attractive and secure bicycle parking, installation of bike lockers in appropriate locations, and provision of bicycle lanes along appropriate roadways.

• Enhancing transit stops through high quality, well maintained shelters, and provision of wayfinding signage and transit timetables.

• Providing off-street parking with high quality access to Downtown businesses, and which is well-maintained and provides amenities like shade streets, canopies, adequate lighting, and wayfinding signage.

• Supporting the development of a Downtown Business Improvement District or similar mechanism to help fund ongoing maintenance of the streetscape enhancements.

The Public Works Department shall maintain a list of all City intersections and roadway facilities that are exempt from the LOS D standard. This list shall note any alternate LOS standard that is applicable at the exempted locations.

**Implementation: Level of Service**

**C-I-1.** The City shall maintain a master list of multimodal volume data for key intersections and roadway segments. This master list shall be updated regularly with traffic counts (for autos, transit, bicycles, and pedestrians) taken in conjunction with project traffic studies and by special counts conducted by the City as necessary.

**C-I-2.** Perform periodic evaluation of the mobility and access on major streets, which could include evaluation of vehicular LOS conditions, as well as access and mobility issues faced by transit riders, bicyclists, and pedestrians. The use of multimodal LOS analysis techniques could also be included.
C-I-3. The City shall develop Transportation Impact Analysis (TIA) Guidelines to provide guidance on identifying deficiencies and impacts on all modes of transportation caused by new development. The TIS guidelines will also provide guidance on the types of mitigation measures that would be appropriate to mitigate project-related impacts to transportation facilities in the City. The TIS guidelines will address impact thresholds for vehicular, transit, bicycle, and pedestrian facilities.

C-I-4. The City shall develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-P-3 d. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

4.10 Major Streets Master Plan

The Major Streets Master Plan defines the framework of major streets. It is intended that the City will retain the existing compact form, with development occurring in a concentric pattern. Infill development is also encouraged in the Land Use Element as a means of accommodating new growth. Consequently, selected existing streets will continue to function as the major streets. Nonetheless, there are potential growth areas within and adjacent to the existing City boundary that will require new major roads, roadway capacity expansion, transit, bicycle, and pedestrian improvements where development is permitted.

Figure 4.2 is a schematic diagram of the anticipated alignment of the major streets necessary to accommodate growth over the long-term, including growth that is beyond what is currently envisioned in the Land Use Element. Figure 4.3 provides a more detailed diagram of the major streets, including the anticipated number of lanes required for the more near-term buildout of the Land Use Element. Clearly, the major street system shown in Figure 4.3 is a subset of the system shown in 4.2.
LEGEND

- Major Street
- Future Road
- Freeway Extension
- New Interchange

NOT TO SCALE

MANTECA MAJOR STREET MASTER PLAN

FIGURE 4.2
Based on the planned and reasonably foreseeable development known at the time this Circulation Element was prepared, the major street system shown in Figure 4.3 meets LOS standard established in this General Plan; however, as the plan develops some modifications may be necessary to accommodate specific development projects. The Public Facilities Fee (PFF) Program will be the main implementing tool for collecting and allocating funds to implement roadway improvements consistent with the Major Streets Master Plan.

**Policies: Street System**

C-P-4: Streets shall be dedicated, widened, extended, and constructed according to street cross-section diagrams established in the City Standard Plans.

C-P-5: Major circulation improvements shall be completed as abutting lands develop or redevelop, with dedication of right-of-way and construction of improvements, or participation in construction of such improvements, required as a condition of approval.

C-P-6: New development shall pay a fair share of the costs of street and other transportation improvements based on impacts to LOS and other modes in conformance with the goals and policies established in this Circulation Element and the PFF program.

C-P-7: The street system shall be expanded in a contiguous and concentric manner to serve new development areas and to provide improved circulation for existing residents.

C-P-8: Street improvements will be designed to provide multiple, direct and convenient routes for all modes.

C-P-9: Residential and collector street intersections with collector and arterial streets shall be aligned with other residential and collector streets, where feasible, to maintain a high degree of connectivity between neighborhoods, minimize circuitous travel, and to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another without using major streets.

C-P-10: Access for bicycles and pedestrians shall be provided at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access
within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-P-11: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

C-P-12: Where traffic congestion, pedestrian travel, collision history, or other factors warrant the installation of a traffic signal, the feasibility of a roundabout shall also be evaluated. In general, a roundabout should be installed at these locations unless right of way, cost, design limitations, or other issues preclude the installation of a roundabout.

C-P-13: The City shall promote development of a future roadway system as shown in the Major Streets Master Plan.

C-P-14: The City may allow development of private streets in new residential projects that demonstrate the ability to facilitate police patrol, emergency access, and solid waste collection as well as fund on-going maintenance.

C-P-15: The City shall promote infill development that completes gaps in the circulation system.

C-P-16: Residential subdivisions with lots fronting on an existing arterial street should provide for separate roadway access. Ideally, access to residential lots should be from residential or collector streets. For those properties that currently front arterial streets, consideration should be given to providing separate roadway access as a condition of approval for any redevelopment or subdivision of the property.

C-P-17: Residential subdivisions along arterials and freeways shall be buffered by a noise attenuation measure (sound wall, berm, greenbelt, etc.) as determined by a noise study. Any noise attenuation measure should be
designed in a way that it does not discourage pedestrian or bicycle travel be creating barriers between neighborhoods.

C-P-18: The City shall aggressively pursue state and federal funding to augment the PFF and implement the City’s Circulation Element.

C-P-19: The City shall coordinate with neighboring jurisdictions, including Caltrans, San Joaquin Council of Governments (SJCOG), San Joaquin County, the City of Lathrop, and the City of Ripon to pursue funding for the following regional facilities:

- A new interchange at McKinley Avenue and SR 120;
- A new interchange at Austin Road/McKinley Avenue and SR 99;
- A new interchange on SR 99 between Lathrop Road and French Camp Road;
- An easterly extension of the SR 120 freeway towards Oakdale; and
- Regional bicycle lanes and bicycle paths.

Implementation: Street System

C-I-5. The City shall maintain a Major Street Master Plan showing the existing and proposed ultimate right-of-way and street width for each road segment within the City’s Sphere of Influence and Area of Interest. The Major Street Master Plan shall also indicate the necessary right-of-way to be acquired or dedicated and the expected method of financing roadway improvements (i.e., City-funded or property owner/developer-funded). The Major Street Master Plan shall be regularly updated.

C-I-6. When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path, as opposed to bike lanes along a major arterial. Pedestrian districts like Downtown
CIRCULATION MANTECA GENERAL PLAN 2023

Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-I-7. The City shall require new development to participate in the implementation of transportation improvements identified in the Major Street Master Plan. Participation could include the construction of roadways, improvements to roadways, payment into the PFF program, payment into other fee programs, or fair-share payments. In general, the infrastructure needs and methods of participation will be determined through an environmental impact report or transportation impact analysis.

C-I-8. The City will coordinate with Caltrans and SJCOG to make sure that projects in the City’s Circulation Element and Major Street Master Plan are included in long range planning documents, including the Caltrans Long Range Plan, the SJCOG Regional Transportation Plan, and the San Joaquin County Congestion Management Program.

C-I-9. Appropriate sound attenuation measures shall be determined by a noise study. Walls and berms shall be attractive and developed to minimize maintenance. Bicycle and pedestrian access shall be provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

C-I-10. To support the City’s goals of minimizing maintenance costs and encouraging active transportation, any new or substantially modified roadway shall be as narrow as feasible while being consistent with LOS and goods movement policies. In general, this implementation measure can be achieved by constructing narrower traffic lanes, although wider lanes may be necessary on certain truck routes.

C-I-11. The City shall regularly update the PFF program to ensure that the fees are consistent with construction costs and the project list reflects changes in the transportation system that may occur as land use
development projects progress and more detail about their transportation needs are known.

Policies: Transportation Safety

C-P-20: The creation or continuance of traffic, bicycle, and pedestrian hazards shall be discouraged in new development, infill development, and redevelopment areas.

C-P-21: In the development of new projects, the City shall give special attention to maintaining/ensuring adequate corner-sight distances appropriate for the speed and type of facility, including intersections of city streets and private access drives and roadways.

C-P-22: The City shall encourage the development of landscape separated sidewalks along roadways (particularly arterials and non-residential streets) when feasible to discourage pedestrian/vehicle conflicts and be consistent with complete streets concepts.

Implementation: Transportation Safety

C-I-12. Maintain a program of identification and surveillance of high traffic, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions which could potentially constitute safety hazards.

C-I-13. The City shall identify and remove, as feasible, obstacles limiting corner-sight distances at existing street corners.

C-I-14. The City shall maintain a program of identification and surveillance of high vehicle, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions that could potentially constitute safety hazards.
C-I-15. All new signs, roadway striping, and traffic signals shall be consistent with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

4.11 Parking

Parking demand is generated by existing businesses, new business, and residents, and is varies by the time of day, time of year, and presence of special events. Guiding new business and residential development is a fundamental purpose in this General Plan. The success of the Economic Development Element will rely, in part, on the ability to accommodate the traffic and parking associated with new businesses and special events.

Policies: Parking

C-P-23: Future growth in traffic volumes may necessitate removal of on-street parking spaces to provide additional traffic lanes.

C-P-24: New development shall provide an adequate number of off-street parking spaces to accommodate the typical parking demands of the type of development on the site. The City may dictate both minimum and maximum amounts of parking; the use of shared parking is encouraged to reduce overall land consumed by parking areas. In the Downtown area, parking supply and demand will be managed through a coordinated approach led by the City.

C-P-25: The City may allow for changes to the parking requirements under certain circumstances. In such cases, the City may require provision of off-site parking, participation in a parking district or payment of an in-lieu fee to cover the costs of land acquisition and construction of parking spaces.

C-P-26: In the Downtown area, the Redevelopment Agency should assist in the provision of off-street parking. Parking facilities in the Downtown area should be within easy walking distance of the businesses

C-P-27: Ensure that there is adequate parking for normal commercial activities.
C-P-28: Ensure that there is adequate parking for special events where deemed appropriate.

**Implementation: Parking**

C-I-16. The City shall review and revise, as necessary, off-street parking standards of the Zoning Ordinance. Such revision shall be based on a survey of the parking requirements of other Northern California communities, the requirements of the Housing Element to achieve specified residential density levels, and an assessment of the adequacy of the City’s current standards.

C-I-17. Work with local merchants to improve on-street and off-street parking conditions.

C-I-18. The City will consider preparing a Parking Management Plan for the Downtown area to ensure that parking facilities are provided in a coordinated manner, which maximizes access to local businesses and connectivity with non-auto modes, including transit, bicycles, and pedestrian facilities.

C-I-19. The City shall require a shared parking analysis for all proposed mixed-use developments and new projects in the Downtown area to ensure that parking is not oversupplied.

C-I-20. To maintain adequate parking supply for businesses, the City may restrict parking on public streets through permit programs, time limits, or parking meters, where appropriate.

C-I-21. If roadway widening requires the removal of on-street parking, a parking supply study should be conducted to determine if the loss of on-street parking spaces will create a parking shortage. If so, the parking supply study should also discuss the feasibility of replacing the lost parking spaces.
4.12 Bikeway and Pedestrian Systems

The bikeway and pedestrian systems in Manteca are critical elements in the transportation network. After driving, walking and biking are the second most common means of travel in Manteca, particularly for recreational purposes. Encouraging these modes of transportation is important for the convenience and enjoyment of Manteca residents and enhancing public health and the quality of life.

The existing bikeway and pedestrian network should be enhanced to further encourage bicycling and walking in the City. This is accomplished in part by encouraging the continuity of the existing compact land use pattern in the Land Use Element, and by the creation of new bike routes and sidewalks wherever new streets are installed or existing streets are upgraded.

Policies: Bikeways and Pedestrian Facilities

C-P-29: Through regular updates to the City’s Bicycle Master Plan, the City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the city. The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-P-30: Provide adequate bicycle parking facilities at commercial, business/professional and light industrial uses.

C-P-31: The City shall strive to expand the existing network of off-street bicycle facilities as shown in the City’s Bicycle Master Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop a “city-loop” Class I bike path that links Austin Road, Atherton Drive, Airport Way and a route along or near Lathrop Road to the Tidewater bike path and its extensions. The City shall also strive to develop an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.
C-P-32: The City shall strive to provide on-street Class II bike lanes along major collector and arterial streets whenever feasible.

C-P-33: Bicycle travel through residential streets shall be facilitated as much as possible without the use of Class II bike lanes. In general, residential streets have sufficiently low volumes as to not require bike lanes and the narrower street cross section will assist in calming traffic.

C-P-34: The City shall extend the existing Class I bicycle route north of Lathrop Road along the former Tidewater Southern Railway right-of-way, and any branch or connecting link where right-of-way is available.

C-P-35: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes on appropriate streets.

C-P-36: City shall strive to provide a sidewalk system that serves all members of the community and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-P-37: All new sidewalks, walkways, and intersection crosswalks shall be consistent with the requirements of the ADA.

C-P-38: Provide walkways connecting to the residential neighborhoods and primary public destinations.

C-P-39: Route sidewalks so that they connect to major public parking areas, transit stops, and intersections with the bikeway system.

C-P-40: Provide sidewalks along all new streets in the City.

Implementation: Bikeways and Pedestrian Facilities

C-I-22. The City shall update its Bicycle Master Plan to include all areas envisioned for development by this General Plan. The Bicycle Master Plan will establish future bicycle routes and provide standards for bicycle facilities, including bicycle paths and bicycle lanes.
C-I-23. Utilize the standards set forth in the MUTCD and AASHTO Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C-I-24. Increase bicycle safety by:

- Providing bicycle paths and lanes that promote bicycle travel.
- Sweeping and repairing bicycle lanes and paths on a continuing, regular basis.
- Ensuring that bikeways are delineated and signed in accordance with AASHTO standards and lighting is provided, where feasible.
- Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement or gravel.

C-I-25. Add bike lanes whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-I-26. Update the City Standard Plans to include bike lanes on collector and arterial streets, as defined by the Bicycle Master Plan.

C-I-27. Encourage resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths.

C-I-28. Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes).

C-I-29. The City shall develop a Pedestrian Master Plan, which encompasses all areas envisioned for development by this General Plan. The Pedestrian
Master Plan will identify existing deficiencies and establish standards for future pedestrian facilities, including sidewalks, crosswalks, and pedestrian pathways.

C-I-30. The City shall develop an ADA Transition Plan. This plan shall identify deficiencies related to ADA access and identify an implementation strategy to bring the deficient facilities up to the applicable standards.

C-I-31. Update the standard plans to include landscape separated sidewalks where appropriate and feasible.

C-I-32. Provide for pedestrian access in the Downtown area, along Yosemite Avenue, Main Street, and in other high-use areas by:

- Constructing wide sidewalks where feasible to accommodate increased pedestrian use.
- Providing improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting.
- Improving the walking environment by providing benches, allowing for café seating, and constructing monument elements and other public art.
- Providing improvements that enhance pedestrian safety and convenience, such as bulb-outs extending into intersections and at crosswalks to reduce walking distances and provide a safe peninsula for pedestrians.

C-I-33. Provide for enhanced pedestrian environments in new subdivisions by:

- Providing bulb-outs at intersections (to be identified by the City) to reduce crossing distances and calm traffic.
- Providing marked (and signalized, if appropriate) mid-block crossings near schools, parks, or other neighborhood attractions. A landscaped median refuge island, raised/textured sidewalk, or other design features may also be provided.
- Providing landscape buffer separated sidewalks.

4.13 Public Transit

Manteca is located at a major ground transportation hub in the state and has the opportunity to expand both rail service and bus service. The opportunities will grow with increasing population, and higher costs of travel by automobile. The City can enhance these opportunities by encouraging the use of public transit by Manteca residents and by implementing additional transit routes and services. But the most significant means of enhancing public transit opportunities is in planning land use and circulation networks.

By locating higher density housing, commercial, employment, recreational, education and institutional facilities along major thoroughfares and by providing safe, convenient pedestrian routes to these facilities the City can make public transit more effective and viable. Sound land planning can produce benefits equal to a substantial investment in the labor and capital expenditures of a bus system.

In addition to locating major development along the existing major thoroughfares, the land plan anticipates the development of small concentrations of commercial, high-density housing and public uses in the new growth areas. These concentrations are located at logical intervals along potential public transit routes. At full development of the land uses in the new growth areas new transit routes would be within a one-quarter mile walk of a substantial percentage of the new households.

The City can further enhance the use of existing and future transit facilities by providing a local shuttle or small bus network linking residents to activity centers at or near the transit facility. Such transit facilities can provide connections to more than one form of transportation (a multi-modal center) or to a single transportation node.

**Policies: Public Transportation**

C-P-41: The City shall encourage the expansion of interstate bus service in the Manteca area.

C-P-42: The City shall encourage commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples
include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-P-43: The City shall identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-P-44: Establish a plan of primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas.

C-P-45: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-P-46: The City shall promote the development of park-and-ride facilities near I-5, SR 120, and SR 99.

C-P-47: The City shall establish and maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-P-48: The City shall design future roadways to accommodate transit facilities, as appropriate. These design elements would include installation of transit stops adjacent to intersections and provision of bus bays and sheltered stops.

Implementation: Public Transportation

C-I-34. The City shall periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.
The City shall explore the opportunities for, and encourage the development of, a multi-modal bus/train/bike/auto facility in the downtown area.

The City shall explore a transit connections study that would identify improvements to connections and access to the existing ACE station and the planned multi-modal downtown transit facility.

The City’s standard plans shall be updated to include the option for bus bays at intersections of major streets.

The City shall consider alternatives to conventional bus systems, such as smaller shuttle buses that connect neighborhood centers to local activity centers.

The City should explore with the Manteca School District opportunities for joint-use public transit that would provide both student transportation and local transit service.

### 4.14 Goods Movement

Manteca’s central location and accessibility from major highways and rail lines has made the city a major center for goods movement. The transportation system needs to facilitate the goods movement industries in the City to ensure safety for all modes of travel and to support this important sector of the City’s economy.

**Policies: Goods Movement**

- **C-P-49:** The city shall require that new industrial development pay a fair share toward improvements required to accommodate heavy vehicles, including increased pavement wear.

- **C-P-50:** All roads identified as truck routes shall be designed to accommodate STAA trucks.

- **C-P-51:** The City shall encourage the provision of freight rail service into industrial developments through the use and development of rail spurs.
C-P-52: The City should consider vehicle weight limit restrictions on roadways near sensitive uses like schools and residential neighborhoods to discourage cut-through truck traffic.

Implementation: Goods Movement

C-I-40. The City shall develop a truck route map identifying key goods movement corridors in Manteca.

C-I-41. The truck route map shall be periodically reviewed and updated by the City engineer to ensure that goods movement needs are adequately served.

4.15 Transportation Demand Management

The increase in traffic congestion within Manteca and throughout the region has intensified the need to promote alternative transportation modes. Transportation Demand Management (TDM) refers to measures designed to reduce the number and length of automobile trips, particularly during peak commute hours. TDM measures typically include ridesharing, vanpools, and a variety of management techniques applied by larger employers in metropolitan areas. Typical TDM measures are most effective where they can be implemented by large employers.

In communities where there is a significant number of workers commuting out to a larger metropolitan area the TDM measures focus on ridesharing and vanpooling to reduce the number of single occupant vehicle trips. Reduced vehicle travel can help reduce peak hour traffic congestion, reduce future air pollution concentrations, and reduce consumption of energy for transportation uses. Moreover, it can help reduce individual transportation costs for Manteca residents, yielding potentially significant savings as the cost of fuel rises.

Policies: Transportation Demand Management

C-P-53: The City shall establish a requirement for a TDM program in any business park, industrial or commercial land use that employs more than 50 full time equivalent employees.
C-P-54: The City shall provide information about transit services, ridesharing, van-pools, and other transportation alternatives to single occupant vehicles at City Hall, the library, and on the City website.

C-P-55: The City shall encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-P-56: Partner with SJCOG on the Commute Connection program, which is the regional rideshare program operated by SJCOG. The City shall work with SJCOG to ensure that appropriate businesses and land use development projects participate in the program.
5 ECONOMIC DEVELOPMENT ELEMENT

5.1 Context and Potential for Growth

Manteca is poised to see a transformation of its economy. Regional, national and international trends present opportunities and challenges that can lead to the achievement of the long standing goal of a balanced economy with a wide range of employment opportunities and retail services. Manteca is located in the center of an emerging interregional metropolitan area and its economy is in the process of transformation. The traditional economic engine of agriculture and food processing, although still important, are being supplanted by warehousing and distribution industries that take advantage of the central location, relatively affordable land, and transportation network. Manteca is also characterized by the high percentage of interregional commuters who are attracted by the community’s quality of life and relatively affordable housing. This skilled workforce, presently commuting long distances, is a resource for economic development. Due in part to the skills of the commuter workforce, Manteca is increasingly competitive for the location of manufacturing and office uses.

Job creation is of primary importance in creating a stable economy. New employers and existing employers expanding business in Manteca (addressed in “Business Sector”) are ways that job creation can occur. It is critical that Manteca residents are able to find jobs in the community if desired, at an income level needed to sustain their existing lifestyle.

The future of Manteca’s economic development will hinge on:

- **Land Use**: Availability of land designated for commercial development- appropriately located and with the correct mix of industrial, office and retail land uses.

- **Labor Force**: The skills and training of the Manteca workforce.

- **Business Sector**: Attraction of private sector business investment in the community.
- **Housing:** The provision of housing that is affordable to the Manteca workforce.

- **Quality of Life:** The quality of life in the community to draw commercial development and residents.

- **Infrastructure:** The provision of adequate infrastructure—roads, transit, water, sewer, power, telecommunications—to serve planned development.

The strategies underlying this Economic Development Element are to address each of these factors and to guide the community towards the achievement of the goal of economic growth, sustainability, balance, fiscal strength as well as social and physical health. This can be accomplished by establishing effective goals, policies, and standards in the General Plan and Manteca Municipal Code that will anticipate and accommodate new growth and protect and enhance Manteca’s quality of life.

The General Plan delineates Manteca’s role in a growing regional economy by providing opportunities for local employment, a more diversified local economy, and increased retail sales. Land use guidelines create an opportunity to further economic self-sufficiency and foster sound economic bases that will afford quality service levels while maintaining economic competitiveness and encourage retention of Manteca’s quality of life. The land use guidelines established will permit and encourage economic activities that create employment opportunities that are commensurate with local housing costs, generate a positive sustained revenue flow into the City, maximize economic multiplier effects, and minimize reliance on City services and expenditures.

### 5.2 Local Government’s Role in Economic Development

Economic development is generally described as an activity intended to foster, create, or enhance economic opportunities, including jobs, industries, and sales tax base. These activities are often regional in scope and organized by local government. Private and public development organizations, local businesses, business groups, and residents all have a stake in a prosperous economy. Economic development programs commonly include activities related to job creation and retention,
employment training programs, and opportunities for the creation of public and private capital investments.

Local planning, through the inclusion of an Economic Development Element in a General Plan, is a key tool to strengthen community development activities, enhance economic growth, and reinforce the planning process as a positive part of economic development. An improved local business climate that recognizes regional constraints and opportunities, expansion of the local tax base, and enhanced employment opportunities are benefits of a planning effort that has an emphasis on economic development. Reinforcement of the planning process through the adoption of an Economic Development Element is an effective method of managing growth in order to achieve a broad range of community goals and objectives, including a prosperous economy.

A prosperous economy is the result of a dynamic interaction of the labor market, housing market, business sector, and quality of life. A successful union of these factors will help Manteca to capture high value, commercial projects that bolster municipal revenue, provide interesting and diverse jobs that pay well, and foster a balance of jobs and housing in the community.

5.3 Land Use

The availability of land, properly located, in appropriate lot configuration, with a range of uses is critical to the development of the Community. Land should be designated for commercial development that allows for a response to market pressure and which is guided to the correct locations to enhance and preserve the community.

**Goal ED-1.** Provide for adequate land for a wide range of commercial activities. Industrial, office and retail land should be designated in an appropriate mix to provide a full range of employment and opportunities that match the skills of Manteca residents as well as shopping to meet the needs of residents.

**Goal ED-2.** Locate commercially designated land in the appropriate places to maximize job creation, local capture of commercial sales, regional
and interregional competitiveness and to minimize residential/commercial conflicts.

Policies: Land Use

ED-P-1: Designate land to facilitate expansion and retention of existing businesses.

ED-P-2: Designate land in sufficient quantities to provide for a community with adequate jobs for its residents. The goal of a ratio of jobs to employed residents should be 1 job for each employed resident.

ED-P-3: Provide land use designations that anticipate and address the type, location and infrastructure needs of future development.

ED-P-4: Recognize the special opportunities at the areas around undeveloped Route 120 bypass locations.

ED-P-5: Provide appropriate buffers between commercial and residential uses to preserve both the commercial feasibility and residential quality.

Implementation: Land Use

ED-I-1. Provide for high-end research and development and office uses in the community, specifically in the southwest portion of the City. This area would include Class A office buildings and will include site and street landscaping, architectural design standards and performance standards for the intended use.


ED-I-3. Prepare a study of the Moffat Blvd. area to determine the best development strategy for the area and use the tools of the Redevelopment agency in partnership with property owners to implement the strategy.
ED-I-4. Designate land for a heavy industrial area in the south east portion of the city aimed at accommodating warehousing and manufacturing facilities

ED-I-5. Enhance the commercial environment in the Downtown Area, recognizing the specialized and evolving market niche for downtown commercial properties.

ED-I-6. Promote professional office development and residential development in the downtown area while preserving the ground floor commercial dominance in the downtown.

ED-I-7. Provide retail opportunities at major transportation intersections along SR 120, and SR 99.

ED-I-8. Recognize the special opportunities for regional serving retail development at the Main Street/120 interchange and Airport/120 interchange. A coherent design theme is essential. Require master planning to assure that the potential of these opportunities is realized and a comprehensive development strategy is implemented.

ED-I-9. Provide a business park use designation along the SR 120 frontage that provides for well landscaped, attractive, "flex office" developments.

ED-I-10. Designate adequate land for industrial growth along Airport Way and West Yosemite Ave.

ED-I-11. Mixed-use land designations should be used along the North Main Street and Yosemite Avenue Commercial areas allowing flexibility to react to changing market conditions.

ED-I-12. Promote the development of an auto mall in Manteca to enhance the viability of existing dealers and attract new auto dealers.

ED-I-13. Monitor land availability through regular reviews of the General Plan to assure a sufficient supply of commercial and industrial designated lands.
5.4 Labor Force

Education and training form a critical component of the economic fabric of the community. The skills and training of the workforce are among the most important factors influencing business relocation and expansion. High quality educational opportunities at all levels, including re-training, are essential to maintain and improve the economic environment and to enhance the quality of life.

**Goal ED-3.** Expand, retain, and attract stable employment opportunities available to broad income levels.

**Goal ED-4.** Expand education and training opportunities for City residents at all levels.

**Policies: Labor Force**

ED-P-6: Expand job opportunities available in Manteca so that residents may choose to work locally instead of commuting.

ED-P-7: Attract and retain a broad base of businesses and industries to provide a variety of jobs allowing career growth potential.

ED-P-8: Maintain and improve public and private education in the Manteca area.

ED-P-9: Reduce barriers to employment by increasing mass transit and child care accessibility.

**Implementation: Labor Force**

ED-I-14. Utilize the tools of the Manteca Redevelopment Agency to promote downtown revitalization projects.

ED-I-15. Identify and attract selected targeted industries that are consistent with the City’s goal of enhancing employment opportunities to broad income levels.
ED-I-16. Establish a system for annually inventorying existing industries and businesses in order to provide early warning of businesses that are at risk and are considering moving or expanding out of the City.

ED-I-17. Prepare an economic base study to identify trends in industry and to identify those industries which are well positioned in the local, regional, state, national, or international markets to experience and sustain economic growth and provide viable job opportunities.

ED-I-18. Cooperatively work with the Manteca Unified School District to further enhance elementary and secondary educational opportunities.

ED-I-19. Cooperatively work with Delta College to preserve and enhance the agricultural laboratory “the Farm”- expand high technology agricultural programs, and support of bio-technology studies.

ED-I-20. Cooperatively work with Delta College to implement a satellite campus in Manteca.

ED-I-21. Cooperatively work with private and public educational institutions to interface with Manteca students and improve information and access.

ED-I-22. Work with regional transit providers to improve public transportation access to surrounding educational institutions.

ED-I-23. Study implementation of public transportation/shuttle service in Manteca with connections to regional services.

ED-I-24. Promote communication with existing and potential new employers to match skill needs with skill training programs.

ED-I-25. Encourage provision of childcare services in the community.

ED-I-26. Partner with “WorkNet” to enhance employment development programs and job retaining resources.
ED-I-27. Encourage efforts to provide learning opportunities for all residents by providing modern library resources and programs.

5.5 Business Sector

Manteca’s business community, including retail, service, and industrial activities, is at the heart of the economic engine. Businesses provide job opportunities, a healthy sales tax base, and goods and services to the community. The expansion and retention of existing businesses as well as the creation of new businesses will serve to improve Manteca’s economy. New jobs will be created, decreasing the average commute time for Mantecans and enhancing residents’ quality of life.

Goal ED-5. Attract new industries that are compatible with the character of the City.

Goal ED-6. Protect and promote the overall commercial service and retail business sectors of the local economy.

Goal ED-7. Promote the establishment and expansion of small businesses and work place alternatives including home occupations, telecommuting businesses, and technology transfer based industries.

Goal ED-8. Reform and improve regulatory processes relating to businesses to foster the spirit of cooperation, understanding, and consensus between government and business.

Policies: Business Sector

ED-P-10: Encourage new employment base industries that provide for additional employment opportunities for existing residents to locate within Manteca.

ED-P-11: Assist industries to remain, expand, or to locate in Manteca.

ED-P-12: Support the continued implementation of the 1998 Vision 2020.

ED-P-14: Support business formation in Manteca.

ED-P-15: Provide for sufficient parking areas to serve commercial and industrial uses.

Implementation: Business Sector

ED-I-28. Develop an information system on significant potential vacancies in office, commercial, and industrial space to facilitate the movement of business from one facility to another. The information system should include data that characterizes the type and source of utilities available at each vacancy.

ED-I-29. Identify and attract selected targeted industries that are consistent with the City’s goal of enhancing employment opportunities to broad income levels.

ED-I-30. Establish a system for annually inventorying existing industries and businesses in order to provide early warning of businesses that are at risk and are considering moving or expanding out of the City.

ED-I-31. Provide adequate Public parking in the downtown that will improve circulation and improve property values, recognizing that development contributes to the demand for downtown parking.

ED-I-32. Conduct meetings and interviews periodically with existing companies in each of the identified growth industries focusing on service needs and the City’s ability to address those needs.

ED-I-33. Monitor land availability through regular reviews of the General Plan to assure a sufficient supply of commercial and industrial designated lands. Maintain and improve awareness of the property inventory information system that lists available office, commercial, and industrial space as well as available raw land.
ED-I-34. Evaluate the City’s business license procedure to streamline or minimize the process for businesses, including revised applications and instructions if applicable.

ED-I-35. Establish and maintain an effective liaison with local businesses and business organizations to improve coordination of efforts relating to business issues.

ED-I-36. Convene periodic broadly based community forums to discuss Manteca’s economic issues and concerns in conjunction with business, educational, agricultural, environmental, and other interested organizations.

ED-I-37. Encourage the creation of small business incubators in Manteca.

ED-I-38. Encourage and support entrepreneurial efforts and technological innovation.

ED-I-39. Encourage efforts of the Chamber of Commerce to enhance the business environment in Manteca.

ED-I-40. Work with the Convention and Visitors Bureau to increase tourism in Manteca. Maximize opportunities of location adjacent to numerous world class tourist designations and to market the potential of agricultural tourism.

ED-I-41. Provide information on small business assistance programs, the agencies regulating small businesses, and distribute small business resources directories.

ED-I-42. Continue Redevelopment Agency programs and partnerships to facilitate expansion and development of new businesses.

ED-I-43. A retail capture analysis shall be conducted to determine market segments and types of goods and services that are poorly represented in the community. Retail recruitment efforts shall be tailored towards under-represented market segments.
5.6 Housing

The availability of quality housing, affordable to the existing and prospective workforce, is a critical factor in the attraction of employers to Manteca. Housing that is affordable to Manteca’s workforce is critical to reduce out-commuting. If the housing being developed were not affordable to the Manteca workforce, substantial out-commuting would still occur with the jobs filled by commuters from other lower-cost areas. Such a “leapfrog” commute increases traffic, strains infrastructure, fractures the community, and undermines environmental quality. It is also important that a full range of housing be provided for each segment of the workforce, from laborers to executives.

Goal ED-9. Promote the development of affordable and market rate housing that matches with the needs of the present and future Manteca workforce.

Goal ED-10. Provide a variety of housing types to house all segments of the Manteca community in accordance with the Housing Element.

Policies: Housing

ED-P-16: The City shall use appropriate land use, zoning, and permit streamlining strategies, and other financial incentives to provide for and encourage housing types that are compatible with wage structures associated with existing and forecasted employment.

ED-P-17: Plan for a broad range of housing types and densities to accommodate all income levels and job classifications.

ED-P-18: Plan for a balanced community where the Manteca workforce will be able to afford housing within the city of Manteca.

Implementation: Housing

ED-I-44. Use the Policies and Implementation Measures outlined in the Housing Element to assure provision of housing affordable to the existing and future workforce.
ED-I-45. The City shall use appropriate land use, zoning, and permit streamlining strategies, and Redevelopment Agency financial incentives to provide for and encourage housing types that are compatible with wage structures associated with existing and forecast employment.

ED-I-46. Encourage specific plans and large planned developments throughout the City to include a mix of housing types and density ranges (consistent with the Zoning Ordinance) related to local wage structures to achieve a jobs/housing balance.

ED-I-47. Encourage creative approaches to encourage integration of housing production with commercial development.

5.7 Quality of Life

Maintaining a high standard of living and quality of life is critical to Manteca’s future success. Amenities, such as easy circulation, culture, good air quality, low housing costs, and availability of jobs, help to ensure a more stable population and attract residents and visitors to the community.

Goal ED-11. Maintain and enhance the real and perceived safety in the community.

Goal ED-12. Enhance recreational and educational opportunities in the community.

Goal ED-13. Preserve and strengthen the city neighborhoods.

Goal ED-14. Enhance cultural opportunities both public and private.

Goal ED-15. Promote and protect the qualities and resources that make the Manteca area special, identifiable, unique and attractive.

Goal ED-16. Maintain and enhance the physical beauty of the Community and surrounding landscape.
 Policies: Quality of Life

ED-P-19: Promote Manteca as a desirable location to live and visit, promoting the “Family City” image.

ED-P-20: Promote the history and culture of the area.

ED-P-21: Enhance community identity and beauty.

ED-P-22: Promote artistic expression and facilities for celebrating and participating in the arts.

ED-P-23: Infrastructure needed to serve new development shall be the responsibility of new development and not existing residents.

Implementation: Quality of Life

ED-I-48. Work with Regional Organizations to market the community’s strengths to prospective employers.

ED-I-49. In coordination with the Chamber of Commerce and Conventions and Visitors Bureau develop a program to market increase awareness of the quality of life in the community.

ED-I-50. Encourage, in partnership with local non-profits and artists, the development of performance spaces and locations for the display of artistic works.

ED-I-51. The aesthetic qualities of the City’s gateways should be maximized. Appropriate land use with high quality design and maintenance should be used in key gateways.

ED-I-52. The community’s historic structures shall be preserved where feasible.

ED-I-53. Work with the State to insure that major freeways are attractively landscaped and maintained. Major freeways are the community’s “front yard” they create a strong first impression of the community’s character.
5.8 **Infrastructure**

The availability of public and private infrastructure to support commercial development will dictate whether it will be possible to attract desired commercial development to Manteca. Infrastructure investment must be timed to encourage economic development activities so as to allow quick responses to market opportunities.

**Goal ED-17.** Assure adequate public infrastructure is available at the right place and the right time to serve economic development opportunities.

**Goal ED-18.** Work with private utilities and private firms to assure that private infrastructure needed to support modern commercial development is available at a reasonable cost.

**Goal ED-19.** Assure that new development provides funding for necessary infrastructure.

**Goal ED-20.** Provide for affordable private infrastructure cost by pursuing alternative sources of energy and other utilities.

**Policies: Infrastructure**

**ED-P-24:** Public infrastructure adequate to serve planned economic growth should be available and properly phased.

**ED-P-25:** Private infrastructure particularly low cost power, and high capacity telecommunications should be available at the right place and the right time.

**ED-P-26:** Freight rail access should be provided to industrial areas where possible and appropriate.

**ED-P-27:** A competitive power market should be pursued through alternate providers and potential co-generation.
Implementation: Infrastructure

ED-I-54. The City shall use the General Plan elements and PFIP program to plan for adequate public infrastructure focused on planned economic development opportunities.

ED-I-55. Collect appropriate fees from new development to provide necessary infrastructure.

ED-I-56. Minimize infrastructure fees charged to economic development projects by applying Redevelopment Agency, regional, and State and Federal resources towards infrastructure to accommodate economic development.

ED-I-57. Prioritize infrastructure funding to assure that public infrastructure to support economic development is available when it is needed.

ED-I-58. Coordinate with private infrastructure providers to assure that affordable power, high quality/high capacity telecommunications, and other private infrastructure is available in the appropriate locations and at the right time.

ED-I-59. Relationships with potential alternate power providers such as the Modesto Irrigation District and South San Joaquin Irrigation District shall be explored to investigate the potential of providing power service in Manteca.

ED-I-60. Freight Rail access shall be provided to industrial areas where feasible and appropriate.

ED-I-61. A plan shall be produced to assess the infrastructure needs for key development opportunities, particularly the high-end office park in the Southwest area. The infrastructure plan will inventory infrastructure needs, timing, cost and potential financing mechanisms.
6 PUBLIC FACILITIES AND SERVICES ELEMENT

6.1 Purpose

Public facilities and services provide the framework that supports and sustains the community. They are essential to maintaining the current quality of life and accommodating economic growth and development in the community. The availability and capacity of public infrastructure determines the ability to use land.

The Public Facilities and Services Element is focused on ensuring that the community infrastructure is in place to accommodate the growth and development identified in other elements of this General Plan. This element addresses both hard infrastructure (such as water and sewer) and public services (recreation and parks) that are provided by the City.

The infrastructure facilities and public services addressed in this element are:

- Domestic Water
- Sewer
- Major Drainage
- Electricity Services
- Solid Waste
- Education
- Health Care
- Police
- Fire
- Parks and Recreation
6.2 Relationship to Other General Plan Elements

The location and capacity of basic infrastructure is closely related to the Land Use Element, Housing Element, Circulation Element, and Economic Development Element. The goals and policies of these other elements cannot be fully achieved where the basic public infrastructure is lacking.

The Public Facilities and Services Element addresses a broad range of activities by the City and the other service agencies in the community. Each of these services and activities may have specific goals that relate only to the character of that service. These principles establish the fundamental direction for expanding and refining the public services in the community.

6.3 Projected Growth Relative to Public Facilities and Services

Population growth and economic development affect all public services and facilities. The City promotes orderly development and accommodates projected growth by providing general engineering services to regulate the construction of municipal structures, city streets, sewage disposal, water supply, and storm drainage facilities. Through regulation, the City provides a high standard of construction for public services in order to preserve and protect public health, safety, and convenience.

6.4 General Services

**Goal PF-1.** The City will be innovative in new techniques and technologies to provide the best available level of public services in a cost-effective manner.

**Goal PF-2.** Public infrastructure and services will be affordable to the residents and business interests in the City.

**Goal PF-3.** Facilities improvements and services required to serve development will not place an economic burden on existing residents of the City. Development will pay a fair share of all costs of required public infrastructure and services.
Goal PF-4. Public improvements and facilities will be designed to enhance, rather than degrade, the natural environment in the City and surrounding area.

Goal PF-5. The City’s public services and facilities will support economic development and residential growth in the City.

Goal PF-6. Public facilities and services agencies will cooperate on a regional basis.

Guiding Policies: General

PF-P-1. Facilitate development in the in-fill areas by extending infrastructure.

PF-P-2. Encourage comprehensive development rather than incremental, single project development.

PF-P-3. Make use of the public right-of-way as a tool for facilitating quality design and development.

Implementation Policies: General

PF-I-1. The City shall periodically review its fee schedules for water and sewer connections and for city facilities and major equipment and revise them as necessary.

6.5 Domestic Water

Supply

Water facilities in the City of Manteca consist primarily of water wells and transmission mains. Past development has generally occurred concentrically out from the center of the community. Water distribution facilities in the portion of the City that is generally developed (i.e., from Airport Way to SR 99 and from Lathrop Road to SR 120) have been near fully constructed and have the capacity to serve the
existing development plus the future infill development. The outlying areas will need to have water transmission pipelines extended from the existing grid before development can occur. Additionally, these areas will need to develop new sources of supply, in the form of well, to provide for the water demands.

The City of Manteca’s target Level of Service (LOS) for water is to supply an average of 200 gallons per day per person at pressures no less than 40 pounds per square inch (average conditions) and 20 pounds per square inch (emergency and peak demand conditions) (PFIP). Additional flow is needed for fire suppression of 1,250 gallons per minute (gpm) for residential uses, 2,500 gpm for commercial land uses, and 3,500 gpm for industrial land uses.

**Future Water Demand**

The LOS targets identified should be maintained through all future development. The PFIP is intended to identify the location, timing, and financing of future water demand. Generally, water facilities to serve the demand created by new growth can be expanded relatively easily and in a cost-effective manner by constructing transmission pipelines and wells.

Future demand for water facilities is generated by new development, in accordance with the Land Use Plan, based on the relative average demand for water by the various land use types. The PFIP addresses the specific calculation and provides for infrastructure improvements to meet future water demand.

The City of Manteca currently relies entirely on groundwater to meet the water demand of its residents. The current demand overdrafts the existing groundwater supply, which if continued, will result in degradation of our groundwater resources. While the City’s water supply continues to comply with all Federal and State drinking water standards, measures must be taken to ensure future water quality. The City of Manteca has planned to supplement the groundwater with treated surface water from the South County Surface Water Project to eliminate over-drafting thus preserving groundwater quality for Manteca’s future.

This project includes the construction of a state-of-the-art water treatment plant at Woodward Reservoir and 40 miles of pipeline to deliver treated water to each of the
participating cities, including Manteca. When complete, the South County Surface Water Supply Project will enable each of the cities to meet their present and future water needs. The project will help preserve groundwater quality and promote regional water management planning, keeping water historically used in San Joaquin County within the County.

**Goal PF-7.** Maintain an adequate level of service in the City’s water system to meet the needs of existing and projected development.

**Policies: Domestic Water**

**PF-P-4.** Secure sufficient sources of water to meet the needs of the existing community and planned residential and commercial growth.

**PF-P-5.** City will continue to rely principally on groundwater resources for its municipal water in the near term, will participate in the regional improvements to deliver surface water to augment the City's groundwater supply.

**PF-P-6.** The City shall develop new water sources as necessary to serve new development.

**PF-P-7.** The City shall develop new water storage facilities and major distribution lines as necessary to serve new development.

**PF-P-8.** The City will provide water for future development to maintain a balance of jobs and housing.

**PF-P-9.** City water services shall not be extended to unincorporated areas except in extraordinary circumstances. Existing commitments for City water service outside the City limits shall continue to be honored.

**PF-P-10.** Development of private water wells within the City limits shall be allowed only where the City makes a finding that it cannot feasibly provide water service. Such systems shall only be allowed to be used until such time as City water service becomes available.
PF-P-11. The City will develop and implement water conservation measures as necessary elements of the water system.

PF-P-12. The City shall continue to assess a water development fee on all new commercial, industrial, and residential development sufficient to fund systemwide capacity improvements. The water development fee schedule shall be periodically reviewed and revised as necessary.

PF-P-13. Ensure that all new development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.

PF-P-14. The City shall continuously monitor water flows through the City’s water system to identify areas of potential water loss and cases of under billing for water service and shall make improvements in the systems as necessary.

PF-P-15. The City shall monitor water quality regularly and take necessary measures to prevent contamination.

PF-P-16. The City of Manteca shall include a groundwater analysis as a technical analysis of water system capacity in the update of the Public Facilities Implementation Plan (PFIP), and shall prepare an environmental analysis in the PFIP that addresses the quality and availability of groundwater.

PF-P-17. The City of Manteca shall consider incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

Implementation: Water Supply and Distribution

PF-I-2. The City shall update the Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.
PF-I-3. The City shall require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

PF-I-4. The City shall retain a water conservation ordinance requiring the installation of low-flush toilets, low-flow showerheads, and similar features in all new development.

PF-I-5. The City shall institute a remote monitoring program for the city’s water system and replace faulty meters in the system as necessary. The City will continue the practice of identifying and replacing faulty meters at service connections on an ongoing basis.

PF-I-6. The City shall regularly monitor water quality in City wells and take remedial action as necessary.

PF-I-7. The City will encourage the use of recycled water for landscape irrigation where feasible, within the parameters of State and County Health Codes and standards.

6.6 Sewer

Generally, the land within the existing developed City has trunk sewer constructed to fully serve the expected development. Undeveloped areas will require new municipal sewer collection facilities in order to develop.

Manteca’s target level of service for sewer is to collect and treat an average of 325 gallons per day per dwelling unit equivalent (due). This standard is applicable both in the areas of Manteca that have already developed and in the geographic areas where development is expected. Maintaining this same standard as development occurs will require innovative solutions to extending the reach of the standard over greater distances than in the past.
Average Household Demand for Sewer Service

Demand for sewer facilities is generated by the land uses established in the Land Use Plan and by the residents, employees, and visitors of those land uses that are being served. Future expansion of sewer collection facilities is required to maintain the existing LOS and timing standards.

Sewer collection dwelling unit equivalent (due) factors are calculated in the PFIP based on the relative average generation of wastewater for the various land use types. Sewer generation factors are based upon the expected building intensities and population densities. For example, the average daily generation per unit for Low Density Residential (LDR) is calculated as the product of the population per unit (3.25) times the average daily per capita generation (100 gallons). As a result, the LDR generation is 325 gallons per unit per day. Sewer flow generation factors are based upon industry standards applicable to conceptual level facilities planning and professional judgement.

Sewer

Goal PF-8. Maintain an adequate level of service in the City’s sewage collection and disposal system to meet the needs of existing and projected development.

Policies: Wastewater Collection and Treatment

PF-P-18. Ensure wastewater collection and treatment for all development in the City and the safe disposal of wastes.

PF-P-19. The City will maintain capacity to process combined residential, commercial, and industrial flow.

PF-P-20. The City shall develop new sewage treatment and trunk line capacity as necessary to serve new development.

PF-P-21. City sewer services will not be extended to unincorporated areas, except in extraordinary circumstances. Existing commitments for sewer service outside the city limits shall continue to be honored.
Development of individual septic systems may be allowed only where the City makes a finding that it cannot feasibly provide public sewer service, and such systems shall only be used until such time as City sewer service becomes available. Such systems shall meet the minimum standards of the San Joaquin County Health Department.

The City shall establish and maintain a growth management plan to ensure the development of a balanced mix of residential, commercial, industrial, and public land uses.

Ensure that all new development provides for and funds a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions.

The City will maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

Implementation: Wastewater Collection and Treatment

The City shall update the Public Facilities Implementation Plan regarding wastewater collection and treatment every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

The City will require all sewage generators within its service area to connect to the City’s system, except those areas where on-site treatment and disposal facilities are deemed appropriate.

The City will encourage and permit an industrial pretreatment program for business parks and other industrial uses in accordance with state and federal requirements.

The City will investigate methods of improving the quality of the effluent from the City plant and will investigate options for reuse of treated wastewater. The recycled wastewater will be used for
irrigation of public recreation lands, restoration of wetland areas, and irrigation of landscaped areas.

PF-I-12. The City will promote reduced wastewater system demand through efficient water use by:

- requiring water conserving design and equipment in new construction,
- encouraging retrofitting with water conserving devices,
- designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and
- maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.

6.7 Major Drainage

The capacity of the French Camp Outlet Channel and its tributary drains is the limiting factor that sets the flow rates for drainage systems in the city. Location of the discharge along the outlet conduits and channels is not a factor affecting the hydraulic capacity requirements of the system. Therefore, regardless of position along the channel, each tributary subarea along the system is provided the same level of service.

The City of Manteca’s target level of service is to provide 10-year storm drainage protection for all development and to provide 100-year storm drainage protection for all structures.

All storm water is to flow to detention basins in order to help control both the quality and quantity of storm runoff discharge to the main drainage system, and ultimately the San Joaquin River. Detention basins are designed to temporarily hold and gradually release water for short periods not to exceed 72 hours. Retention basins do not provide for release but will allow water to percolate or evaporate within a 72-hour period.
**Major Drainage**

**Goal PF-9.** Maintain an adequate level of service in the City’s drainage system to accommodate runoff from existing and projected development and to prevent property damage due to flooding.

**Policies: Major Drainage**

PF-P-26. The City shall continue to complete gaps in the drainage system in areas of existing development.

PF-P-27. The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of stormwater runoff resulting from each development.

PF-P-28. Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, bike and pedestrian paths, and visual open space within neighborhoods. The width and length of the corridors would be determined by the stormwater management requirements. The drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on the open space corridor.

**Implementation: Major Drainage**

PF-I-13. The City shall update the Storm Drainage Master Plan and Public Facilities Implementation Plan, regarding water supply and
distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

6.8 Electricity

The availability of relatively cost-effective power is essential for many types of businesses and residents of Manteca. In order to expand economic development opportunities and enhance the quality of life, the City must seek and support expansion of the available power supply. Recent events in California’s electric industry have further demonstrated the need for available power to new development.

Over the past twenty years, California has transformed its electric system from one that was integrated and highly regulated to one that is unbundled and increasingly subject to competitive markets and federal oversight. In 1996, the State of California passed deregulation legislation to allow for wholesale trading of electricity and implement competition at the retail level. During the ensuing years, demand for electricity has increased and electric generating capacity has decreased (U.S. Department of Energy, June 2001).

During the summer of 2001, California experienced rotating electrical outages. These outages have reduced the reliability of electricity; that is, the assurance of adequate supply and the security of operations. Electricity reliability is based on the following factors:

- Higher summer temperatures will increase customer electrical demand.
- Hydroelectric generation will be limited by low water levels and reduced snowpack.
- Planned new generating powerplants may not come online when expected.
- Forced outages of generating capacity may be more than expected.
Electricity

Goal PF-10. The City shall ensure adequate, reliable electric service is available to all users in the City.

Policies: Electric Service

PF-P-29. Ensure that reliable, adequate electric service is available to all users in the City.

PF-P-30. Cooperate with and encourage efforts to expand the opportunities for electric power service in the City.

Implementation: Electric Service

PF-I-14. The City will consider participating in generating and/or distributing electric service within the City.

PF-I-15. The City will support energy conservation measures and innovative uses of solar energy, heat recovery, and co-generation in all structural and industrial processes.

PF-I-16. The City will confer with utility companies regarding major development plans and cooperate with planning extension of utilities.

PF-I-17. The City will require undergrounding of utility lines in new development, and as areas are redeveloped, except where infeasible for operational reasons.

6.9 Solid Waste

The Solid Waste Department helps to ensure that the City's residential and commercial demands are met effectively and that landfill use remains available for future generations by helping residents and businesses to recycle, compost and reduce the overall solid waste load. Manteca provides the following solid waste services:
- Residential recycling picked up on a bi-weekly schedule
- Residential bi-weekly curbside pickup of compost materials
- Leaf and Christmas tree pick up
- Oil collection containers picked up on a weekly basis
- Commercial recycling
- Household Hazardous Waste collection

The City of Manteca utilizes the Lovelace Transfer Station to process and ship its solid waste and materials. The Lovelace Transfer Station is of regional significance in that it provides services to the majority of south San Joaquin County.

Solid Waste

Goal PF-11. Provide for the implementation and enforcement of the provisions for the Source Reduction and Recycling Element, as mandated by the State.

Goal PF-12. Maintain efficient, effective and economical solid waste services for the residents, businesses and visitors to Manteca.

Policies: Solid Waste Management

PF-P-31. The City will implement and enforce the provisions of its Source Reduction and Recycling Element.

PF-P-32. The City shall support the continued use of the Lovelace Transfer Station on Lovelace Road, between Union Road and Airport Way, for the processing and shipping of solid waste materials.
6.10 Education

Education opportunities are important for the quality of life of residents and the overall sense of community that a good school system provides. The education programs and facilities are an integral part of the community. Good local education opportunity is also an important factor in economic development. The local public school system is essential because future employees will prefer to locate where their children have access to quality education.

Advanced education and training is important for residents to expand their interests and increase their job skills. Technological advances in many fields require that workers have access to on-going training. Therefore, adult education and life-long learning opportunities will become increasingly important.

Education

Goal PF-13. Maintain sufficient land inventory so that the Manteca Unified School District can provide for the educational needs of Manteca residents.

Policies: Education

PF-P-33. The City shall cooperate with the Manteca Unified School District and others in locating and reserving appropriate sites for new neighborhood walking distance schools. Adequate facilities shall be planned to accommodate new residential development and endeavor to create neighborhood schools.

PF-P-34. The City shall cooperate with the Manteca Unified School District in their collection of school facility development fees from new development.

PF-P-35. Financing of new school facilities will be planned concurrent with new development.
PF-P-36. The City and Manteca Unified School District will work together to develop criteria for the designation of school sites and consider opportunities for reducing the cost of land for school facilities. The City will encourage the school district to comply with City standards in the design and landscaping of school facilities.

PF-P-37. The City will consider opportunities for joint-use of facilities with the school district. When feasible, a joint-use agreement will be pursued to maximize public use of facilities, minimize duplication of services provided, and facilitate shared financial and operational responsibilities.

PF-P-38. Schools must be located away from hazards of sensitive resource conservation areas, except where the proximity of resources may be of educational value and the protection of resources is reasonably assured.

**Implementation: Education**

PF-I-18. The City will maintain an inventory of public lands to identify opportunities for joint-use facilities and neighborhood schools.

PF-I-19. The City shall cooperate with the Manteca Unified School District to select a suitable location for a high school south of SR 120 and to select suitable locations within new residential development for neighborhood K-8 schools.

PF-I-20. The City will request an annual meeting with the Administrator and the Board of Trustees of the Manteca Unified School District to review development issues and opportunities for cooperation between the school district and the City.

PF-I-21. The City will encourage the expansion of higher education program offerings and opportunities in Manteca.
6.11 Police

The Manteca Police Department is a full service municipal law enforcement agency with specialized assignments and recognized specialties. In addition, the Department has an active and valuable volunteer staff consisting of Police Explorers, Reserve Officers, and senior citizens who render invaluable assistance to the Department and the community. The Department provides aggressive crime prevention through neighborhood watch, proactive enforcement, community policing, and citizen involvement.

Policies: Police Protection

PF-P-39. The City shall endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls.

PF-P-40. The City shall provide police services to serve the existing and projected population.

PF-P-41. The City will establish the criteria for determining the circumstances under which police service will be enhanced.

Implementation: Police Protection

PF-I-22. The Police Department shall continuously monitor response times and report annually on the results of the monitoring.

PF-I-23. The Planning Commission and City Engineer will review proposed residential developments to evaluate the accessibility for police patrols and emergency response.

6.12 Fire Protection

Fire protection and emergency response is essential for the well being of Manteca residents and is fundamental to attract many types of businesses to the community. The Manteca Fire Department provides fire service in the City of Manteca.
Policies: Fire Protection

PF-P-42. The City shall endeavor to maintain an overall fire insurance (ISO) rating of 4 or better.

PF-P-43. The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls.

PF-P-44. The City shall provide fire services to serve the existing and projected population.

PF-P-45. The City will establish the criteria for determining the circumstances under which fire service will be enhanced.

Implementation: Fire Protection

PF-I-24. The Fire Department shall continuously monitor response times and report annually on the results of the monitoring.

PF-I-25. The Planning Commission and City Engineer will review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response.

6.13 Recreation and Parks

Parks are an important part of the overall vision for the City of Manteca. The primary intent of park improvements in the City is to provide recreation amenities for the residents. A secondary objective is to provide space for public gatherings that may attract visitors to the community. In addition to the typical purposes of providing for open space and recreation for City residents, the parks are envisioned as space for music, craft fairs, and other public events. Consequently, the parks need to be designed to serve a variety of roles.

In order to meet the primary objective of resident recreation, the park facilities need to be designed with the local neighborhoods in mind. Parks should be distributed
throughout the City so that there is a park within reasonable walking distance of all residents.

**Parks and Recreation**

**Goal PF-14.** Establish and maintain a park system and recreation facilities that support economic development and residential growth in the City.

**Goal PF-15.** Establish and maintain a park system and recreation facilities that are suited to the needs of Manteca residents and visitors.

**Goal PF-16.** Promote the provision of private recreational facilities and opportunities.

**Goal PF-17.** Establish a recreation program that is suited to the needs and interests of all Manteca residents.

**Goal PF-18.** Provide a network of pedestrian and bicycle routes connecting Manteca’s major open space areas and destination points.

**Policies: Parks and Recreation**

**PF-P-46.** The City shall expand the community and neighborhood park system with the goal of providing neighborhood park facilities within reasonable walking distance of all city residential areas.

**PF-P-47.** The City shall use joint development of park and drainage detention basins in the development of neighborhood parks.

**PF-P-48.** The City shall cooperate with the Manteca Unified School District in opportunities for joint-use of school and park and recreational facilities.

**PF-P-49.** City park acquisition and development efforts shall be based on a goal of 5 acres of developed neighborhood and community parkland per 1,000 residents within the city limits. The distribution of land
between neighborhood and community parks shall be determined within the Parks and Recreation Master Plan.

PF-P-50. Neighborhood parks shall conform to the following general guidelines (specific details and standards to be determined within the Parks and Recreation Master Plan):

- The typical minimum size shall be set to support active and passive recreation activities.
- The typical service area for a neighborhood park is approximately ¼ mile walking distance.
- Neighborhood parks shall include a turf area above the basin flood line of sufficient area to be used for playgrounds, sports, picnic areas, and other recreational facilities.

PF-P-51. The City shall aggressively pursue State and County funding to supplement City revenues to the extent such funding is available.

PF-P-52. The City shall endeavor to identify, acquire, and develop one or more community parks as defined in the Parks and Recreation Master Plan.

PF-P-53. All new residential development will be required to pay a park acquisition and improvement fee, based on providing 5 acres per 1,000 residents, to fund system-wide improvements.

PF-P-54. The City shall require the provision of private open space and recreational facilities as part of new residential developments.

PF-P-55. The City shall not discourage the expansion of private commercial recreational facilities.

PF-P-56. The City shall develop a convenient system of pedestrian sidewalks and pathways linking City parks, major open space areas, and the downtown core.
The City shall adopt a Bicycle Route Master Plan and develop a bicycle route system linking areas, schools, public facilities, the downtown core, and neighborhoods.

Implementation: Parks and Recreation

PF-I-26. The City shall adopt a Parks and Recreation Master Plan, setting out goals, policies, and standards for the location, size, and level of development of all existing and proposed parks. The Plan will establish specific development criteria for the use of neighborhood and community parks. The master plan shall cover at least the succeeding 10-year period, with greater detail devoted to improvements planned for the first five-year period.

PF-I-27. The City shall periodically review projected park development needs and plans, update cost estimates for park acquisition and development, and remaining development potential based on the General Plan.

PF-I-28. The City shall review the Bicycle Route Master Plan that identifies locations of and standards for appropriate bicycle routes throughout the City.
This Page Intentionally Left Blank.
7 SAFETY ELEMENT

The Safety Element identifies the potential hazards in the community that must be considered when planning the location, type, and intensity of development. The primary objective of the Safety Element is to reduce the potential for loss of life, injuries, and property damage that could result from a natural or a man-made disaster.

Specific topics addressed in this Element include:

- Geologic and Seismic Hazards
- Flood Hazards
- Hazardous Materials
- Emergency Response Planning

7.1 Geologic and Seismic Hazards

Subsidence Potential

Subsidence is the settlement of soils due to either desiccation (dehydration) and shrinkage or oxidation of organic material, or both, following drainage. Subsidence is not a characteristic of the nineteen soil series found within the Study Area. (Soil Survey of San Joaquin County, California, Soil Conservation Service, U.S. Department of Agriculture, 1988)

Seismic Hazards

A seismic hazard is due to existence of active or potentially active earthquake faults. The term “earthquake” is used to describe both sudden slip on a fault, and the resulting ground shaking and radiated seismic energy caused by the slip, or by volcanic or magmatic activity, or other sudden stress changes in the earth.
The Alquist-Priolo Special Studies Zone Act of 1972 is directed at areas identified by the California State Geologist as having active surface fault ruptures. It is a regulatory prohibition to build across a surface fault rupture of active faults. It addresses earthquake safety in building permits and subdivision procedures by requiring project applicants to submit a registered geologist’s report describing the potential for on-site surface rupture.

Manteca is not located within an Alquist-Priolo Fault-Rupture Hazard Zone. There are faults located in the region, but there are no known faults located within or adjacent to the study area.

**Goal S-1.** Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity.

**Goal S-2.** Prevent loss of lives, injury, and property damage due to the collapse of buildings and critical facilities, and to prevent disruption of essential services in the event of an earthquake.

**Policies: Geologic and Seismic Safety**

S-P-1. The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of potentially significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.

S-P-2. The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.

S-P-3. The City shall require new development to mitigate the potential impacts of seismic induced settlement of
uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.

S-P-4. The City shall maintain an inventory of pre-1940 unreinforced masonry buildings within the city. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected. The Redevelopment Agency shall be encouraged to assist property owners in reinforcing buildings.

S-P-5. The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.

S-P-6. The City shall comply with the California State seismic and building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

Implementation: Geologic and Seismic Safety

S-I-1. All new development shall comply with the current Uniform Building Code (UBC) requirements that stipulate building structural material and reinforcement.

S-I-2. All new development shall comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-I-3. The City shall inventory potentially hazardous buildings within the city and adopt a mitigation program, including requirements for
strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing the buildings.

### 7.2 Flood Hazards

Flood hazards in the Planning Area are the result of the 200 year flood or the level as determined by state and federal agencies, localized drainage problems, and dam failure. The primary effects of flooding are caused by the initial force of floodwaters that can shatter structures and uplift vehicles. Floodwaters can carry large objects downstream which have the force to remove stationary structures. Saturation of materials and earth can cause instability, collapse, and damage. Objects can be buried through sediment deposition. Floods can cause drowning or isolation of persons and animals. Floodwaters can break utility lines, interrupting services and potentially affecting health and safety, particularly in the case of broken sewer or gas lines. The secondary effects of flooding are due to standing water. Standing water can result in loss of crops, septic tank failure, and water well contamination. Standing water can also damage road, foundations, and electrical circuits.

**Impervious Surfaces and Stormwater Runoff**

Those development and redevelopment activities authorized under the General Plan Update will result in the introduction of additional impervious surfaces in the planning area and diminish the amount of pervious areas where rain waters can permeate. Based on the higher urbanized nature of the planning area, the extent of additional site coverage and the additional storm flows resulting therefrom will be minimal.

Storm water pollution can result from the contamination of runoff from urban areas as it drains from streets or property through the municipal storm water drainage system and into waterways (rivers, sloughs, creeks etc.) The contaminated storm water may affect commercial fisheries, restrict swimming areas or affect the navigability of the regional waters.
200-Year Flood Areas

The primary flood hazard in the study area is the San Joaquin River and its tributaries. The hydrology of the region consists of this established river system and can be directly affected by several external factors. Meteorological events such as intense precipitation may adversely affect the natural drainage of the region. In addition, seasonal snowmelt will significantly contribute to the volume of water in the local hydrologic system. Urbanization contributes to an increased volume in the hydrologic system by maintaining a high percentage of impervious surface, which does not allow for infiltration of water into the soil and thus results in increased velocities and volumes of runoff. All of these factors can lead to exceeding the natural carrying capacity of the existing hydrology, which results in flooding of low-lying areas.

Dam Failure Inundation

Portions of the 200-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the study area is not specifically defined, but would generally coincide with the area delineated as the 200-year floodplain.

Goal S-3. Prevent loss of lives, injury, and property damage due to flooding.

Goal S-4. Pursue flood control solutions that minimize environmental impacts.

Goal S-5. Participate in a Regional Flood Management Plan.

Policies: Flood Safety

S-P-7. Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.
S-P-8. Cooperate with other agencies in the pursuit of a regional approach to flood issues.

S-P-9. Combine flood control, recreation, water quality, and open space functions where feasible.

S-P-10. Ensure that any existing structures subject to the 200-year flood provide adequate protection from flood hazards.

S-P-11. Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.

S-P-12. New residential development, including mobilehomes, shall be constructed so that the lowest floor is at least one foot above the 200-year flood level.

S-P-13. Non-residential development shall be anchored and flood-proofed in accord with Federal Emergency Management Agency (FEMA) standards to prevent damage or causing damage due to a 200-year flood or, alternatively, elevated to at least one foot above the 200-year flood level.

S-P-14. When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, the structure shall be brought into compliance with FEMA standards.

S-P-15. Ensure the city is in compliance with the Central Valley Flood Protect Plan.

**Implementation: Flood Safety**

S-I-4. The City shall continue to participate in the National Flood Insurance Program. To this end, the City shall ensure that local regulations are in full compliance with standards adopted by the Federal Emergency Management Agency (FEMA). The City shall adopt and implement local flood management development standards.
7.3 Hazardous Materials

The handling of hazardous materials is a daily activity in truck and train traffic that pass near or through the City. The Federal Government, under Title 49 of the Code of Federal Regulations, lists thousands of hazardous materials, ranging from radioactive waste and explosives to gasoline, insecticides, and household cleaning products.

Urban development in general introduces potential for pollution. Often, pollution found on the ground can be carried to water sources through stormwater runoff. The stormwater runoff can be expected to contain trace concentrations of nutrients, turbidity, oil and grease, and heavy metals. Some common sources of pollution include:

- leakage of petroleum products from automobiles onto roads and parking areas;
- fertilizers, herbicides and pesticides applied to lawns, golf course turf, gardens and other landscaping;
excrement from pets and livestock;
- human waste and waste water generation;
- inappropriate disposal of house-hold and commercial chemicals;
- sediment introduced from bare ground and graded surfaces; and
- solid waste disposal.

Light industrial development is expected to involve storage and use of hazardous materials. Commercial development such as automotive repair shops will also utilize hazardous materials. Hazardous wastes are expected to be generated by some businesses.

Pollution and stormwater runoff can be hazardous to the general population as well as specific populations surrounding pollution sources.

Storage

Safe and proper storage of hazardous materials incorporates a variety of techniques, depending upon the type of material being stored. Underground storage tanks are commonly used for the storage of hazardous material, especially petroleum products. These storage devices are found most often at gas stations and business operating vehicle fleets. Leaking underground storage tanks contaminate the surrounding soil and possibly the water table. There are several gas stations operating within the City of Manteca, especially near SR 99 and SR 120. The Union Pacific Railroad facilities are another potential location of hazardous materials storage.

Transportation

Hazardous materials are routinely transported by truck over state and federal highways as well as local roads (e.g., gasoline tankers). The California Vehicle Code Section 31303 requires that hazardous materials be transported via routes with the least overall travel time and prohibits the transportation of hazardous materials through residential neighborhoods.
The Union Pacific Railroad through the City must be considered a possible source of hazardous material spills. In the event of a derailing or other railroad accident, the residents could be exposed to any hazardous materials being transported by the railroad.

**Disposal**

Hazardous material, used in many household products (e.g., drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries) are often improperly disposed of as a part of normal household trash. Furthermore, there is risk to the community from exposure or explosion caused by adding hazardous waste to landfills that are not equipped to handle those materials.

**Emergency Response**

Response to a hazardous waste spill varies according to the circumstances under which it is released. Union Pacific Railroad has primary responsibility for hazards materials spill on its premises. Hazardous materials spills on the state and federal highways are the responsibility of Caltrans and the California Highway Patrol (CHP), providing on-scene management of the spill site and coordinating with the Environmental Health Department, Office of Emergency Services, and the local fire department. Primary responsibility for handing of hazardous materials spills within the City is the Manteca Fire Department.

**Goal S-6.** The City shall protect the health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

**Policies: Hazardous Materials Safety**

**S-P-16.** The City shall maintain an awareness of hazardous materials throughout the Manteca region.
S-P-17. City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.

S-P-18. Within its authority, the City shall regulate the production, use, storage, and transport of hazardous materials to protect the health of Manteca residents.

Implementation: Hazardous Materials Safety

S-I-10. The City shall require businesses that manufacture, store, use, or transport significant quantities of hazardous materials to identify annually such materials and their quantities.

S-I-11. The City shall require the submittal of lists of hazardous materials used in existing and proposed industrial and commercial businesses within the City of Manteca. The list shall be maintained through the Manteca Fire Department and updated through periodic review.

S-I-12. The City shall work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

S-I-13. Cooperate fully with Union Pacific Railroad and other agencies, such as the CHP, in the event of a hazardous material emergency.

S-I-14. Continue the City hazardous waste pick-up program for household hazardous materials.

7.4 Emergency Procedures

This section refers to emergency procedures required for rescue operations, medical assistance, fire fighting, and evacuation of residents, visitors, and personnel during a natural or man-made disaster within the City.
Goal S-7. Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

Policies: Emergency Procedures

S-P-19. The City shall maintain and periodically update the City’s Emergency Plan.

Implementation Policies: Emergency Procedures

S-I-15. The City shall conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-I-16. The City shall review County and State emergency response procedures that must be coordinated with City procedures.
8. RESOURCE CONSERVATION ELEMENT

*(This element was titled Natural Resources in the 1988 General Plan).

Clean air and water, healthy agricultural land and soil, and open space opportunities make Manteca an attractive place to live and work. These assets must be conserved and protected as the community grows and the population increases.

This General Plan seeks to accommodate population growth while conserving and protecting the area’s natural resources and quality of life. Economic development (i.e. growth) and maintaining quality of life are not inconsistent and contradictory goals. Indeed, economic development for the City of Manteca depends on protecting the natural resources that are essential to the quality of life in Manteca.

8.1 Authority

The Conservation Element and the Open Space Element are both mandated by the Government Code (Sections 65302(d) and 65302(e)). The Conservation Element is required to:

“...provide direction regarding the conservation, development, and utilization of natural resources.”

The Open Space Element is required to:

“...guide the comprehensive and long-range preservation and conservation of ‘open-space land’ (Section 65563). Open-space land is defined in the code as any parcel or area of land or water that is essentially unimproved and devoted to open-space use (Section 65560(b)).”

The discussion of these topics are organized under the following headings:

- Water Conservation
- Energy Conservation
- Soils and Erosion Control
- Water Quality
- Open Space
8.2 Relationship to Other General Plan Elements

The required topics for the Resource Conservation Element indicate substantial overlap with other Elements of this General Plan. For example, water supply and energy sources are also addressed in the Public Services and Facilities Element. Open space is addressed in the Land Use Element. Energy efficiency is discussed in the Community Design Element and the Circulation Element.

8.3 Water Conservation

**Goal RC-1.** Minimize the consumption of water to reasonable levels consistent with a high level of amenities and quality of life for City residents and visitors.

**Goal RC-2.** Maximize the beneficial uses of water by recycling water for irrigation and other non-potable uses.

8.3.1 Policies: Water Conservation

RC-P-1. The City shall continue to implement water conservation standards for all commercial and industrial development, and for all existing and new residential development.

RC-P-2. The City shall explore potential uses of treated wastewater when such opportunities become available.

RC-P-3. The City shall protect the quantity of Manteca’s groundwater.

RC-P-4. The City shall require water conservation in both City operations and private development to minimize the need for the development of new water sources.
Development of private water wells within the city limits shall be allowed only where the City makes a finding that municipal water service is not readily and feasibly available, and such private well systems shall only be allowed to be used until such time as City water service becomes available.

**8.3.2 Implementation: Water Conservation**

**RC-I-1.** Continue to implement standards for water conserving landscape practices, including the use of drought tolerant plants, for both public and private projects.

**RC-I-2.** Continue efforts to increase public participation in water conservation.

**RC-I-3.** Require large commercial and industrial water users to submit a use and conservation plan as part of the project entitlement review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

**RC-I-4.** Cooperate with other agencies and jurisdictions to expand water conservation programs, and to develop methods of water reuse.

**RC-I-5.** Actively pursue the use of treated wastewater in irrigation and industrial applications, including development of appropriate infrastructure.

**8.4 Energy Conservation**

Successful growth in Manteca is dependent in part on conservation and planning for the future allocation of energy resources. The primary goals are not only to conserve and protect current energy resources, but also to seek new sources of energy for current and future land use.

Energy supply and conservation are also addressed in the Public Facilities and Services Element and the Housing Element.
Goal RC-3. The City shall ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips and thereby help conserve scarce or nonrenewable energy resources.

Goal RC-4. Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

Goal RC-5. Promote energy efficiency in new development and in building design.

8.4.1 Policies: Energy Conservation

RC-P-6. Comply with construction and design standards that promote energy conservation.

RC-P-7. Conserve public utilities.


RC-P-9. The City shall support use of alternative energy sources in new commercial, industrial and residential development.

8.4.2 Implementation: Energy Conservation

RC-I-6. The City shall implement development standards that promote energy conservation and the use of solar energy techniques for heating and cooling, including building orientation, street and lot layout, landscape placement, and protection of solar access.

RC-I-7. Implement construction standards which promote energy conservation including window placement, building eaves, and roof overhangs.

RC-I-8. The City shall enforce Title 24 energy requirements (Building Code, California Code of Regulations (CCR)) which define construction standards that promote energy conservation.
Develop a public education program to increase public participation in energy conservation.

Encourage large energy users to use an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

Cooperate with other agencies and jurisdictions to expand energy conservation programs.

Investigate alternative energy sources including co-generation, active solar energy, and wind generation.

Implement Transportation System Management (TSM) measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products through an efficient roadway and intersection system. The circulation pattern is designed to minimize trips required for shopping and daily errands.

Develop alternative transportation systems, such as public transportation and bikeways, which reduce the need for automobile use and petroleum products.

Comply with state requirements for regulation of new fireplaces and wood stoves.

8.5 Soils and Erosion Control

The primary concerns regarding soil erosion are soil loss, and water quality loss due to erosion and sedimentation. The effect on water quality is discussed below. Soil loss is due primarily to development and land management practices that leave disturbed soil exposed to weather.

Goal RC-6. Preserve and maintain Manteca’s soils to avoid pollution of surface waters, decreased air quality, and loss of soil.
8.5.1 Policies: Soils and Erosion Control

RC-P-10. Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

8.5.2 Implementation: Soil and Erosion Control

RC-I-16. All new development shall comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specific soil types.

RC-I-17. All new development shall comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control.

RC-I-18. Require site-specific land management and development practices for proposed development projects, including appropriate mitigation measures for avoiding or reducing erosion.

8.6 Water Quality

Water quality refers to protection of both surface and groundwater resources from contamination. Protecting surface water quality involves minimizing sedimentation from soil erosion, and minimizing pollution of waterways and other water bodies from urban runoff. Protecting groundwater quality requires maintaining high water quality within the water systems. The policies in this Element address the management of land development and use of potential contaminants.

Goal RC-7. To protect water quality in the San Joaquin River and in the area’s groundwater basin.

8.6.1 Policies: Water Quality

RC-P-11. Minimize sedimentation and loss of topsoil from soil erosion.

RC-P-12. Minimize pollution of waterways and other surface water bodies from urban runoff.
RC-P-13. Protect the quality of Manteca’s groundwater.

RC-P-14. Encourage participation by the County and surrounding communities in a basin-wide groundwater management study.

RC-P-15. Once sewer service has been extended to incorporated areas, new septic tanks shall not be permitted.

8.6.2 Implementation: Water Quality

RC-I-19. The City shall work with the County and surrounding communities to develop an action plan and/or to create an agency to manage and protect local and regional groundwater resources.

RC-I-20. The City shall not approve new industrial or commercial development that has a significant potential for adversely affecting water quality in the San Joaquin River or in the area’s groundwater basin.

RC-I-21. The City shall regularly monitor water quality in City wells for evidence of toxics, saltwater intrusion, and other contaminants.

RC-I-22. Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.

RC-I-23. Utilize cost-effective urban runoff controls, including Best Management Practices (BMPs), to limit urban pollutants from entering the water courses.

RC-I-24. Comply with the Regional Water Quality Control Board’s regulations and standards to maintain and improve groundwater quality in Manteca.

8.7 Open Space

Manteca is a relatively compact, urbanized community with an established civic center, surrounded by agricultural land. The City is physically divided by the
Tidewater Bikeway, which was a former railroad right-of-way. Protection of open space is fundamental to maintain the quality of life enjoyed by current and future residents. New development will inherently change some aspects of the open space resource through conversion of agricultural land. However, through planning for the location and character of new development, open space areas can be preserved.

Open space is also addressed in the Biological Resources discussion below.

Manteca’s open space areas are intended to serve the following purposes:

- **Open space for the preservation of natural and biological resources.** Such areas are required for the preservation of plant and animal life, including habitat for plant and wildlife species (particularly rare, endangered, or threatened plant and wildlife species), areas required for ecological and other scientific study purposes, tributaries of the San Joaquin River, and wetlands.

- **Open space for the recreation opportunities.** Many open space areas can be used for passive recreation, such as walking and hiking.

- **Public health and safety.** This refers to areas requiring special management or regulation due to hazardous or special conditions, such as earthquake fault zones, unstable soil areas, and areas required for the protection and enhancement of air quality.

**Goal RC-8.** To provide adequate land for open space as a framework for urban development, to meet the passive recreation needs of the community, and to set aside wildlife habitat.

### 8.7.1 Policies: Open Space

- **RC-P-16.** Provide public and private open space within urbanized parts of Manteca, in order to provide visual contrast with the built environment and to provide for the recreational needs of residents.

- **RC-P-17.** Provide access to public open space areas.

- **RC-P-18.** New development shall maximize the potential for open space and visual experiences.
8.7.2 Implementation: Open Space

RC-I-25. Provide an interconnecting system of open space corridors that incorporate bicycle and pedestrian paths within the urbanized area that connect to regional open space corridors, such as the San Joaquin River.

RC-I-26. Use a system of open space corridors to provide pedestrian and bicycle connections between schools, parks and other recreation areas, commercial uses, and employment centers. This system of open space corridors should be connected to the Tidewater Bikeway where feasible, and to a citywide bike and pedestrian trail system as defined in the Circulation Element.

RC-I-27. Require all new development to provide linkages to existing and planned open space that would logically be connected through the project.

RC-I-28. Monitor groundwater resources and consider locating required detention basins where recharge potential is determined to be high.

RC-I-29. Provide opportunities for public education through the City’s open space system and natural resource areas.

8.8 Agricultural Resources

Manteca is located in an area of rich agricultural resources, including orchards, dairies, vineyards, row crops, and pasture land. A wide variety of agricultural production takes place in Manteca. Manteca desires to recognize the value of local agricultural resources. The City of Manteca has adopted a right-to-farm ordinance that requires developers of new subdivisions adjacent to agricultural land to notify new homebuyers that agricultural uses may present problems such as dust, noise, and odors.

Some of the farmland in Manteca has agricultural preserve status, under Williamson Act contracts (see Land Use Element).
Goal RC-9. To promote the continuation of agricultural uses in the Manteca area and to discourage the premature conversion of agricultural land to nonagricultural uses, while providing for the urban development needs of Manteca.

8.8.1 Policies: Agricultural Resources

RC-P-19. The City shall support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.

RC-P-20. The City shall provide an orderly and phased development pattern so that farmland is not subjected to premature development pressure.

RC-P-21. In approving urban development near existing agricultural lands, the City shall take actions so that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations.

RC-P-22. Nonagricultural uses in areas designated for agriculture should be redirected to urban areas.

RC-P-23. Protect designated agricultural lands, without placing an undue burden on agricultural landowners.

RC-P-24. Provide buffers at the interface of urban development and farmland; in order to minimize conflicts between these uses.

RC-P-25. The City shall ensure, in approving urban development near existing agricultural lands, that such development will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.

RC-P-26. The City shall restrict the fragmentation of agricultural land parcels into small rural residential parcels except in areas designated for estate type development in the General Plan Land Use Diagram.
RC-P-27. The City shall discourage the cancellation of Williamson Act contracts outside the Primary Urban Service Boundary line.

RC-P-28. The City shall not extend water and sewer lines to premature urban development that would adversely affect agricultural operations.

RC-P-29. The City shall encourage Manteca Unified School District and the Delta Community College District to maintain the school farm facilities and associated education programs in the City.

RC-P-30. The City of Manteca will participate in a county-wide program to mitigate the conversion of Prime Farmland and Farmlands of Statewide Importance to urban uses.

8.8.2 Implementation: Agricultural Resources

RC-I-30. Apply the following conditions of approval where urban development occurs next to farmland.

- Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City’s right-to-farm ordinance.

- Require adequate and secure fencing at the interface of urban and agricultural use.

- Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.

RC-I-31. Work with San Joaquin County on the following issues:

- Pesticide application and types of agricultural operations adjacent to urban uses.

- Support the continuation of County agricultural zoning in areas designated for agricultural land use in the Area Plan.
8.9 Biological Resources

The land area surrounding the urbanized portion of Manteca is predominantly farmland, including alfalfa, orchards, row crops, and pasture. Agricultural lands have become important foraging resources for a number of species, including Swainson’s Hawk which is a California State and federally protected species. Riparian woodland is found along the San Joaquin River to the west of the Study Area, and along its tributary, Walthall Slough. This riparian woodland is of special interest as the last remnant of natural vegetation that was once more extensive. Riparian woodland provides food and cover for a large number of wildlife species. Wetlands have also been identified along Highway 120 in the eastern portion of the Study Area.

8.10 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is a multi-species, multi-habitat, multi-purpose open space management program for all of San Joaquin County. The Manteca City Council adopted the SJMSCP (Resolution #R2001-46) on February 5, 2001, signing a Joint Powers Agreement with other City, County, State, and Federal agencies.

The SJMSCP is a 50-year Plan (2001 – 2051) that provides compensation for the conversion of open space to non-open space uses which affect the plant, fish, and wildlife species covered by the Plan. The Plan also includes some compensation to offset the impacts of open space conversions on non-wildlife related resources such as recreation, agriculture, scenic values, and other beneficial open space.

**Goal RC-10.** Protect sensitive native vegetation and wildlife communities and habitat in Manteca.

8.10.1 Policies: Biological Resources

RC-P-31. Minimize impact of new development on native vegetation and wildlife.
RC-P-32. Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

RC-P-33. Discourage the premature removal of orchard trees in advance of development, and discourage the removal of other existing healthy mature trees, both native and introduced.

RC-P-34. Protect special status species and other species that are sensitive to human activities.

RC-P-35. Allow contiguous habitat areas.

RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.

8.10.2 Implementation: Biological Resources

RC-I-32. Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.

RC-I-33. Project proponents who opt not to participate in the SJMSCP shall:

- Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.

- Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if
determined by the City that the proposed project area is already sufficiently surveyed.

RC-I-34. Until such time that a Clean Water Act regional general permit or its equivalent is issued for coverage under the SJMSCP, acquisition of a Section 404 permit by project proponents will continue to occur as required by existing regulations. Project proponents shall comply with all requirements for protecting federally protected wetlands.

RC-I-35. Continue to enforce the City’s heritage tree ordinance which defines and identifies mature trees to be protected, and establishes regulations for their protection and removal.

RC-I-36. Limit the access of pedestrians and bicyclists to wetland areas so that access is compatible with long-term protection of these natural resources.

RC-I-37. The City shall implement multiple use of resource areas, where feasible, that includes passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

8.11 **Mineral Resources**

The State of California has identified lands in the General Plan Study Area, near the San Joaquin River, as areas of significant mineral resources. In particular, sand deposits in these areas are considered to be of regional significance. However, Brown Sand and Gravel, Incorporated, the only operator within the Study Area (Oakwood Lake Pit), has completed mining operations. Oakwood Lake Resort has been created from reclaimed mined lands.

8.12 **CULTURAL RESOURCES**

The prehistory of the Manteca area is based on the archaeology of the greater Sacramento Delta region. Modern Manteca began as a railroad flag stop, Powell's Station, at the present location of downtown. Community life within Manteca's present city limits focused on the corner of Louise Avenue and Union Road.
Residential neighborhoods were beginning to fill in by 1918. The City of Manteca was incorporated on May 28, 1918. During the 1950's, the City grew even faster, as Manteca's inexpensive housing and small-town atmosphere drew workers from the Sharpe Army Depot in Lathrop and industrial plants in outlying areas.

**Goal RC-11.** Preserve and enhance Manteca's archaeological and historic resources for their aesthetic, educational and cultural values.

**Goal RC-12.** Protect Manteca’s Native American heritage.

### 8.12.1 Policies: Cultural Resources

**RC-P-37.** The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA).

**RC-P-38.** The City shall require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.

**RC-P-39.** The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.
RC-P-40. The City shall work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.

RC-P-41. The City shall prepare and adopt a Historical Preservation Ordinance.

RC-P-42. The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved in tact, the City shall seek to preserve the building facades.

8.12.2 Implementation: Cultural Resources

RC-I-38. Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, or cultural resources and/or to determine the potential for discovery of additional cultural resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

RC-I-39. Require that sponsors of proposed development projects on sites where probable cause for discovery of archaeological resources (as indicated by records search and where resources have been discovered in the vicinity of the project) retain a consulting archaeologist to survey the project site. If unique resources, as defined by California State law, are found, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action. Require a monitoring plan for the project to ensure that mitigation measures are implemented.

RC-I-40. When feasible, incorporate significant archaeological sites into open space areas.

RC-I-41. The City should continue its inventory of all historic sites throughout the City. The inventory should contain a narrative of the significant
facts regarding the historic events or persons associated with the site, and pictures of the site.

RC-I-42. The City shall continue to support the local historical society in their efforts to:

- archive historic information, including photographs, publications, oral histories and other materials, and
- make the information available to the public for viewing and research.

RC-I-43. All City permits for reconstruction or modification of existing buildings will require submittal of a photograph of the existing structure or site. The intent is to create a record of the buildings in the City over time. A photograph will also be required for vacant sites that will be modified with new construction of new buildings or other above ground improvements.

RC-I-44. Encourage the placement of monuments or plaques that recognize and celebrate historic sites, structures, and events.

RC-I-45. The City shall adopt and implement a historic building code, as authorized by state law.

RC-I-46. If human remains are discovered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to their origin and disposition pursuant to Public Resource code Section 5097.98. If the Coroner determines that no investigation of the cause of death is required, and if the remains are of Native American origin, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendent. The descendent will then recommend to the landowner appropriate disposition of the remains and any grave goods.
9 NOISE ELEMENT

9.1 INTRODUCTION

Noise is generally defined as unwanted sound. A sound that may be disturbing to one person may go unnoticed by another. Noise levels have been quantified into units called “decibels” (dB) to remove the subjective reaction to noise by persons of differing sensitivities to noise. All sound levels referred to in this document are in A-weighted decibels (often abbreviated dBA). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner that is similar to how the human ear perceives sound.

The contents of the Noise Element and the methods used in its preparation have been determined by the requirements of Section 65302 (f) of the California Government Code and by the Guidelines for the Preparation and Content of the Noise Element of the General Plan prepared by the California Department of Health Services and included in the 1990 State of California General Plan Guidelines, published by the State Office of Planning and Research. The Guidelines require that major noise sources and areas containing noise-sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions. Contours may be prepared in terms of either the Community Noise Equivalent Level (CNEL) or the Day-Night Average Level (L_{dn}), which are descriptors of total noise exposure at a given location for an annual average day. The CNEL and L_{dn} are generally considered to be equivalent descriptors of the community noise environment within plus or minus 1.0 dB.

Sources of noise can be divided into two categories: stationary and mobile sources. Within the City of Manteca, the primary source of noise is vehicular traffic along SR 99, SR 120, and other arterial routes (e.g. Yosemite Avenue). Additional noise impacts are produced from rail traffic along the rail lines that cross through the City.

The purpose of the Noise Element is to define goals and policies for managing the effect of sound in the community. It is the overall goal of the Noise Element to protect the health and welfare of the community by promoting community development and activities that are compatible with noise level criteria.
9.2 Sensitive Land Uses

Noise sensitive land uses refer to specific uses where a person would be adversely impacted by noise and where the person would have the expectation of a relatively quiet environment. Uses generally include residences of all types, nursing homes, day care centers, medical facilities, schools, parks, and open space (see Table 9-1 for complete list of sensitive land uses).

9.3 Noise Goals

The existing city is a relatively quiet residential community with the notable exceptions of the railroad operations, traffic noise from SR 99 and SR 120, and commercial/industrial uses. These sources are endemic to the community and cannot be easily avoided. The fundamental objective is to avoid creating new noise generating conditions that would degrade the existing community environment, or to place a sensitive land use where it would be adversely affected by an existing noise source.

Goal N-1. Protect the residents of Manteca from the harmful and annoying effects of exposure to excessive noise.

Goal N-2. Protect the quality of life in the community and the tourism economy from noise generated by incompatible land uses.

Goal N-3. Ensure that the downtown core noise levels remain acceptable and compatible with commercial and higher density residential land uses.

Goal N-4. Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.

Goal N-5. Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.
9.4 POLICIES AND IMPLEMENTATION MEASURES

9.4.1 Policies:

N-P-1: Areas within Manteca exposed to existing or projected exterior noise levels from mobile noise sources exceeding the performance standards in Table 9-1 shall be designated as noise-impacted areas.

N-P-2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1.

N-P-3: The City may permit the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2. Noise mitigation may be required to meet Table 9-2 performance standards.

N-P-4: The City shall require stationary noise sources proposed adjacent to noise sensitive uses to be mitigated so as to not exceed the noise level performance standards in Table 9-2.

N-P-5: In accord with the Table 9-2 standards, the City shall regulate construction-related noise impacts on adjacent uses.

N-P-6: Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area, an acoustical analysis is required as part of the environmental review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:

- Be the responsibility of the applicant.
- Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
• Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.

• Estimate existing and projected (20 years) noise levels in terms of the standards of Table 9-1 or Table 9-2, and compare those levels to the adopted policies of the Noise Element.

• Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.

• Estimate noise exposure after the prescribed mitigation measures have been implemented.

• Describe a post-project assessment program that could be used to monitor the effectiveness of the proposed mitigation measures.

N-P-7: Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with noise performance levels of Table 9-1 and Table 9-2.

N-P-8: The City shall enforce the Sound Transmission Control Standards of the California Building Code concerning the construction of new multiple occupancy dwellings such as hotels, apartments, and condominiums.

N-P-9: New equipment and vehicles purchased by the City shall comply with noise level performance standards consistent with the best available noise reduction technology.

N-P-10: The Manteca Police Department shall actively enforce requirements of the California Vehicle Code relating to vehicle mufflers and modified exhaust systems.

N-P-11: For residential development backing on to a freeway or railroad right-of-way, the developer shall be required to build a sound barrier
wall, and provide for other appropriate mitigation measures, to satisfy the performance standards in Table 9-1.

N-P-12: The City shall require new roadways to be mitigated so as to not exceed the noise levels specified in Table 9-1. Widening or other improvement projects of existing roadways shall be mitigated to the most practical extent.

N-P-13: The City shall carefully review and shall give potentially affected residents an opportunity to fully review any proposals for the establishment of helipads or heliports.

### Table 9-1

**Maximum Allowable Noise Exposure Mobile Noise Sources**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Outdoor Activity Areas(^1)</th>
<th>Interior Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>60(^2)</td>
<td>45</td>
</tr>
<tr>
<td>Transient Lodging</td>
<td>60(^2)</td>
<td>45</td>
</tr>
<tr>
<td>Hospitals, Nursing Homes</td>
<td>60(^2)</td>
<td>45</td>
</tr>
<tr>
<td>Theaters, Auditoriums, Music Halls</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Churches, Music Halls</td>
<td>60(^2)</td>
<td>40</td>
</tr>
<tr>
<td>Office Buildings</td>
<td>65</td>
<td>45</td>
</tr>
<tr>
<td>Schools, Libraries, Museums</td>
<td></td>
<td>45</td>
</tr>
<tr>
<td>Playgrounds, Neighborhood Parks</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Outdoor activity areas for residential development are considered to be backyard patios or decks of single family dwellings, and the common areas where people generally congregate for multi-family developments. Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

\(^2\) In areas where it is not possible to reduce exterior noise levels to 60 dB L\(_{dn}\) or below using a practical application of the best noise-reduction technology, an exterior noise level of up to 65 L\(_{dn}\) will be allowed.

\(^3\) Determined for a typical worst-case hour during periods of use.

\(^4\) Where a proposed use is not specifically listed on the table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the City.
## Table 9-2

**Performance Standards for Stationary Noise Sources or Projects Affected by Stationary Noise Sources**

<table>
<thead>
<tr>
<th>Noise Level Descriptor</th>
<th>Daytime</th>
<th>Nighttime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 a.m. to 10 p.m.</td>
<td>10 p.m. to 7 a.m.</td>
</tr>
<tr>
<td>Hourly Leq, dB</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>Maximum Level, dB</td>
<td>70</td>
<td>65</td>
</tr>
</tbody>
</table>

1. Each of the noise levels specified above should be lowered by five (5) dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints.

2. No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

### 9.4.2 Implementation:

**N-I-1.** New development in residential areas with an actual or projected exterior noise level of greater than 60 dB L_{dn} will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB L_{dn}.

**N-I-2.** Assist in enforcing compliance with noise emissions standards for all types of vehicles, established by the California Vehicle Code and by federal regulations, through coordination with the Manteca Police Department and the California Highway Patrol.

**N-I-3.** In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:

- the resulting noise levels
- the duration and frequency of the noise
• the number of people affected

• the land use designation of the affected receptor sites

• public reactions or controversy as demonstrated at workshops or hearings, or by correspondence

• prior CEQA determinations by other agencies specific to the project

N-I-4. Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.

N-I-5. Evaluate new transportation projects, such as rail or public transit routes, using the standards contained in Table 9-1. However, noise from these projects may be allowed to exceed the standards contained in Table 9-1, if the City Council finds that there are special overriding circumstances.

N-I-6. Require an acoustical analysis where:

• Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table 9.1 or 9.2.

• Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table 9.1 or 9.2 at existing or planned noise sensitive uses.

N-I-7. Require that all acoustical analyses utilize a consistent format and be prepared in accordance with Policy N-P-6.

N-I-8. Work in cooperation with Caltrans and the Union Pacific Railroad to maintain noise level standards for both new and existing projects in compliance with Table 9-1.
10  AIR QUALITY ELEMENT

10.1  Introduction

Clean air is a critical environmental resource that affects the daily life of residents and can be a significant factor in sustaining the economic viability of the City. The Air Quality Element promotes air quality standards in all aspects of development, transportation, and activity affected by this General Plan to protect the health and welfare of the community.

The Air Quality Element addresses the primary air quality concerns in the region. These include ozone precursors from internal combustion engines (smog), dust and other man-made airborne particles, objectionable odors and hazardous or toxic fumes.

Air pollution is typically a regional concern, but the City has influence over factors that contribute to local air pollution. Cities and counties are responsible for implementing air friendly community planning that promotes pedestrian traffic, commute alternatives, and cleaner transit fleets, and can cooperate in policies and implementation to redress existing jobs housing imbalances that result in significant commuting trips. Local government policies and implementation measures can have a strong beneficial effect on limiting air pollution.

With the adoption of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, greenhouse gases are now considered air pollutants of concern in California. The United States Environmental Protection Agency (EPA) has also begun regulating greenhouse gases under its authority provided in the federal Clean Air Act. Although not directly linked to health impacts, greenhouse gas effects on climate change are expected to result in indirect impacts to health from higher temperatures, increased ozone concentrations, water supply, flooding, and increased fire danger. Increasing greenhouse gases and resulting climate change are a global concern that requires international, national, regional, and local action to fully address. The General Plan and the Air Quality Element provide a policy framework to address greenhouse gas impacts at the local level.

Many General Plan goals and policies adopted for air quality, resource conservation, and transportation purposes also help to reduce greenhouse gas impacts. Goals and policies that reduce vehicle travel and traffic congestion reduce criteria pollutants and greenhouse gases. Goals and policies that conserve energy in homes and businesses reduce combustion related
greenhouse gases from power generation, water pumping, and heating. Therefore, few new greenhouse gas specific goals and policies are required to fulfill the City’s obligation to assist the State of California in meeting its greenhouse gas reduction goals. The greenhouse gas specific goals and policies are located at the end of the Air Quality Element.

10.2 Existing Conditions in Manteca

Air pollution in Manteca and the San Joaquin Valley is attributable to several factors.

- Vehicles, both from local traffic and from the presence of two major thoroughfares (Interstate 5 and State Route 99) transecting the Valley.
- Long, warm summer days and surrounding mountains that trap air within the San Joaquin Valley.
- Pollution from other areas transported to the San Joaquin Valley by prevailing winds.

The City of Manteca is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). SJVAPCD was created to improve the health and quality of life for all San Joaquin Valley residents through cooperative and effective air quality programs. The District develops plans and implements control measures in program areas. These controls primarily affect stationary sources such as factories and plants.

10.3 Air Quality Goals

Goal AQ-1. Improve air quality by:

- Achieving and maintaining ambient air quality standards established by the U.S. Environmental Protection Agency, the California Air Resources Board, and the San Joaquin Air Pollution Control District;
- Minimizing public exposure to toxic or hazardous air pollutants; and
• Minimizing public exposure to pollutants that create a public nuisance, such as unpleasant odors.

**Goal AQ-2.** Integrate air quality planning with land use and transportation planning processes in order to reduce vehicle miles traveled in the City and by commuters.

**Goal AQ-3.** Increase opportunities for alternatives to internal combustion automobiles including, but not limited to, public transportation, bicycles, walking and alternative fuel vehicles including hybrid gas-electric, electric and compressed natural gas.

**Goal AQ-4.** Reduce air emissions through energy conservation.

**Goal AQ-5.** Reduce greenhouse gases from activities within the City by amounts needed to demonstrate consistency with State of California greenhouse gas reduction targets.

**Policies:** Air Quality- Regional Coordination

**AQ-P-1:** Cooperate with other agencies to develop a consistent and coordinated approach to reduction of air pollution and management of hazardous air pollutants.

**Implementation: Air Quality- Regional Coordination**

**AQ-I-1.** Work with the San Joaquin Valley Air Pollution Control District (APCD) to implement the Air Quality Management Plan (AQMP).

• Cooperate with the APCD to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.

• Cooperate with the APCD and the California Air Resources Board in their efforts to develop a local airshed model.

• Cooperate with the APCD in their efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area
source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.

AQ-I-2. In accordance with CEQA, submit development proposals to the APCD for review and comment prior to decision.

AQ-I-3. Cooperate with the San Joaquin County Environmental Health Department in identifying hazardous material users and in developing a hazardous materials management plan.

Policies: Air Quality- Land Use

AQ-P-2: Develop a land use plan that will help to reduce the need for trips and will facilitate the common use of public transportation, walking, bicycles, and alternative fuel vehicles.

AQ-P-3: Segregate and provide buffers between land uses that typically generate hazardous or obnoxious fumes and residential or other sensitive land uses.

Implementation: Air Quality- Land Use

AQ-I-4. Encourage mixed-use development that is conveniently accessible by pedestrians and public transit.

AQ-I-5. Locate employment, school, and daily shopping destinations near residential areas.

AQ-I-6. Locate higher intensity development such as multi-family housing, institutional uses, services, employment centers and retail along existing and proposed transit corridors.

AQ-I-7. Locate public facilities in areas easily served by current and planned public transportation.

AQ-I-8. Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately
separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

**Policies: Air Quality- Transportation**

AQ-P-4: Develop and maintain street systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions.

AQ-P-5: Develop and maintain circulation systems that provide alternatives to the automobile for transportation, including bicycles routes, pedestrian paths, bus transit, and carpooling.

AQ-P-6: Coordinate public transportation networks, including trains, local bus service, regional bus service and rideshare facilities to provide efficient public transit service.

**Implementation: Air Quality- Transportation**

AQ-I-9. Maintain acceptable traffic levels of service (LOS) as specified in the Circulation Element.

AQ-I-10. In new subdivisions, require the internal street system to include the installation of dedicated pedestrian/bicycle pathways connecting to adjacent residential and commercial areas as well as schools, parks and recreational areas.

AQ-I-11. Provide adequate pedestrian and bikeway facilities for present and future transportation needs throughout the City.

**Policies: Air Quality- Dust and Other Airborne Particulate Materials**

AQ-P-7: New construction will be managed to minimize fugitive dust and construction vehicle emissions.

AQ-P-8: Woodburning devices shall meet current standards for controlling particulate air pollution.
AQ-P-9: Burning of any combustible material within the City will be controlled to minimize particulate air pollution.

Implementation: Air Quality- Dust and Other Airborne Particulate Materials

AQ-I-12. Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.

- Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.

AQ-I-13. All residences built in a new subdivision or housing development shall be equipped with conventional heating devices with sufficient capacity to heat all areas of the building without reliance on woodburning heating devices.

AQ-I-14. All woodburning-heating devices installed shall meet EPA standards applicable at the time of project approval.

Policies: Air Quality- Reduce Emissions From Energy Generating Facilities

AQ-P-10: Encourage energy efficient building designs.

Implementation: Air Quality- Reduce Emissions From Energy Generating Facilities

AQ-I-15. Design review criteria shall include the following considerations, at a minimum:

- The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from
highways, arterial streets, hazardous material locations and other sources of air pollution or odor.

- Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible.

- The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.)

- The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable.

- Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds.

**Policies: Air Quality – Greenhouse Gas Emissions**

**AQ-P-11:** Prepare and maintain a Climate Action Plan and community greenhouse gas emission inventory for sectors with the potential for control or influence by the City that demonstrates consistency with State of California targets.

**AQ-P-12:** Development projects shall incorporate the applicable strategies of the City of Manteca Climate Action Plan as needed to demonstrate consistency with CAP reduction targets and AB 32.

**Implementation: Air Quality – Greenhouse Gases**

**AQ-I-16:** Track and monitor aspects of development related to CAP strategies on an ongoing basis to measure progress in achieving CAP reduction targets.
AQ-I-17. Track implementation of municipal and community projects and programs related to energy efficiency, transit service improvements, transportation facilities such as bicycle paths and lanes, pedestrian infrastructure, and other projects that reduce greenhouse gas emissions throughout the community.

AQ-I-18. Update CAP emission inventories, targets, and strategies to reflect new State of California greenhouse gas reduction targets when adopted for later years and to reflect the benefits of any new State and federal regulatory actions that reduce greenhouse gas emissions to demonstrate continued consistency with State targets.
11 ADMINISTRATION AND IMPLEMENTATION ELEMENT

11.1 Introduction

The Administration and Implementation Element provides a tool to City staff and elected officials to administer and implement the General Plan. This Element is the framework for review of individual actions and programs (implementation measures) and review of the comprehensive General Plan.

Although the General Plan covers a long-range period, it is not intended to be an inflexible document. This General Plan is based on estimates of future growth and development. As time passes, certain assumptions made in the General Plan may no longer be valid, due to changing circumstances or new information.

To ensure that the General Plan is true to the original vision and principles it should be reviewed at regular intervals of approximately five years. Periodic adjustments to the General Plan may occur from time to time, as development opportunities emerge.

11.2 Administration and Implementation Goals

Goal AD-1. To provide for the ongoing administration and implementation of the General Plan.

Policies:

AD-P-1: The City shall annually update key data in the General Plan Background Report to assist City officials in their regular decision-making responsibilities and to assist the development community in its decision-making and in its preparation of plans and applications for development projects.

AD-P-2: The City shall bi-annually review the General Plan Policy Document and revise it as necessary.
AD-P-3: The General Plan may be amended no more than four times per year. Each amendment, however, may include multiple changes to the General Plan.

AD-P-4: The City's Zoning Ordinance and Subdivision Ordinance shall be reviewed and amended as necessary to ensure consistency with the General Plan.

AD-P-5: The City shall prepare and adopt, as deemed necessary, specific plans for new development areas.

**Implementation:**

AD-I-1. The City shall prepare and adopt a five-year Capital Improvement Program. The CIP shall be reviewed for its consistency with the General Plan.

AD-I-2. The City shall annually update relevant data in the General Plan Background Report. The annual update shall be prepared by the Community Development Department with the cooperation of City department managers in draft form by May 15 each year in time for use by the City Council in making budget decisions. The draft of the update shall be submitted to the City Council, Planning Commission, City department heads, appropriate boards and commissions, and interested outside agencies. Following its review, the update shall be published in final form by August 1. The update shall be made available to City officials and the public. Information in the update may be referenced in Environmental Impact Reports for public and private projects.

AD-I-3. The City shall annually review the General Plan Policy Document, focusing principally on actions undertaken in the previous year to carry out the implementation programs of the Plan. The Planning Commission shall complete its review of the General Plan Policy Document and report its findings to the City Council by September 1.
of every year. The Planning Commission's report shall include, as the Commission deems appropriate, recommendations for amendments to the General Plan.

AD-I-4. The City shall prepare and annually update a five-year Capital Improvements Program. The Planning Commission shall review the CIP for consistency with the General Plan and the Public Facilities Implementation Plan and report its findings to the City Council. The CIP shall be adopted in conjunction with the annual City budget.

AD-I-5. The City shall review and amend, as necessary, the City’s Zoning Ordinance and Subdivision Ordinance to ensure consistency with the General Plan.
THIS PAGE INTENTIONALLY LEFT BLANK.
CITY OF MANTeca

MANTeca SB 5 SAFETY ELEMENT AMENDMENT

May 14, 2016

Prepared for:

Community Development Department
Planning Division
City of Manteca
1001 W. Center St.
Manteca, CA 95337

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818
CITY OF MANTECA

MANTECA SB 5 SAFETY ELEMENT AMENDMENT

May 14, 2016

Prepared for:
Community Development Department
Planning Division
City of Manteca
1001 W. Center St.
Manteca, CA 95337

Prepared by:
De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818
Contents

1.0 Introduction .................................................................................................................................3
  1.1 The City of Manteca ....................................................................................................................4
  1.2 Manteca General Plan ..................................................................................................................4
  1.3 Manteca General Plan Safety Element .......................................................................................6
  1.4 Manteca General Plan Safety Element Update .......................................................................6
  1.5 200-Year Flood Requirements for Local Government .............................................................6
  1.6 Agency Consultation and Review .............................................................................................7
  1.7 GPA Approval and Adoption ....................................................................................................7

2.0 Environmental Setting and Flood Protection ...........................................................................8
  2.1 San Joaquin River Hydrology and Flooding ...........................................................................8
  2.2 Flood and Flood Protection History .........................................................................................8
  2.3 Manteca Flood Protection Profile ............................................................................................9
  2.4 Upstream Reservoirs ...............................................................................................................10
  2.5 Federal “Project” Levees .........................................................................................................10
  2.6 State Plan of Flood Control (SPFC) Levees .............................................................................11
  2.7 Reclamation District Levees .....................................................................................................11
  2.8 Reclamation District 17 .............................................................................................................11
  2.9 RD 2094 (Walthal) ..................................................................................................................12
  2.10 Levee Evaluation .....................................................................................................................13
  2.11 100 Year Flood Concerns ......................................................................................................15
  2.12 200 Year Flood Concerns ......................................................................................................15

3.0 Flood Hazard Area Mapping ..................................................................................................17
  3.1 FEMA Flood Hazard Zones ......................................................................................................17
  3.2 U.S. Army Corps of Engineers Flood Hazard Information .......................................................17
  3.3 CVFPB Designated Floodway Maps .........................................................................................18
  3.4 Levee Flood Protection Zones ................................................................................................18
  3.5 Areas Subject to Inundation in the Event of the Failure Levees or Floodwalls .......................18
  3.6 Awareness Floodplain Mapping Program ...............................................................................18
  3.7 RD 17 Detailed 200-Year Floodplain Mapping ......................................................................18
  3.8 Dam Failure Inundation Maps .................................................................................................19

4.0 Flooding Emergency Response and Exposure Reduction ......................................................19
  4.1 Emergency Response ..............................................................................................................19
  4.2 Non-Structural Flood Management Strategies .......................................................................21
  4.3 Levee Maintenance .................................................................................................................21
  4.4 Exposure Reduction ...............................................................................................................22

5.0 Flood Agency Profile and Organization ...............................................................................23
  5.1 Federal Emergency Management Agency (FEMA) .................................................................23
  5.2 United States Army Corps of Engineers (USACE) ................................................................23
  5.3 California Department of Water Resources (DWR) ...............................................................24
  5.4 Central Valley Flood Protection Board (CVFPB) ..................................................................25
  5.5 Governor's Office of Emergency Services (State OES) ..........................................................26
  5.6 Delta Protection Commission ..................................................................................................26
  5.7 Delta Stewardship Council ....................................................................................................27
  5.8 San Joaquin County ...............................................................................................................27
  5.9 San Joaquin Area Flood Control Agency (SJAFCA) ..............................................................28
FLOOD HAZARDS

5.10 San Joaquin County Flood Control and Water Conservation District ........................................... 28

6.0 Regulatory Framework .......................................................................................................................... 29

6.1 Senate Bill 5 ........................................................................................................................................ 29
6.2 Senate Bill 17 and Assembly Bill 5 ...................................................................................................... 30
6.3 Assembly Bill 162 .................................................................................................................................. 30
6.4 Assembly Bill 70 .................................................................................................................................. 31
6.5 Senate Bill 1278 .................................................................................................................................. 31
6.6 FloodSAFE California .......................................................................................................................... 32
6.7 California Environmental Quality Act .................................................................................................. 32
6.8 Federal Emergency Management Agency (FEMA) ........................................................................... 32
6.9 Rivers and Harbors Appropriation Act of 1899 .................................................................................. 32
6.10 Flood Control Act ............................................................................................................................... 32
6.11 National Flood Insurance Program (NFIP) ...................................................................................... 32
6.12 Flood Disaster Protection Act (FDPA) ............................................................................................... 33
6.13 City of Manteca General Plan ........................................................................................................... 33

7.0 Proposed General Plan Safety Element Amendment ........................................................................ 36

8.0 Consistency Review ............................................................................................................................. 40

Figures:

Figure 1. Regional Location ...................................................................................................................... 49
Figure 2. General Plan Land Use Map ...................................................................................................... 51
Figure 3. San Joaquin River Watershed .................................................................................................. 53
Figure 4. Reclamation District Boundaries ............................................................................................. 55
Figure 5. Levee System (Federal and Nonfederal) .................................................................................. 57
Figure 6. Reclamation District 17 (boundary) and Levee System ............................................................. 59
Figure 7. Reclamation District 2094 (boundary) and Levee System ........................................................ 61
Figure 8. FEMA Flood Map ..................................................................................................................... 63
Figure 9. 200-Year Floodplain Extent ...................................................................................................... 65
Figure 10. 200-Year Refined Floodplain by Depth East of San Joaquin River ......................................... 67
Figure 11. DWR Levee Flood Protection Zones ...................................................................................... 69
Figure 12. Dam Inundation Map .............................................................................................................. 71
1.0 INTRODUCTION

The requirements of the Senate Bill 5 (SB 5) Bills must be incorporated into the Manteca General Plan 2023 (GP 2023) on or before July 2, 2015, and into the City’s Zoning Code within 12 months following the General Plan Amendment. This General Plan Amendment (GPA) document, describes the amendments to the GP 2023 needed to reflect the requirements of the SB 5 Bills based on new flood information and data that was unavailable during the previous Safety Element Amendment in 2013. This GPA is organized as follows:

- Section 1.0. Introduction: provides an overview of the City of Manteca, background information for the environmental setting and flood protection considerations, and the general requirements of the SB 5 Bills to be met in the GPA.

- Section 2.0 Environmental Setting and Flood Protection: provides an overview of the San Joaquin River flooding and flood protection history, the Manteca flood protection profile, and area flood concerns.

- Section 3.0 Flood Hazard Area Mapping: provides an overview of area flood mapping projects, and best available flood mapping data.

- Section 4.0 Flooding Emergency Response and Exposure Reduction: provides an overview of local, State, and Federal emergency response to flood events, and exposure reduction strategies.

- Section 5.0 Flood Agency Profile and Organization: provides an overview of local, regional, State, and Federal flood agencies and their roll in flood protection.

- Section 6.0 Regulatory Framework: provides the regulatory setting for flood requirements.

- Section 7.0 Proposed Amendment of the Safety Element: the proposed amendment includes the analysis of background information describing areas subject to flooding, agency flood protection responsibilities, existing and planned flood protection improvements, and emergency response responsibilities to develop flood hazard, goals, policies and implementation measures that address flood protection as required by the SB 5 Bills. This section is intended to be included in the Manteca General Plan 2023 Policy Document Section 7.2 (Flood Hazards).

- Section 8.0 Consistency Review; reviews the consistency between the GPA and the GP 2023, and any need for amendments to the GP 2023 to enhance clarity and maintain internal consistency and comply with General Plan Requirements.

TERMS:

The following policy terms are uses throughout this document are described below:

200-Year Flood Exposure and Depth are those geographic areas and depths as defined on Figure 10, or subsequent maps approved by the City of Manteca, or Floodplain Administrator.

New Development is defined as a development agreement, a tentative map, or a parcel map for which a tentative map was not required, a discretionary approval or a ministerial permit that would
result in the construction of a new residence, as described in Government Code §65865.5(a), 65962(a), or 66474.5(a), as amended.

**Adequate Progress** is as defined in California Government Code Sections 65007, 65865.5(a)(3), 65962(a)(3) or 66474.5(a)(3).

**Critical Facilities** are as defined in the City of Manteca General Plan as police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

**Development** includes certain development agreements, subdivision maps and development permits as described in Government Code §65865.5(a), 65962(a) and 66474.5(a).

**Flood Hazard Zones** are Special Flood Hazard Areas (SFHAs) as defined and mapped by FEMA.

**Non-Urban** or **Not Urbanizing** means a developed area or an area outside a developed area in which there are fewer than 10,000 residents that is not an urbanizing area.

**Urban Level of Flood Protection (ULOP)** means the level of protection that is necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year using criteria consistent with, or developed by, the Department of Water Resources. “Urban level of flood protection” shall not mean shallow flooding or flooding from local drainage that meets the criteria of the national Federal Emergency Management Agency standard of flood protection (GC 65007). The DWR-approved criteria are described in *Urban Level of Flood Protection Criteria, November 2013*.

**Urban Levee Design Criteria (ULDC)** are engineering criteria and guidance for civil engineers to follow in meeting the requirements of California’s Government Code Sections 65865.5, 65962, and 66474.5 with respect to Findings that levees and floodwalls in the Sacramento-San Joaquin Valley provide protection against a flood that has a 1-in-200 chance of occurring in any given year. The criteria are described in *Urban Level Design Criteria, May 2012*.

**Urban and Urbanizing Areas** Urban areas are defined as a developed area in which there are 10,000 residents or more. Urbanizing areas are a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years.

### 1.1 The City of Manteca

The City of Manteca is located in San Joaquin County California, and had a U.S Census population estimate of 73,494 in 2014. The City lies east of the north flowing San Joaquin River, Interstate 5 (I-5), and Interstate 205 (I-205). The City includes State Route 120 (SR-120) which bisects the City running east/west, and State Route 99 (SR-99 Golden State Highway) running north/south in the eastern portion of the City. Figure 1 shows the City’s regional location.

### 1.2 Manteca General Plan

The California Government Code §65000 et. seq. requires each City and County to adopt a General Plan “for the physical development of the County or City, and any land outside its boundaries which bears relation to its planning” (§65300). The General Plan has been deemed by the California courts to be the jurisdiction’s “constitution for future development.” The General Plan describes the community’s land use and development goals, policies, and standards and the measures needed to implement the plan.
The General Plan includes seven required elements: Land Use, Circulation, Housing, Conservation, Open-Space, Safety and Noise. Implementation measures may include the means for providing street and utility infrastructure needed to support new development, how natural resources will be conserved, and how public health and safety will be protected. Most local government decisions related to development are required by law to be consistent with the General Plan. The General Plan is to be comprehensive in its treatment of land use and related issues, and the multi-faceted plan must also be “internally consistent”, and serves as a framework for public and private development, and establishes requirements for additional planning studies where greater specificity is needed.

The City of Manteca has adopted a comprehensive General Plan that addresses the applicable Government Code requirements in a range of specialized elements adapted to local conditions. The City, adopted the City of Manteca General Plan (2023 GP) on October 6, 2003 and has included the following amendments since adoption: Circulation Element Amended April 5, 2011; Air Quality Element Amended October 15, 2013; and Safety Element Amended December 17, 2013. The City of Manteca General Plan Land Use Map designates land uses within the City Limits and Sphere of Influence (SOI). The City’s General Plan Land Use Map is shown on Figure 2.

The Manteca General Plan includes the seven State-mandated elements and four optional elements. The eleven elements that comprise this General Plan include:

- **Land Use** - establishes land use designations with types and intensities of use and sets policies and programs regarding future development of the City.
- **Community Design** - establishes urban design guidelines to ensure that new development is attractive and contributes to the sense of Manteca as a location.
- **Circulation** - contains policies for the City’s roadway system, transit, pedestrian and bicycle circulation, and methods of managing transportation demand, accounting for the relationship between land use and circulation.
- **Economic Development** - addresses the need for Manteca to broaden its employment base to maintain the high quality of life currently enjoyed and implementing an economic development strategy.
- **Housing** - includes policies and programs to increase the variety and types of housing in the City, emphasizing infill sites, increased density, and mixed uses downtown, and also includes a discussion of housing needs and programs to provide additional housing for special needs populations.
- **Public Facilities and Services** - discusses public facilities including domestic water, sewer, storm drainage, electricity services, solid waste, education, police protection, fire protection, and parks and recreation.
- **Safety** - contains policies and programs to protect the community from injury, loss of life, and property damage resulting from natural disasters and hazardous conditions.
- **Resource Conservation** - emphasizes the accommodation of population growth while conserving and protecting the area’s natural resources and quality of life.
- **Noise** - identifies policies that will protect the community from noise hazards.
- **Air Quality** - addresses the community’s need to cooperate regionally so that increased development does not further degrade the air quality.
- **Administration** - provides a tool to City staff and elected officials to administer and implement the General Plan.
1.3 Manteca General Plan Safety Element

The City of Manteca Safety Element identifies the potential hazards in the community that must be considered when planning the location, type, and intensity of development. The primary objective of the Safety Element is to reduce the potential for loss of life, injuries, and property damage that could result from a natural or a man-made disaster. Specific topics addressed in this Element include: Geologic and Seismic Hazards, Flood Hazards, Hazardous Materials, and Emergency Response Planning.

Public safety flood services within the City include flood protection, floodplain management and emergency response in the event of flooding. These services are delivered in cooperation with a variety of Federal, State and local agencies. Locally, these agencies include the reclamation districts that are directly responsible for levee maintenance, the Manteca Police Department, Lathrop-Manteca Fire District, and San Joaquin County Office of Emergency Services. The various agency involvements are defined in greater detail throughout this document.

1.4 Manteca General Plan Safety Element Update

California general plans have since 1971 been required to include a Safety Element that addresses flooding, geologic hazards, emergency response and other public safety concerns; the adopted Manteca General Plan 2023 includes goals, policies, and implementation measures related to these safety concerns. However, recent legislation including SB 5 outlined a more aggressive State flood protection agenda, which established the 200-year flood protection standard and placed most of the responsibility for meeting the new standard, and for implementing new policy, on local government. The individual SB 5 Bills are described in more detail in Section 6.0 (Regulatory Framework).

The Manteca General Plan Safety Element was amended on December 17, 2013 (Resolution NO. R2013-222). Amendments to the Safety Element included text revisions and the addition of policies and implementation measures to reflect the City’s commitment to comply with provisions outlined in Senate Bill (SB) 5 and the Central Valley Flood Protection Plan.

In 2014, The City of Manteca, in conjunction with the adjacent City of Lathrop, jointly funded studies to produce the 200-year Freeboard Analysis & Floodplain Mapping within RD 17. This analysis produced a refined version of available Federal and State hydraulic modeling, 200-year water surface profiles in the San Joaquin River, and mapping of the 200-year floodplain area (and depth) for all areas protected by RD 17 levees. This initial effort was completed in May 2014, and as a result of additional information (unavailable at the time of the 2013 Safety Element Update), this General Plan amendment incorporates the recent studies to include additional 200-year standards and other requirements of the SB 5 Bills into the GP 2023.

1.5 200-Year Flood Requirements for Local Government

The State’s overall long-term program for improving flood protection includes expanded availability of flood risk and planning information, establishment of flood protection and facility design standards, technical assistance to flood protection and land use agencies, and an enforcement system for the new requirements. A key feature of the State program is the Central Valley Flood Protection Plan (the “CVFPP”), adopted by the Central Valley Flood Protection Board in 2012; the CVPPP, to be updated on a 5-year cycle, provides an overall understanding of flooding risk and exposure in the Central Valley, the general nature and adequacy of existing flood protection systems, and a statewide strategy for the allocation of available funding for flood protection improvements; the financing strategy is known as the Statewide System Investment Approach (SSIA).
The CVFPP is primarily concerned with State Plan of Flood Control (SPFC) facilities, which are shared Federal/State facilities the State is obligated to cooperate in maintaining and improving. In defining the SSIA, DWR considered three principal approaches to flood protection: 1) repair or improvements to SPFC levees, 2) 200-year flood protection improvements in high-risk urban and urbanizing areas, and 3) integrated projects, such as setback levees that improve the flood system capacity while achieving other goals.

The CVFPP identifies the need for more area-specific Regional Flood Management Plans. An RFMP has been drafted for the Lower San Joaquin River-South Delta area (SJAFCA, 2014). Another key requirement of the SB 5 Bills is that “urban and urbanizing” areas must be provided with an Urban Level of Flood Protection (ULOP). Levees that are intended to provide ULOP must conform to State-defined Urban Levee Design Criteria (ULDC). RD 17 has identified providing ULOP as their individual goals for Long-Term Level of Flood Protection. RD 2094 is not currently protected from the 100-year flood, does not include existing or planned urban areas and does not need to or intend to provide ULOP.

Upon the effective date of the Zoning Code Amendment, the City of Manteca may not approve new urban development in potential 200-year floodplain areas where predicted flood depths would be 3 feet or more unless ULOP has been provided, or unless the City certifies, based on substantial evidence that “adequate progress” has been made toward provision of ULOP by 2025.

**1.6 AGENCY CONSULTATION AND REVIEW**

Government Code §65352(a), which governs the preparation and amendment of general plans, includes general requirements for review of general plans and amendments prior to adoption, and also mandatory consultation requirements for the amendment of Safety Elements as required by the SB 5 Bills. Documentation of the City’s consultation and review efforts, comments submitted in response to these efforts, and the City’s consideration of comments will be included in Appendix A.

**1.7 GPA APPROVAL AND ADOPTION**

The City of Manteca will conduct public hearings with respect to the GPA before the Manteca Planning Commission and City Council. Hearings will be noticed in accordance with the requirements of Government Code §65353 and §65091. After consideration of public comment, review of CEQA documentation, and the Planning Commission’s recommendations, the City Council will consider approving the GPA.
2.0 ENVIRONMENTAL SETTING AND FLOOD PROTECTION

2.1 SAN JOAQUIN RIVER HYDROLOGY AND FLOODING

The City of Manteca is located approximately 0.5 miles east of the San Joaquin River. Upstream (south) of the City of Manteca the San Joaquin River collects runoff from all of the major rivers draining the 13,500-square mile San Joaquin Valley; the drainage area, excluding the Tulare Lake Basin, includes approximately 40% of the land area in California. Figure 3 displays the San Joaquin River drainage basin and major tributaries. The San Joaquin River is the primary source of flooding hazards in Manteca. The River conveys seasonally high flows, which can result from prolonged rainfall, snow melt and rain-on-snow events in the watershed. The Manteca area, unlike areas to the west and northwest, is not subject to tidal flooding. High flows on the San Joaquin River that are derived from rainfall generally occur between November and April and are characterized by high peak flows of moderate duration. Snowmelt flows, however, normally occur later in the year, between April and June. High flows derived from snowmelt may be sustained for weeks and months. The quantity of flow reaching the Manteca area under either high flow condition or snowmelt are moderated by upstream reservoirs operated by Federal, State and local agencies for various purposes, primarily water supply but also including flood protection. Local flood protection systems are primarily levee constructed and maintained to Federal standards by RDs 17, and 2094 under the authority of the State (SJAFCA, 2014). Figure 4 Displays reclamation district boundaries in the general vicinity of Manteca.

The San Joaquin River discharges an average of more than 3 million acre-feet of water annually. Historically, as recorded by the US Geological Survey near Vernalis (approximately 8 miles south of the City of Manteca), monthly average flows have ranged from less than 100 cubic feet per second (cfs) in the late summer of dry years, to sustained winter and spring flows of 40,000 cfs. The highest recorded flow on the San Joaquin River at Vernalis was estimated at 79,000 cfs in 1950 including estimated flows through failed levees; however, the river reached its maximum flood elevation as recently as 1997.

DWR’s Regional Flood Atlas (DWR, 2013) estimates the design capacity of the San Joaquin River for floodwater passage at 52,000 cfs south and upstream of the City of Manteca, and 37,000 cfs along the San Joaquin River near the cities of Manteca and Lathrop.

2.2 FLOOD AND FLOOD PROTECTION HISTORY

Potential flooding involves significant risks to lives and property in the City. Flooding effects can include loss of life and injury, damage to and destruction of buildings and site improvements, permanent damage to or temporary loss of utility services, damage to roads and bridges, unavailability of goods and services, entrainment of hazardous materials and the threat of waterborne diseases as well as social and economic effects on the community.

The current State Plan of Flood Control (SPFC) system protects a population of over one-million people and many billions of dollars in public and private assets currently located within floodplains. These at-risk assets include major freeways, railroads, airports, water supply systems, utilities, and other public and private infrastructure of national, regional and statewide importance. Planned levee improvements will provide additional flood protection for population and assets within Flood Control (SPFC) system and the City of Manteca.

According to the San Joaquin County General Plan (SJGP, 2009), floods in the San Joaquin Valley have been recorded for over 175 years. The County reports that the “Great Flood” of 1861-1862 was followed by “major” floods in 1867, 1881, 1890, and that other major floods occurred in 1904, 1907, 1909, 1911
and 1928. These and other events led to establishment of the cooperative Federal-State flood protection system in the early 1900s. Under this system, the Federal government reconstructed existing private levees and constructed new levees to Federal standards, including several projects in San Joaquin County. These include the 1966 Lower San Joaquin River and Tributaries Project, which includes “project levees” protecting the City of Manteca including the RD 17 levee system. Although initially constructed by the Federal government, the State’s contribution included the acceptance of maintenance responsibility for the levees in perpetuity. This responsibility was later assigned to the reclamation districts.

Notwithstanding the development of “project” levees over time, according to the San Joaquin County General Plan, major damaging flood events occurred in 1950, 1955, 1958, the 1962/63 season, the 1968/69 season and four times since 1980, and most recently in January 1997. The most recent area floods were caused by regional-scale storms that produced very high runoff in the San Joaquin River basin. The 1997 flood was the result of a rain-on-snow event that caused extensive flooding along the San Joaquin River and in the Delta, including flooding from 27 levee failures along the San Joaquin River. The 1997 flooding inundated both RD 2107 and RD 2062 as a result of floodwater spill from RD 2107 to RD 2062 levees. There were no failures of the RD 17 levees although high flows required sandbagging along the levee top (Gatto, Freeman, pers. comms.). The levees also sustained considerable seepage damage in 1997; RD 17 subsequently completed two phases of levee seepage improvements and restored FEMA accreditation. A third phase of RD 17 seepage improvements is planned and undergoing permit review by the USACE.

DWR’s Regional Flood Atlas (DWR, 2013) contains a more detailed flood history of the Lower San Joaquin area as a whole as well as descriptions of individual events. The Lower San Joaquin River/Delta RFMP (SJAFCA, 2014) estimates average annual equivalent damages from floods in the Lower San Joaquin River basin at approximately $25 million annually; about 60% of the estimated amount is attributed to crop damage.

The role of Federal agencies in providing flood protection, primarily through the USACE, has historically been to evaluate flood risk, develop Federal design standards and to design and construct federally authorized flood control facilities such as reservoirs, bypasses and levees. The State has not historically had a major role in flood protection planning, standards development or construction projects. In its long-term partnership with the Federal government, the State has assumed responsibility primarily for maintenance and inspection of levees and other flood protection facilities constructed by the Federal government.

### 2.3 Manteca Flood Protection Profile

The City of Manteca is the second largest metropolitan area within the Lower San Joaquin River Region with a population of approximately 73,000. Manteca is not directly bordered by San Joaquin River levees, although the levees on the west side of RD 17 along the San Joaquin River, and the dryland levee on the south end of RD 17 provide flood protection for the City. The dryland levee along the south boundary of RD 2094 is not intended to hold floodwaters from the south (upstream), instead it is intended to contain flows on RD 2094 and RD 2096 in the event of a levee breach along RD 2094, RD 2096, or RD 17 levees. Figure 4 displays the reclamation district Boundaries near the City of Manteca.

The City of Manteca has a vested interest in the integrity of the RD 2094 and RD 17 levees. Additionally, the City of Manteca shares similar concerns to other metropolitan areas in the Regions regarding SB 5. The City does not directly control levee improvements made by the RDs, but land use decisions at the
FLOOD HAZARDS

City level are dependent upon these districts to make progress toward completing necessary upgrades to meet ULDC criteria. Furthermore, during the City’s 2013 Safety Element Amendment, the 200-year inundation maps prepared by DWR in July 2013 did not include base flood elevations for the City of Manteca, so it was difficult to predict what area(s) within the City and SOI were within the 200 year floodplain with depths of flooding greater than 3 feet and therefore subject to SB 5.

As discussed previously, The City of Manteca, in conjunction with the adjacent City of Lathrop, jointly funded studies to produce the 200-year Freeboard Analysis & Floodplain Mapping within RD 17. This analysis produced a refined version of available Federal and State hydraulic modeling, 200-year water surface profiles in the San Joaquin River, and mapping of the 200-year floodplain area (and depth) for all areas protected by RD 17 levees.

2.4 UPSTREAM RESERVOIRS

Primary existing flood protection facilities near the City of Manteca are the Federal “project” and State Plan Flood Control levees maintained and improved by the reclamation districts, as discussed in more detail below. However, upstream of the Manteca area, potential flood flows in the San Joaquin River are mitigated to a greater or lesser extent by federal, State and local agencies responsible for operation of upstream reservoirs, as coordinated by the USACE. Federal reservoirs constructed and operated by the USACE are primarily flood control facilities with secondary water supply functions. The USDI Bureau of Reclamation facilities are primarily water supply projects that include some flood protection storage, or are operated to reduce flood flows on an individual basis. Irrigation districts and municipalities operate other water supply reservoirs that also provide some flood control benefits.

Reservoirs are operated in accordance with USACE flood control rules that require, during the flood season, a portion of the storage space in the lake to be reserved for capturing flood flow peaks and then releasing them gradually. The required flood control space is adjusted to reflect seasonal precipitation, soil moisture, and snowpack and the runoff characteristics of each river basin. During major flood events, there is close coordination between State, Federal, and local agencies to forecast weather and runoff conditions, manage and coordinate flood releases from the reservoir system, patrol and flood fight along the levee and bypass system, and operate the weirs, drainage pumps, and other flood control structures (CVFPB, 2012).

2.5 FEDERAL “PROJECT” LEVEES

Flood management facilities protecting the City of Manteca consist of “project” levees which run along both sides of the San Joaquin River. The levees are a portion of the San Joaquin River Flood Control System (SJRFCS), which includes levees on the San Joaquin River, adjacent reaches of its tributaries and distributaries, and bypasses. According to the USACE, the SJRFCS was considered “visionary” when conceived in the early 1900s. The SJRFCS has supported the economic prosperity of the Central Valley and fostered more intensive land uses in Central Valley areas including Manteca that remain physically vulnerable to flood risks. This area is also one of the fastest growing parts of California, with much of the urban growth planned to occur in flood prone areas (USACE, 2002). The SJRFCS was developed and originally constructed by the USACE and the Central Valley Flood Control Board (formerly The Reclamation Board). In addition to the “Project” levees, there are two segments of “non-project” levees located in RD 17. These are described in the following discussion of facilities managed by each district individually. The location of State-Federal SPFC Levees and Non-SPFC Levees are shown on Figure 5.
2.6 STATE PLAN OF FLOOD CONTROL (SPFC) LEVEES

The “project” levee system is the result of long-term Federal and State agreements under which the State commits to the maintenance of the federally-constructed levees; these are known as State Plan of Flood Control (SPFC) facilities. The SPFC by definition consists of the State and Federal flood control works, lands, programs, plans, policies, conditions, and mode of maintenance and operations of the; for which the (State) has provided the assurances of nonfederal cooperation to the United States. Actual maintenance work is delegated by the State to the Local Maintaining Agencies (LMAs), which in the Manteca area are the reclamation districts, and the work is overseen and inspected by the State. The riverbank levees protecting the City of Manteca are SPFC facilities, which are also “project” levees (Figure 5). The SPFC inventory is somewhat fluid as facilities added or modified; the current SPFC inventory is presented in the *State Plan of Flood Control Descriptive Document* (CVFMPP, 2010).

Historically, reclamation district levees were funded by the benefitted landowners, but some financial support has been provided by the State subventions program administered by DWR. However, even with assistance from the State, many of the RDs have struggled to maintain and improve levees (SJAFCA, 2014).

2.7 RECLAMATION DISTRICT LEVEES

Reclamation districts are special districts that are authorized and created under the California Water Code and governed in accordance with the Government Code by an elected local board, usually composed of major landowners. Operation and maintenance costs are covered by property taxes, but the costs of major improvements must be met with State and Federal funding managed through cooperative agreements.

The reclamation districts were established in the 1800s and early 1900s to reclaim low-lying lands for agriculture uses. As urban development expanded into former agricultural areas, the levees were improved to higher standards as a part of USACE “projects” such as the Lower San Joaquin River and Tributaries Project; the Manteca area levees were improved to “modern” standards as a part of this project, which was completed in 1966.

RD 17, and to a lesser extent the dryland levee along the south boundary of RD 2094 are responsible for flood protection levees in the City of Manteca. The State accepted responsibility for maintenance and improvement of the federally-constructed “project” levee, which was delegated to reclamation districts, which are also known as Local Maintaining Agencies (LMAs). All flood prone land in the Manteca incorporated area and SOI is located in one of these two reclamation districts.

AB 156 requires public agencies that maintain levees that protect more than 1,000 people, such as RD 17, to adopt Flood Safety Plans and sign cooperative agreements with the City or County in order to receive State funds for Project Levee upgrades. These agreements and plans are in place for RD 17. RD 2094 does not presently meet the 1,000-person threshold but will be subject to these requirements if/when the threshold is reached. The RDs have been proactively working on their Flood Safety Plans, which are nearly complete.

2.8 RECLAMATION DISTRICT 17

The City of Manteca is located east of the San Joaquin River and is protected from flooding primarily by RD 17 levees. RD 17 is bounded on the west by the San Joaquin River, on the north by French Camp Slough and on the south by a dry land levee protecting the District from flood waters passing through Reclamation Districts 2094 and 2096; high ground defines the District boundary on the east (including
the City of Manteca). RD 17 levees also protect portions of the cities of Lathrop and Stockton as well as nearby unincorporated areas. The overall population located in RD 17 was estimated to be in excess of 43,000 residents in 2013 (RD 17, 2013).\(^1\) RD 17 district boundary and local levee system is shown on Figure 6.

RD 17 was organized in 1863 when initial levee construction began. By 1930 RD 17 had developed a levee system considered “adequate” by the USACE, but the District was subject to levee failure and flooding in 1938, and again in 1951. USACE development of the Lower San Joaquin River and Tributaries Project from 1959-1966, and then further improvements to these “project” levees by land developers in the late 1980s led to FEMA 100-year accreditation of the RD 17 system in 1990.

During the floods of 1997, RD 17 levees did not fail but were subject to seepage damage. Two phases of seepage improvements since then have preserved RD 17’s FEMA accreditation. A permit application for a third phase of seepage improvements is under consideration by the USACE.

The DWR completed detailed Urban Levee and Non-Urban Levee Evaluations (ULE, NULE) program as reported in the *Urban Levees Evaluation Program, Regional Flood Atlas 2013*. The ULEP considered general levee conditions, evaluated possible deficiencies and identified improvements needed to meet ULDC requirements. Evaluation factors included levee geometry, seepage, structural instability, erosion, settlement, penetrations, levee vegetation, rodent damage and encroachments. Based on this analysis, the RD 17 levees were classified as being of “Higher Concern.”

RD 17 levees do not satisfy California’s urban levee design criteria (ULDC) to provide 200-year protection as required by SB 5. The City of Manteca, along with the City of Lathrop and RD 17 are developing a program for design, funding and improvement of the RD 17 levees, including the “non-project” levees, to meet the ULDC and provide ULOP. A $1.1 million technical evaluation of levee conditions, improvements needed to meet ULDC and a preliminary cost estimate for improvements was completed in 2014 (KSN, 2014) based on existing data, including the DWR ULEP studies and the *200-Year Freeboard Analysis and Floodplain Mapping within RD 17* (PBI, 2014). The evaluation found that there were no ULDC deficiencies in height, geometry or other physical characteristics. The primary concern with respect to meeting the ULDC is potential for underseepage. The primary proposed remediation is the installation of cutoff walls in the existing levees together with other relatively minor improvements to correct levee top width, acquire right-of-way and correct slope stability and existing penetration concerns. The total projected cost of improvements is approximately $168 million. The cities are moving forward with an additional $1.4 million program to complete levee evaluations, secure construction funding, and then design and construct necessary improvements to provide ULOP.

### 2.9 RD 2094 (Walthal)

Areas of the southwestern portions of Manteca and the City’s Planning Area are included within RD 2094. The dryland levee along the south boundary of RD 2094 is not intended to hold floodwaters from the south (upstream), instead it is intended to contain flows on RD 2094 and RD 2096 in the event of a levee breach of levees along RD 2094, RD 2096, or RD 17. RD 2094 includes two levee units: unit No. 01 includes 2.82 miles, while unit No. 02 includes 0.46 miles of levee. RD 2094 district boundary and local levee system is shown on Figure 7.

---

\(^1\) RD 17, 2013. Reclamation District 17. Emergency Operations Plan, Basic Plan, for all 3 districts (California Water Code Section 9650 Safety Plan), San Joaquin Operational Area. January 2013
While RD 2094 does not provide direct flood protection for the City of Manteca the integrity of the RD 2094 dryland levee does provide flood protection to the City in the event of an upstream levee failure or breach.

### 2.10 Levee Evaluation

The 2012 Central Valley Flood Protection Plan (CVFPP) identified seepage, erosion, and slope stability concerns with levees in the region based on the Urban-Levee Evaluation (ULE), and Non-Urban Levee Evaluation (NULE). Details of these evaluations for levees near Manteca are presented below in Table 2.1. ULE/NULE and DWR Levee Inspection Report ratings are presented below.

**NULE Levee Ratings**

- **Hazard Level A** - When water reaches the assessment water surface elevation (typically the 1955/1957 profile), there is a low likelihood of either levee failure or the need to flood-fight to prevent levee failure.

- **Hazard Level B** - When water reaches the assessment water surface elevation (typically the 1955/1957 profile), there is a moderate likelihood of levee failure or the need to flood-fight to prevent levee failure.

- **Hazard Level C** - When water reaches the assessment water surface elevation (typically the 1955/1957 profile), there is a high likelihood of levee failure or the need to flood-fight to prevent levee failure.

- **Lacking Sufficient Data** (Category LD) - Lacking sufficient data regarding levee past performance or hazard indicators to be able to assign a hazard level or there is poor correlation between past performance and hazard indicators.

**ULE Levee Ratings**

- **M** – Meets ULDC criteria

- **MG** – Marginally meets ULDC criteria

- **DNM** – Does not meet ULDC criteria

**DWR Levee Inspection Summary Ratings**

- **Acceptable (A)** – No immediate work required, other than routine maintenance. The flood protection project will function as designed and intended with a high degree of reliability, and necessary cyclical maintenance is being performed adequately.

- **Minimally Acceptable (M)** – One or more deficient conditions exist in the flood protection project that needs to be improved or corrected. However, the project will essentially function as designed with a lesser degree of reliability than what the project could provide.

- **Unacceptable (U)** – One or more deficient conditions exist that may prevent the project from functioning as designed, intended, or required.

 NOTE: Instances where M* are given, this means that this levee segment would have received an “A” rating, but there were very small portions of levee that received a rating of “U”.
**Table 2.1: NULE/ULE Results of Manteca Area Levees**

<table>
<thead>
<tr>
<th>RD No.</th>
<th>Name</th>
<th>Segment #</th>
<th>Under-Seepage</th>
<th>Slope Stability</th>
<th>Through-Seepage</th>
<th>Erosion</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>2094</td>
<td>Walt Hall</td>
<td>1 201</td>
<td>B*</td>
<td>A*</td>
<td>B*</td>
<td>A*</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 337</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2096</td>
<td>Weatherbee Lake</td>
<td>1 203</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

**ULE Results**

<table>
<thead>
<tr>
<th>RD No.</th>
<th>Name</th>
<th>Reach ID</th>
<th>Freeboard</th>
<th>Geometry</th>
<th>Seepage</th>
<th>Stability</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Mossdale</td>
<td>A</td>
<td>M</td>
<td>M</td>
<td>MG</td>
<td>M</td>
<td>MG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>M</td>
<td>MG</td>
<td>M</td>
<td>MG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>M</td>
<td>MG</td>
<td>M</td>
<td>MG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>M</td>
<td>M</td>
<td>DNM*</td>
<td>M</td>
<td>DNM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G</td>
<td>M</td>
<td>M</td>
<td>DNM*</td>
<td>M</td>
<td>DNM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>DNM</td>
<td>M</td>
<td>DNM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I</td>
<td>M</td>
<td>DNM</td>
<td>M</td>
<td>DNM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>J</td>
<td>M</td>
<td>DNM</td>
<td>M</td>
<td>DNM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>K</td>
<td>M</td>
<td>DNM*</td>
<td>DNM</td>
<td>DNM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>L</td>
<td>DNM</td>
<td>M</td>
<td>MG</td>
<td>M</td>
<td>DNM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M1</td>
<td>DNM</td>
<td>MG</td>
<td>M</td>
<td>DNM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>N1</td>
<td>DNM</td>
<td>MG</td>
<td>M</td>
<td>DNM</td>
<td></td>
</tr>
</tbody>
</table>


**O&M Ratings**

Maintenance of levees in and around Manteca is performed by the individual RD’s. Table 2.2 below provides a summary of the overall maintenance rating for each RD affecting the City of Manteca. As noted below, RD 2096 received a U rating. This was due to major encroachment and animal control issues, while RD 17 and RD 2094 received a Minimally Acceptable and Acceptable rating respectively. A rating of “Minimally Acceptable*” was given for RD 17 due to small portions of unacceptable erosion and encroachment issues.

**Table 2.2: O&M Ratings**

<table>
<thead>
<tr>
<th>RD No.</th>
<th>Name</th>
<th>Overall O&amp;M Rating Fall 2011</th>
<th>Overall O&amp;M Rating Fall 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>2094</td>
<td>Walt Hall</td>
<td>Acceptable</td>
<td>Acceptable</td>
</tr>
<tr>
<td>2096</td>
<td>Weatherbee Lake</td>
<td>Acceptable</td>
<td>Unacceptable</td>
</tr>
<tr>
<td>17</td>
<td>Mossdale</td>
<td>Acceptable</td>
<td>Minimally Acceptable*</td>
</tr>
</tbody>
</table>

A rating of “Minimally Acceptable*” was given for RD 17 due to small portions of unacceptable erosion and encroachment issues. RD2062 received a U rating due to vegetation, encroachment, and depressions/rutting issues. Source: Lower San Joaquin River and Delta South Regional Flood Management Plan January 2014 Draft
2.11 100 YEAR FLOOD CONCERNS

A “flood hazard zone” is defined in SB 5 as: “an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency.”

The deficiencies identified above represent areas where flood control systems have a higher likelihood of failure. The western portion of the City of Manteca is within a 100-Year and FEMA Zone X floodzone, which is primarily due to flood protection provided by RD 17 levees.

Detailed levee breach floodplains are not available for the Manteca area, but the portion of the City within the Lower San Joaquin River Region is contained within FEMA 100-yr and FEMA Shaded Zone X floodplains, meaning that the population in these areas are either within the 100-yr floodplain, or are outside the 100-yr floodplain due to levees. Table 2.3 below presents the acreage and number of parcels for different land use types within the FEMA 100-yr floodplain, and Shaded Zone X areas.

Table 2.3 Property at Risk from 100-Year Flood Events in the City of Manteca Planning Area

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Parcels</th>
<th>Area (acres)</th>
<th>Area (%)</th>
<th>Land Use</th>
<th>Parcels</th>
<th>Area (acres)</th>
<th>Area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>15</td>
<td>1</td>
<td>0%</td>
<td>Urban</td>
<td>1186</td>
<td>433</td>
<td>24%</td>
</tr>
<tr>
<td>Veg/Graze</td>
<td>2</td>
<td>2</td>
<td>0%</td>
<td>Veg/Graze</td>
<td>58</td>
<td>86</td>
<td>5%</td>
</tr>
<tr>
<td>Farmland</td>
<td>38</td>
<td>433</td>
<td>99%</td>
<td>Farmland</td>
<td>137</td>
<td>1273</td>
<td>71%</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>436</td>
<td>100%</td>
<td>Total</td>
<td>1381</td>
<td>1791</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Lower San Joaquin River and Delta South Regional Flood Management Plan January 2014

Flood Insurance Rate Maps (FIRMs) for the City of Manteca have been issued by the FEMA. Figure 8 shows areas in the City of Manteca that are shown on the FIRMs as being subject to flood risk in the various FEMA classifications.

2.12 200 YEAR FLOOD CONCERNS

Potential flooding from 200-year flood events involves significant risks to lives and property in the City. Portion of the City within the Lower San Joaquin River Region is contained within the delineated 200-year floodplains, meaning that the population in these areas are within the 200-year floodplain, at depths of less than 3 feet, or greater than 3 feet. Table 2.4 below presents the acreage and different General plan land use designations within the 200-year floodplain by depth. The extent of areas in the City of Manteca that are subject to 200-year flood risk is shown on Figure 9, and various detailed flood depth classifications and mapping is shown on Figure 10.
## FLOOD HAZARDS

### Table 2.4 At Risk Land From 200-Year Flood Events In The City Of Manteca Planning Area

<table>
<thead>
<tr>
<th>General Plan Land Use</th>
<th>Depth &lt;=3ft (Acres)</th>
<th>Depth &gt;3ft (Acres)</th>
<th>Total (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Industrial Park (BIP)</td>
<td>0</td>
<td>179.98</td>
<td>179.98</td>
</tr>
<tr>
<td>Commercial Mixed Use CMU</td>
<td>8.96</td>
<td>23.41</td>
<td>32.37</td>
</tr>
<tr>
<td>General Commercial GC</td>
<td>74.34</td>
<td>88.61</td>
<td>162.95</td>
</tr>
<tr>
<td>High Density Res HDR</td>
<td>0</td>
<td>33.40</td>
<td>33.40</td>
</tr>
<tr>
<td>Heavy Industrial HI</td>
<td>44.49</td>
<td>3.85</td>
<td>48.35</td>
</tr>
<tr>
<td>Low Density Res LDR</td>
<td>139.22</td>
<td>624.02</td>
<td>763.25</td>
</tr>
<tr>
<td>Light Industrial LI</td>
<td>89.03</td>
<td>4.38</td>
<td>93.41</td>
</tr>
<tr>
<td>Medium Density Res MDR</td>
<td>4.34</td>
<td>0</td>
<td>4.34</td>
</tr>
<tr>
<td>Neighborhood Commercial NC</td>
<td>6.79</td>
<td>0</td>
<td>6.79</td>
</tr>
<tr>
<td>Open Space OS</td>
<td>0</td>
<td>345.69</td>
<td>345.69</td>
</tr>
<tr>
<td>Park P</td>
<td>8.26</td>
<td>21.48</td>
<td>29.74</td>
</tr>
<tr>
<td>Public/Quasi-Public PQP</td>
<td>191.58</td>
<td>106.88</td>
<td>298.45</td>
</tr>
<tr>
<td>Urban Reserve (Business Industrial Park) UR-BIP</td>
<td>0</td>
<td>70.00</td>
<td>70.00</td>
</tr>
<tr>
<td>Urban Reserve (Very Low Density Residential) UR-VLDR</td>
<td>0</td>
<td>127.42</td>
<td>127.42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>567.01</td>
<td>1629.12</td>
<td>2196.13</td>
</tr>
<tr>
<td><strong>SOI</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture AG</td>
<td>3.54</td>
<td>299.37</td>
<td>302.91</td>
</tr>
<tr>
<td>Business Industrial Park (BIP)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Commercial Mixed Use CMU</td>
<td>5.65</td>
<td>4.42</td>
<td>10.08</td>
</tr>
<tr>
<td>General Commercial GC</td>
<td>0</td>
<td>61.46</td>
<td>61.46</td>
</tr>
<tr>
<td>Heavy Industrial HI</td>
<td>12.62</td>
<td>6.48</td>
<td>19.11</td>
</tr>
<tr>
<td>Low Density Res LDR</td>
<td>142.41</td>
<td>582.74</td>
<td>725.15</td>
</tr>
<tr>
<td>Light Industrial LI</td>
<td>211.11</td>
<td>79.32</td>
<td>290.42</td>
</tr>
<tr>
<td>Neighborhood Commercial NC</td>
<td>0.66</td>
<td>0.69</td>
<td>1.35</td>
</tr>
<tr>
<td>Open Space OS</td>
<td>0</td>
<td>84.23</td>
<td>84.23</td>
</tr>
<tr>
<td>Park P</td>
<td>0.59</td>
<td>9.85</td>
<td>10.44</td>
</tr>
<tr>
<td>Public/Quasi-Public PQP</td>
<td>25.34</td>
<td>5.71</td>
<td>31.05</td>
</tr>
<tr>
<td>Urban Reserve (PARK)</td>
<td>14.46</td>
<td>0</td>
<td>14.46</td>
</tr>
<tr>
<td>Very Low Density Res VLDR</td>
<td>216.73</td>
<td>302.11</td>
<td>518.83</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>633.11</td>
<td>1436.38</td>
<td>2068.62</td>
</tr>
<tr>
<td><strong>City and SOI</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1200.12</strong></td>
<td><strong>3065.50</strong></td>
<td><strong>4265.62</strong></td>
</tr>
</tbody>
</table>

Source: De Novo Planning Group 2016; City of Manteca 200-Year Freeboard Analysis and Flood Data Layers 2014.
As shown in Table 2.4, residential designated areas subject to flooding within the City Limits include, 784 acres with flood depths greater than 3 feet and 144 acres with flood depths of less than 3 feet. Additionally, within the SOI, 885 acres of residential designated lands have flood depths greater than 3 ft., and 359 acres have flood depths of less than three feet. Therefore, due to potential development restrictions within portions of the City and the City’s commitment to providing for the public health and safety of Manteca residents, the City has a vested interest in providing ULFP within areas of the City that contains existing development areas designated for future development.

3.0 Flood Hazard Area Mapping

GC §65302(g) requires that the Safety Element include a range of information related to flooding, including “flood hazard zones,” FEMA National Flood Insurance Program maps, “flood hazard information available from the USACE,” CVFPB floodway maps, dam failure inundation maps, Awareness Floodplain Mapping, 200-year floodplain maps available from DWR, Levee Protection Flood Zone maps, and maps of areas potentially subject to flooding in the event of a failure of levees and floodwalls. There are information overlaps between several of the listed items, and in some cases the required information has been superseded by more recent and/or accurate information.

The cities of Manteca and Lathrop, as a part of their program to provide ULOP for urban and urbanizing areas exposed to 200-year flooding, have developed local and more precise 200-year floodplain area and depth maps. These maps, are a refinement of the FEMA 100-year and 500-year and DWR floodplain mapping, are the foundation for the cities’ efforts to plan and design levee improvements needed to provide ULOP.

3.1 FEMA Flood Hazard Zones

A “flood hazard zone” is defined in SB 5 as: “an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency.” Flood Insurance Rate Maps (FIRMs) for the City of Manteca have been issued by the FEMA. Figure 8 shows those areas in Manteca that are shown on the FIRMs as being subject to flood risk in the various FEMA classifications. FEMA floodplain mapping is also shown in the Regional Flood Atlas, Map 16. According to the FIRM’s, approximately 436 acres in the western portion of Manteca, is located in Zone A 100-year floodplain areas where Base Flood Elevations have not been determined. These areas are classified by FEMA as Special Flood Hazard Areas (SFHAs). Areas outside of the SFHAs are classified as areas of “moderate or minimal hazard.”

As shown on the FIRMs, approximately 1791 acres of the City of Manteca is located in Zone X. Zone X areas are protected from the 100-year flood by FEMA-accredited levees, and are also areas that would be exposed to flooding in the event of levee failure and that would be subject to potential 500-year flooding hazards. Zone X areas are “areas of moderate or minimal hazard” as defined by AB 162.

3.2 U.S. Army Corps of Engineers Flood Hazard Information

The USACE is responsible for preparing the Sacramento and San Joaquin River Basins Comprehensive Study (SSJRCS) after the floods of 1997. This SSJRCS (USACE, 2002) addressed the entire Central Valley flood control system, including 1) a post-1997 flood risk and damage assessment, 2) development of plans for flood control and environmental restoration, and 3) development of a hydrologic/hydraulic model of the entire system, including the operation of the existing reservoirs. Among other things, the SSJRCS included mapping of the 100-year floodplain and of the 200-year and 500-year floodplains; the information provided in these maps are largely coincident with the FEMA FIRMs and are superseded by
FLOOD HAZARDS

the FEMA regulatory maps. More recent and locally-accurate 200-year floodplain maps have been developed for the cities of Manteca and Lathrop under joint contract.

The SSJRCS maps are posted and available for review on the DWR Best Available Mapping web site (http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/).

3.3 CVFPB DESIGNATED FLOODWAY MAPS

Designated floodways are the primary non-structural flood management program employed by the State through the CVFPB (CVFMPP, 2010). Land uses in designated floodways are managed to maintain flood passage capacity. Designated floodway maps that are available are posted on the CVFPB web site. Although the City of Manteca is exposed to flooding risks, a review designated floodways extent maps, shows that the CVFPB has not designated any floodways in or adjacent to the City of Manteca. Interactive CVFPB maps are available at (http://gis.bam.water.ca.gov/bam/).

3.4 LEVEE FLOOD PROTECTION ZONES

Levee Flood Protection Zones (LFPZs) are theoretical areas that could be flooded in the event of levee failure in levee-protected areas. More specifically, the LFPZs describe areas that would be flooded to depths of three feet or more, or to depths of less than 3 feet, if the river water level contained by a State/Federal “project” or SPFC levee is at the top of the levee, and then released as a result of levee failure.

These maps were developed by California DWR, as required by Water Code Section 9130, to estimate the maximum potential flooded area from levee failure. The LPFZ inundation areas in Manteca are shown on Figure 11. LPFZ inundation areas prepared by DWR do not include flood depth for the City of Manteca. The LPFZ maps are shown on Map 3 of the LSJR/D Regional Flood Atlas (DWR 2013) and online at http://gis.lfpz.water.ca.gov/lfpz/. As noted by DWR, the LPFZ maps are not regulatory tools and may not describe all potential flooding hazards.

3.5 AREAS SUBJECT TO INUNDATION IN THE EVENT OF THE FAILURE OF PROJECT OR NON-PROJECT LEVEES OR FLOODWALLS.

As discussed in the previous section, maximum potential flooding from failure of project levees is described by Levee Flood Protection Zones (LFPZs). Areas subject to potential inundation as a result of levee failure of project levees are also described by the FEMA Flood Insurance Rate Maps (Zone X protected by Levee) and floodplain mapping in the USACE Sacramento-San Joaquin Rivers Comprehensive Study.

3.6 AWARENESS FLOODPLAIN MAPPING PROGRAM

DWR established the Awareness Floodplain Mapping project to identify flood hazard areas that may not otherwise be mapped, e.g. under the FEMA National Flood Insurance Program (NFIP), and to provide communities with an additional tool for understanding potential flood hazards. The DWR Awareness Floodplain Maps (DWR, 2015) do not identify any areas in or near the City of Manteca that are potentially subject to flooding, and that are not already shown on the FEMA FIRMs or other Federal or State floodplain maps.

3.7 RD 17 DETAILED 200-YEAR FLOODPLAIN MAPPING

The City of Manteca, in conjunction with the adjacent City of Lathrop, the reclamation districts and other flood protection and funding agencies are taking action toward providing an Urban Level of Flood
FLOOD HAZARDS

Protection (ULOP), including protection from the 200-year flood, in potentially-inundated portions of both cities. As a part of this effort, the cities jointly funded an initial contract with consultants Peterson Brustad Inc. (PBI) to produce the 200-year Freeboard Analysis & Floodplain Mapping within RD 17. As discusses previously, this analysis produced a refined version of available Federal and State hydraulic modeling, 200-year water surface profiles in the San Joaquin River, and mapping of the 200-year floodplain area (and depth) for all areas protected by RD 17 levees.

This initial effort was completed in May 2014. Mapping results are shown on Figure 10, which shows areas of 200-year flood inundation by depth. The cities have also developed a reconnaissance-level assessment of ULDC “deficiencies” based on existing information produced by RD 17 and DWR, and a programmatic cost estimate for the levee rehabilitation needed to meet ULDC. The assessment indicates that the existing levees are generally consistent with geometric criteria and other ULDC. The cost of correcting deficiencies is estimated at approximately $150 million.

The cities’ consultants are currently collecting more detailed geotechnical design information, in order to produce improvement plans and develop a more refined rehabilitation cost estimate so that financing can be secured and the necessary improvements permitted and constructed. This analysis will be documented in a Preliminary Design Report, which will be subject to review by an Independent Panel of Experts, as a part of providing substantial evidence of documenting ULOP “adequate progress” requirements.

3.8 DAM FAILURE INUNDATION MAPS

The San Joaquin River watershed includes numerous dams ranging from small stock ponds to Federal project reservoirs capable of storing more than 2 million acre-feet of water. These facilities, distributed throughout the San Joaquin River drainage, provide storage for agricultural and urban water supply, power generation and in some cases flood control.

State law requires that dams be evaluated regularly to verify their structural integrity, including resistance to earthquake damage. However unlikely, failure of a dam would release stored water that could inundate downstream areas and result in loss of life, damage to property, displacement of residents and damage to water resource and other infrastructure. Of the 15 major dams identified in the San Joaquin County General Plan, five have the potential to inundate all or portions of Manteca in the event of a dam failure. Maps estimating potential areas of inundation from failure of each of these dams are shown on Figure 12.

As shown on Figure 12, failure of the largest reservoir, New Melones has the potential to inundate the entire Manteca community and surrounding areas. Failure of the San Luis Reservoir has the potential to inundate roughly half of Manteca in the western portions of the City. Failure of Tulloch Reservoir, Lake McClure Reservoir, and Pine Flat Dam could also inundate areas located within south and southwestern portions of the community the majority of which is currently occupied by agricultural lands.

4.0 FLOODING EMERGENCY RESPONSE AND EXPOSURE REDUCTION

4.1 EMERGENCY RESPONSE

Emergency response to flooding and flooding threats is primarily the responsibility of local agencies including the City of Manteca, the reclamation districts, the Manteca Fire Department and the Manteca Police Protection Department, as well as the San Joaquin County Office of Emergency Services. The State of California and the Federal government serve a larger coordinating role in emergency response
planning, financing and logistical support. These agencies have established uniform Incident Command Systems, which are the basis for County, City and other agency emergency action plans. In the event of a flooding incident or threatened incident, the City of Manteca plays a key role in response together with the Manteca Fire and Police Departments. Emergency response efforts are organized in accordance with California Incident Command System (ICS), which is in turn based on the National Incident Management System (NIMS). The purpose of both is to provide uniform incident management organization and procedures that can be used effectively and simultaneously by public safety agencies at all levels of government, including local agencies in San Joaquin County.

In the event of a flood or impending flood, an Incident Command is established, typically by the City, although this role can be assumed by other agencies. The Incident Command is responsible for integrating planning, logistics, finance and coordination of all local activities including flood fight, public communication and evacuation operations. The Incident Command is typically directed by the City Manager or Mayor but may also be headed by the Fire or Police Chief.

Additional emergency response support is developed during pre-event planning at all levels of government. At the local level, this may include further definition of organization and procedure, training exercises and identification of supply facilities, evacuation routes and rally points. In emergency situations that involve larger geographic areas, an Incident Command, together with Incident Commands established by other jurisdictions, may also be supported by Area Commands and/or Emergency Operations Centers. These organizations, often established by the San Joaquin County Office of Emergency Services, exist for the purpose to supporting the local Incident Commands with liaison to government officials, finance, and purchasing. These temporary teams are also organized in accordance with the California ICS and NIMS procedures and may draw resources and other support from allied State and Federal agencies.

The San Joaquin County OES has the responsibility for coordinating multi-agency emergency response events within the San Joaquin Operational Area, including Manteca. Flooding along the San Joaquin River would likely be a multi-agency event involving the surrounding Cities, City and County police services, fire protection agencies, medical and other emergency responders and the affected reclamation districts. Within the San Joaquin Operational Area, flood fight responsibilities are divided into four “Flood Fight Command” areas. The RD 17 portion of the City is located in the Metro Flood Fight Command based at the County OES offices on Amelia Earhart Way in Stockton.

The County’s Multi-Agency Coordination System (MACS) provides overall guidance to the various emergency response agencies identifying agency-specific responsibilities for community warning, action, communication, mutual aid and other coordination with the responsible agencies. MACS is based on the Federal NIMS command system and State SEMS system, which is tiered from NIMS. The County’s efforts are centered at the San Joaquin Operational Area Emergency Operations Center. A uniform command structure is defined in the SEMS Incident Command System (ICS).

The Cities, police and fire agencies, emergency response providers, and reclamation districts have each prepared and adopted Emergency Operations Plans, which define agency responsibilities based on the NIMS, SEMS and MACS.

The reclamation districts have direct responsibility for the levees, pumps and other systems that protect district lands in the event of flooding. Emergency-related responsibilities include water level observation, levee and equipment inspection and physical work needed to prevent levee damage, overtopping or failure. RD board members, executives and employees must be properly trained in the
physical aspects of flood protection systems as well as in coordination with other agencies through the County OES. The Districts’ Flood Safety Plans must be approved by the City Public Works Director, County OES and DWR. The State DWR is the lead State agency for responding to flood emergencies, coordinating response.

The DWR is also responsible for development and funding of enhanced levee operation and maintenance programs, including after-event identification of erosion or other levee damage, information collection and sharing, local emergency response planning, additional forecasting and notification, improvements to County Alert System and levee improvements, including the provision of all-weather roads on levee crowns to facilitate monitoring.

4.2 NON-STRUCTURAL FLOOD MANAGEMENT STRATEGIES

In addition to the provision of flood protection structures and emergency response planning, “flood management” includes other means for prevention of and preparation for flood events, such as development of flood-related information, mapping and plans, establishment of standards and criteria, inspection, maintenance and improvement of existing facilities and planning to minimize flood exposure. These responsibilities are shared among agencies at all levels of government.

Despite improvements to levees and installation of other flood protection structures, the risk of flooding and the need for flood management cannot be eliminated. Inadequate maintenance of flood protection structures like levees can lead to facility failures, or the capacity of these structures may be exceeded by extreme flood events. Land use planning that is not mindful of flooding risk can place more people and improvements in harm’s way, and absent or ineffective flood emergency planning and response can result in unnecessary loss of life, injury and property damage. This remaining flood threat is termed “residual risk,” which can be addressed by “non-structural” flood management efforts. Non-structural elements of flood management involve efforts to 1) adequately inspect and maintain flood control structures, 2) reduce the risk of exposure of people and improvements to potential flooding, and 3) plan for effective emergency response in the event of flooding. A more detailed discussion is found in the Lower San Joaquin River and Delta Regional Flood Management Plan (SJAFCA, 2014)

4.3 LEVEE MAINTENANCE

The reclamation districts as well as supporting State and Federal agencies have opportunities to provide an additional margin of flood protection by providing for the proper maintenance and operation of flood protection facilities. The reclamation districts have primary responsibility for operating, inspecting and correcting problems with levees and other structures, and for providing adequate training for officials and employees in these activities (as well as in emergency response). This can include maintenance and surface improvements to levee roads, burrowing rodent control and vegetation management. The districts have responsibility for day-to-day inspection and correction of problems with their facilities and for coordinating with State and Federal officials in their required periodic levee inspections.

Under AB 156, local reclamation and levee districts are now required to submit levee condition, operation, and maintenance information to DWR by September 30 of each year. DWR is required to summarize the information from all reporting agencies in an annual report to the CVFPB by December 31 of each year. Under this mandate, all agencies that maintain Project levees or Non-Project levees that benefit land within the boundaries of an area benefited by a Project levee are required to submit information. The State DWR and the USACE both have responsibility for periodic inspection of flood protection facilities and for administration of funding programs that support levee maintenance and repair activities by the reclamation districts.
The City has an indirect role in these activities; the City Public Works Director has general oversight and is responsible for the review and approval of the reclamation districts’ Flood Safety Plans, which is discussed in more detail in the next section.

4.4 Exposure Reduction

Reducing the risk of exposure to flooding is largely through the City’s land use planning and zoning authority. The Manteca General Plan includes goals, policies, and implementation measures to discourage urban development in floodplain areas (see section 6.0 for current General Plan policies related to flooding).

The City’s floodplain regulations contained in the Manteca Municipal Code (Chapter 8.30 Floodplain Management) require findings to be made before building and construction can be allowed within Flood Hazard Areas. Other regulations contained in the Manteca Municipal Code (Chapter 8.30) establishes procedures for permitting and standards for floor elevation, foundation anchoring and other building requirements meant to reduce flood exposure and flood damage, and development is prohibited within floodways except under certain conditions. The Manteca Municipal Code requires notification of buyers, owners and residents of floodplain areas, prevents floodway encroachment and modification and prohibits dumping in waterways. The City has also adopted and requires compliance with its Stormwater Management Program, which requires new development to limit local contributions to flood flows in the San Joaquin River.

The City makes additional effort toward reducing exposure through its participation in the FEMA National Flood Insurance Program (NFIP). The NFIP promotes more effective floodplain management by offering reduced flood insurance premiums for development that is not located within the 100-year floodplain.

Potential exposure to flooding may also be reduced by ensuring that land use agencies have accurate information as to flooding potential. Among its SB 5 flood management responsibilities, the State DWR has responsibility for coordinating the availability of “best available” floodplain mapping and other flood related information to potentially-affected communities. These are in addition to DWR’s other flood management through its FloodSAFE program.

The reclamation districts have direct responsibility for the levees, pumps and other systems that protect district lands in the event of flooding. Emergency-related responsibilities include water level observation, levee and equipment inspection and physical work needed to prevent levee damage, overtopping or failure. Reclamation District Board Members, executives and employees must be properly trained in the physical aspects of flood protection systems as well as in coordination with other agencies through the County OES. The Districts’ Flood Safety Plans must be approved by the City Public Works Director, County OES and DWR. The State DWR is the lead State agency for responding to flood emergencies, coordinating response. San Joaquin County and the other local agencies are responsible for maintaining up-to-date emergency action plans and for implementing emergency response system protocols. The DWR is also responsible for development and funding of enhanced levee operation and maintenance programs, including after-event identification of erosion or other levee damage, information collection and sharing, local emergency response planning, additional forecasting and notification, improvements to County Alert System and levee improvements, including the provision of all-weather roads on levee crowns to facilitate monitoring.
5.0 Flood Agency Profile and Organization

5.1 Federal Emergency Management Agency (FEMA)

FEMA has a wide range of emergency and disaster assistance responsibilities, including response to flood event emergencies; however, FEMA is the primary Federal agency with respect to floodplain mapping and management. FEMA administers the National Flood Insurance Program (NFIP), which makes federally subsidized flood insurance available to property owners within communities that participate in the NFIP, provided that the community regulates land use and development in accordance with FEMA standards. Standards are defined, in part, in the designation of floodplain areas in FEMA-prepared Flood Insurance Rate Maps (FIRMs). FIRMs are updated periodically to reflect the level of flood protection provided in flood-prone areas as well as changing conditions such as land use, water flow, levee condition, and drainage patterns. The FIRMs are considered the “regulatory floodplain” from a Federal and local perspective, and considered the “base flood plain” by the USACE. FEMA is also involved in emergency response and disaster assistance.

The design and condition of levees are key elements of FIRM mapping. Areas protected by FEMA accredited levees are mapped as being outside the 100-year floodplain; areas protected by sub-standard levees are considered to remain exposed to potential 100-year flooding (Zone A). Levees for the City of Manteca have been accredited by FEMA. The RD 17 levees were accredited for 100-year flooding in 1990.

5.2 United States Army Corps of Engineers (USACE)

The USACE is responsible for analysis of flood risk, for flood protection improvement feasibility analysis, for construction and operation of flood control reservoirs and other facilities, and for analysis, engineering, construction and inspection of levees. The USACE develops and adopts levee and other flood protection standards in cooperation with the State. The USACE is responsible for implementing most federally-authorized flood control projects, in partnership with State and local agencies. These projects are constructed under agreements where the State of California, through DWR and the CVFPB, and with the reclamation districts, assumes liability and principal maintenance responsibility for facilities constructed by the USACE. Nearly all of the levees providing flood protection to the City of Manteca are Federal “project” levees (Figure 5). Any modification of an existing Federal flood management project requires approval from the USACE under 33 USC 408. Major modifications may require a Federal feasibility study, such as the Lower San Joaquin River Feasibility Study, currently in progress and discussed below. USACE conducts routine annual levee inspections and more-detailed periodic 5-year inspections to determine whether Federal maintenance standards are met.

In the Manteca area, USACE is the Federal agency responsible for the Lower San Joaquin River and Tributaries Project levees, which were initially constructed by 1966; these are the “project” and State Plan of Flood Control levees that protect the City of Manteca. The USACE has also participated in levee improvement and repair projects on area levees. The USACE also regulates discharges of dredge and fill material to Waters of the U.S. under Clean Water Act Section 404. In addition to these responsibilities, the USACE is responsible for the maintenance of navigation ways in inland waters and construction and ongoing operation of some of the upstream reservoirs that provide flood protection for the Central Valley.

The USACE is involved in a feasibility study of further improvements to levees in the Manteca area, including improvements needed to provide ULOP to existing and planned urban areas in RD 17. This effort is known as the Lower San Joaquin River and South Delta Feasibility Study (LSJRFS). The USACE...
released the *Draft LSJRFS* on January 27, 2015. The Study is due to be finalized in 2017. The *LSJRFS* is a multiagency effort to define improvements needed to provide 200-year flood protection along the San Joaquin River that involves the USACE, the CVFPB and San Joaquin Area Flood Control Agency (SJAFCA). Locally, SJAFCA has partnered with the several reclamation districts in the study area, including RD 17, the San Joaquin County Flood Control and Water Conservation District, and incorporated cities. The LSJRFS is an outgrowth of the USACE Sacramento River and San Joaquin River Basins Comprehensive Study discussed above.

### 5.3 California Department of Water Resources (DWR)

DWR has broad water-related responsibilities including administration of water rights, protection of water quality and dam safety, among others. Historically, DWR has been responsible for State-Federal cooperation with respect to the “project” levees and oversight of the State Plan of Flood Control (SPFC) facilities. DWR oversees and inspects reclamation district activities (Local Maintaining Agencies). DWR also serves as the California NFIP Coordinating Office for FEMA. DWR administers State-funding programs to assist local reclamation districts with levee maintenance and improvements; Delta levees are assisted under other specific programs.

Initial efforts at implementing the State’s 200-year strategy were assigned to DWR, the state’s principal flood management agency, and the Central Valley Flood Protection Board (CVFPB), which is staffed by DWR. These initial efforts included program development and organization, assembly and publication of floodplain mapping, preparation of the Central Valley Flood Protection Plan and definition of urban flood protection and levee standards.

DWR activities related to flood protection are coordinated through FloodSAFE California, a program launched by DWR in 2006. The FloodSAFE Program is intended to help improve integrated flood management statewide, with an emphasis on the Central Valley and Delta areas where communities and resources face high risk of catastrophic damage. DWR provides technical, financial, and emergency response assistance to local agencies related to flooding. This role was greatly expanded after approval of the SB 5 Bills, which increased the flood protection requirements for urban areas to the new 200-year standard (ULOP). The new requirements triggered the need for substantial additional technical evaluation, public information and planning, engineering and financing for necessary improvements. The DWR efforts under FloodSAFE include the State Plan of Flood Control Administration. Following the passage of SB 5, DWR prepared the first ever inventory of SPFC facilities in its *State Plan of Flood Control Descriptive Document* (CVFMPP, 2010). DWR technical studies and planning are largely oriented to the SPFC facilities, and DWR is responsible for periodic inspection of these facilities. All of the Manteca-area levees adjacent to the San Joaquin River, are SPFC facilities; interior dry land levees are not SPFC facilities.

DWR evaluated 470 miles of urban levees and 1,620 miles of non-urban levees for hidden defects. The ULE and NULE projects considered State-Federal “project” levees, and associated non-project levees, to determine whether they meet levee design and, where needed, to identify remedial measures, including cost estimates, to improve levees to meet the desired criteria. ULE and NULE included aerial surveying, mapping, hydrology, hydraulics and geotechnical studies. Information developed through the ULE and NULE projects informed the Flood Control System Status Report and the CVFPP. ULE and NULE also serve as a resource for more detailed evaluation of local flood protection systems.

Urban Levee Design Criteria (ULDC) was adopted in 2012 by DWR. The ULDC provides criteria and guidance for design, evaluation, operation, and maintenance of levees and floodwalls that provide
protection to urban and urbanizing areas. DWR prepared the ULOP Criteria to help local agencies interpret the requirements of the SB 5 Bills. The ULOP defines the applicability of the SB 5 Bills to pending land-use decisions, where the requirements apply, what findings are required to permit development in floodplain areas, and what constitutes sufficient supporting evidence for findings. Local agencies may define their own criteria, as long as they are consistent with the DWR ULOP.

DWR compiled and made available the “Best Available Mapping” of flood risk and exposure, based on existing information. Mapping products generated included FEMA Digital Flood Insurance Rate Maps (DFIRMs), Levee Flood Protection Zone maps, maps of Federal and non-Federal project levees, USACE floodplain mapping and Awareness Floodplain Maps. These maps were provided to assist initial flood protection planning and are to be replaced by later more-detailed local mapping and information, such as the information being developed for RD 17 levees protecting Manteca.

DWR continues work on the California Levee Database, storing and retrieving statewide levee attribute information and technical resource data for levee evaluation, in coordination with FEMA and the USACE. The purpose of this effort is to provide for information availability, promote compatibility and avoid duplication of the various multi-agency efforts. Regional Flood Management Plans (RFMPs). DWR funded development of six local RFMPs to provide DWR information on the local visions for flood management for use in future DWR studies, such as its San Joaquin River Basin-Wide Feasibility Study (BWFS), and the 2017 CVFPP. RFMPs include flood hazard identification, risk analysis, review of existing protection measures, identification of potential projects and funding, evaluation of system resiliency, and compatibility with State goals and Integrated Regional Water Management Plans (IRWMP). The San Joaquin Area Flood Control Agency (SJAFCA) completed a draft RFMP for the Lower San Joaquin/Delta Region.

5.4 **Central Valley Flood Protection Board (CVFPB)**

With the passage of the SB 5 Bills, the State has assumed a more active role in flood management. The facets of the State’s involvement now include: collecting and disseminating floodplain mapping and other information; inventory of State Plan of Flood Control facilities; establishment of the 200-year flood protection standard for urban areas (ULOP); establishment of the Urban Levee Design Criteria (ULDC); and requiring local government to provide ULOP, or cease urban development in flood-prone areas, at least until it has made “adequate progress” toward ULOP.

An important element of the new State role was preparation of the Central Valley Flood Protection Plan (CVFPP). The CVFPP includes general information on the State role in flood protection, on SPFC facilities and facility improvement needs. The principal element of the CVFPP is a strategy for prioritization and effective application of government funding to necessary flood protection improvements. The CVFPP’s State Systemwide Investment Approach (SSIA) is a coordinated investment strategy for meeting the CVFPP objectives to improve public safety, ecosystem stewardship and economic sustainability, with due consideration to government financial limitations.

The mission of the CVFPB is to control flooding along the Sacramento and San Joaquin Rivers and certain tributaries in cooperation with the USACE; to cooperate with various agencies in establishing, operating, and maintaining flood control infrastructure; and to maintain the integrity of the existing flood control system and designated floodways. This latter objective is accomplished with its encroachment permit authority. The CVFPB delegates most levee maintenance to local levee and reclamation districts, aka Local Maintaining Agencies (LMAs)
The CVFPB oversees the potential flooding effects of development activities by requiring an encroachment permit for activities that have the potential to affect designated waterways, including flooding and flood flow within those waterways. The San Joaquin River is a CVFPB-regulated waterway. The CVFPB is also responsible for designation of “floodways,” which receive additional protection from encroachment. However, there are no designated “floodways” in the vicinity of Manteca.

With respect to SB 5, CVFPB was tasked with assessing flooding risk and exposure of people and improvements to flooding, and then to identify a coordinated program of investment that would meet the need on a priority and cost-effectiveness basis. The program was developed and adopted by the CVFPB in 2012 as the Central Valley Flood Protection Plan (CVFPP). The CVFPP is identified by the SB 5 Bills as a primary source for related Safety Element amendments such and is the State’s comprehensive long-term flood protection planning document. The CVFPP describes a strategy for meeting flood protection challenges while also considering ecosystem, operations and maintenance, and institutional support concerns. The CVFPP is to be updated every 5 years.

The CVFPP is primarily concerned with State Plan of Flood Control (SPFC) facilities (shared Federal/State facilities). The State has developed a State System-wide Investment Approach (SSIA) that is intended to guide federal, State and local agencies in making cost-effective integrated investments in improving the flood protection system. In taking a general approach to statewide planning, the CVFPP recognized that more-detailed analysis and planning would need to happen at a local level. Six regional flood management plans (RFMPs) were to be prepared based on available information. The plans are intended to provide a more-detailed look at existing facilities and improvement needs, as well as “non-structural” flood management. The result is prioritizing actions consistent with the SSIA, thereby facilitating the delivery of available State funding for needed improvements. The RFMPs are also intended to provide local feedback to the CVFPB as it prepares the 2017 CVFPP.

The RFMPs recognize that levels of flood protection will vary between urban and non-urban areas. Not all areas of the regions need, or desire, the same level of protection from the threats of flooding. ULOP would need to be achieved in areas containing existing and planned urban areas; most of the agricultural reclamation districts in the Delta and Lower San Joaquin River area would instead seek PL 84-99 Delta Standard or better as their minimum levee configuration.

5.5 **GOVERNOR’S OFFICE OF EMERGENCY SERVICES (STATE OES)**

The purpose of the Governor’s Office of Emergency Services (State OES) is enhancement of safety and emergency preparedness through leadership and collaboration with other agencies. The agency’s goal is to protect lives and property by effectively preparing for, preventing, responding to, and recovering from all threats, crimes, hazards, and emergencies, including flooding. State OES is responsible for development of emergency response plans such as the State Emergency Management System (SEMS) and for coordination with county OESs to be sure that emergency services are delivered in a consistent and coordinated manner. The California Dam Safety Act requires dam owners to submit maps of potential inundation from dam failure to the State OES, which in turn makes these maps available to the county OESs and other local emergency preparedness agencies.

5.6 **DELTA PROTECTION COMMISSION**

The Delta Protection Commission (DPC) is a regional land use planning agency with regulatory authority over the 450,000-acre Primary Zone of the Sacramento-San Joaquin Delta; its authorizing legislation is the 1992 Delta Protection Act. The mission of the DPC is to protect, maintain, enhance, and where feasible restore the overall quality of the Delta environment including agriculture, wildlife habitat, and
recreation, within the Delta Primary Zone. Land use guidance is provided by the DPC’s \textit{Land Use and Resource Management Plan} (LRMP). General plans and projects in the Primary Zone must be consistent with the LRMP, and are subject to review by the Commission. The Commission is also authorized to comment on projects in the Secondary Zone that have the potential to impact the Primary Zone, although the Commission’s comments are non-binding. The City of Manteca is located in the Secondary Zone; therefore, this GPA will be circulated to the DPC for comment.

\textbf{5.7 Delta Stewardship Council}

The Delta Stewardship Council (DSC) was created in 2009 by the Delta Reform Act (DRA) and associated bills. The DRA codified the State’s Delta policy, which consists of two “co-equal goals:” 1) Providing a more reliable water supply for California, and 2) Protecting, restoring, and enhancing the Delta ecosystem. Both goals are to be accomplished in such a way that the “unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place” are protected and enhanced. The DSC was tasked with overseeing and implementing these goals in part by preparing and adopting the \textit{Delta Plan} in 2013.

The \textit{Delta Plan} is “regulatory” in that “Covered Actions,” which include plans and projects within the Legal Delta (Primary Zone + Secondary Zone) must be consistent with the \textit{Delta Plan}. This Safety Element amendment is oriented to maintenance and improvement of the SPFC levees, which are specifically identified in the \textit{Delta Plan}.

The DSC is also leading a multi-agency effort to set new priorities for State investments in Delta levees to reduce the potential for levee failures, while advancing the co-equal goals. This effort is known as the Delta Levees Investment Strategy (DLIS), which is to involve State agencies, reclamation districts, Delta landowners and businesses, and other interested stakeholders. Levees within the Delta that would be considered under the DLIS are also State Plan of Flood Control (SPFC) levees that are addressed in the CVFPP. The CVFPP includes a related investment strategy for SPFC facilities known as the SSIA.

\textbf{5.8 San Joaquin County}

As a jurisdiction participating in the NFIP, San Joaquin County is responsible for implementing FEMA floodplain management regulations in the unincorporated area. The Public Works Department is the Floodplain Administrator for the NFIP. The Community Development Department has land use authority over the unincorporated area. Other than as a cooperating agency, San Joaquin County is not involved in Manteca flood protection improvements.

The San Joaquin County Office of Emergency Services (County OES) serves many of the same functions as the California OES but is also responsible for overall coordination of local emergency planning and response, including planning and response for flooding events. The County OES coordinates and administers funding for flood preparedness planning at the reclamation district level. The County OES has prepared and makes available to the public a range of flood protection materials. With respect to a potential dam failure, the County OES has prepared a \textit{Dam Failure Plan} that includes descriptions of the dams, anticipated direction, timing and depths of flood waters, along with responsibilities and actions of various jurisdictions affected. The County OES continues to coordinate with the State OES, dam owners and operators, and work with the planning department, cities and local jurisdictions to maintain and improve the plan.

Coordination between SJC OES, the local agencies, and involved State and Federal agencies within the County is guided by the Multi-Agency Coordination System (MACS). The procedures contained in the
MACS guide jurisdictions on multi-agency coordination, community warning, and mutual aid within San Joaquin County during emergencies through the San Joaquin Operational Area Emergency Operations Center (EOC). The MACS is a component of the California Standardized Emergency Management System (SEMS) and the Federal National Incident Management System (NIMS). Within these systems, the Incident Command System (ICS) provides an organized structure for staff to provide a quick, managed and documented response to emergencies and disasters.

San Joaquin County has also developed a common set of emergency management maps that describe existing dry land levees, low points, and estimated water depths in the event of a flood; and structures, schools, pumping stations, significant levee structures (e.g. drains, flood gates, pipes), access roads, and water access sites (e.g. ferry landings and boat ramps). The mapping includes detailed flood contingency planning for each area, and response plans including evacuation plans are printed directly on the maps. The Flood Contingency Maps are made available on the County website.

5.9 SAN JOAQUIN AREA FLOOD CONTROL AGENCY (SJAFCA)

The San Joaquin Area Flood Control Agency (SJAFCA) is a Joint Powers Authority formed in 1995 to finance and manage flood control projects in the vicinity of the City of Stockton, San Joaquin County, and the San Joaquin County Flood Control and Water Conservation District. The City of Manteca is outside of the SJAFCA boundary and is not a party to the SJAFCA JPA. SJAFCA is, however, responsible for preparation of the DWR-funded and Local Management Agency-authorized Regional Flood Management Plan for the Lower San Joaquin River/Delta Region (RFMP), which includes the City of Manteca. The RFMP is a reconnaissance level assessment of flood risks, and a prioritized list of near-term and long-term flood risk reduction projects, which are largely improvements to existing levees in the region. SJAFCA is also a non-Federal sponsor of the USACE Lower San Joaquin River Feasibility Study.

The Lower San Joaquin River and Delta RFMP (SJAFCA, 2014) documents evaluation of a wide range of flood protection measures including improvement of existing levees, new levees, setback levees, and increasing channel capacity; improving expanding and re-operating upstream reservoirs; flood flow diversion; limiting development; and improvements in emergency response, operation and maintenance, among others. The RFMP’s top priority is levee improvements, new levees and setback levees in selected areas. A series of project cost allocations are described including $186 million for 200-Year ULOP protection in RD 17.

The RFMP also includes a number of recommendations for investment in “non-structural” flood protection for urban and urbanizing areas including organizational improvements, enhanced post-event maintenance, improved emergency response support systems, and better management of flood plain land use, among others. Detailed recommendations are also provided for rural areas.

5.10 SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

The San Joaquin County Flood Control and Water Conservation District (District) was formed in 1956 to construct, operate, maintain, and plan flood control, water supply, drainage and groundwater recharge projects for the protection of life, property, and health of San Joaquin County residents and to ensure economic, environmental, and social viability of the County. The San Joaquin County Board of Supervisors serves as the governing board for the District, and the District is staffed by the San Joaquin County Department of Public Works. The District is responsible for flood control and water conservation districts in the unincorporated area surrounding Manteca but does not have any substantial involvement in Manteca flood protection concerns.
6.0 Regulatory Framework

The SB 5 Bills consist of interrelated Assembly and Senate bills passed in 2007, and several other related bills passed between 2009 and 2013. Overall, the Bills set in motion the State’s plan for improvement of flood protection statewide; they establish the 200-year flood protection standard and ensure that 200-year protection will be provided to all Central Valley urban and urbanizing areas as soon as possible, but no later than 2025 by requiring the amendment of local general plans and zoning to institute the requirements. The Bills provide that adequate flood hazard information be available to all portions of the State, in particular the Central Valley, and especially areas protected by State Plan of Flood Control (SPFC) levees, which includes the City of Manteca.

This group of bills, described in more detail in below, is referred to collectively as “the SB 5 Bills.” The SB 5 Bills establish the State standard for flood protection in urban areas as protection from the 200-year frequency flood. Under the SB 5 Bills, urban and urbanizing areas must be provided with 200-year flood protection no later than 2025. Upon the effective date of the zoning amendment, new development in areas potentially exposed to 200-year flooding more than three feet deep will be prohibited unless the local land use agency certifies that 200-year flood protection has been provided, or that “adequate progress” has been made toward provision of 200-year flood protection by 2025. These requirements are to be instituted in local general plans and zoning.

The primary SB 5 Bills consist of SB 5, AB 5 and SB 17, AB 70, AB 162, and SB 1278. The primary bills are summarized below. Some of the 200-year floodplain requirements are applicable to all cities and counties in the State; some are applicable only to agencies within the Sacramento-San Joaquin Valley, and others are applicable only to agencies within the Sacramento-San Joaquin Drainage District. The City of Manteca is located within the Sacramento-San Joaquin Valley, and San Joaquin River Watershed, (see Figure 3).

State

6.1 Senate Bill 5

SB 5 establishes the State flood protection standard for urban areas in Water Code §9602(i) as the Urban Level of Flood Protection (ULOP). ULOP is defined as the “level of protection that is necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year (i.e. 200-year flooding) using criteria consistent with, or developed by, the (Department of Water Resources).” These criteria are described in the Department of Water Resources (DWR) publication Urban Level of Flood Protection Criteria (2013), including by reference DWR’s Urban Levee Design Criteria (2012). The 200-year flood protection standard is to be implemented by cities and counties through required amendments of their general plans and zoning codes. The amendments must establish goals, policies and implementation measures consistent with State flood protection standards. Upon the effective date of the zoning amendment, local governments are prohibited from approving urban development projects - including certain development agreements, subdivision maps and other permits as specified in Government Code §65865.5(a)(3), 65962(a) or 66474.5(a) - within defined “flood hazard zones” if ULOP is not in place, or alternatively unless the local government certifies based on substantial evidence that “adequate progress” has been made toward provision of ULOP by 2025. In addition, SB 5 requires revisions to the California Building Standards Code for areas subject to flooding. Each County is required to prepare flooding emergency response plans in collaboration with the incorporated cities within its boundaries.
Legislative Requirements of SB-5

As described in the SB 5 Bills, the Safety Element shall establish goals, policies and objectives “for the protection of lives and property that will reduce the risk of flood damage.” As described in more detail in AB 162, the Safety Element shall:

“establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including, but not limited to:

i. Avoiding or minimizing the risks of flooding to new development.

ii. Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones.

iii. Maintaining the structural and operational integrity of essential public facilities during flooding.

iv. Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities.

v. Establishing cooperative working relationships among public agencies with responsibility for flood protection.”

SB 17 and Assembly Bill 162 are companion bills that were signed into law at the same time as SB 5. The contents of these related bills are discussed below.

6.2 Senate Bill 17 and Assembly Bill 5

These bills rename the State Reclamation Board as the Central Valley Flood Protection Board (CVFPB), defines the transfer of responsibilities between the entities and sets the administrative requirements for the CVFPB. The DWR is directed to prepare a preliminary report on the status of the State Plan of Flood Control and to prepare and adopt a “strategic flood protection plan.” The status report is the State Plan of Flood Control Descriptive Document. Adopted in 2012, the strategic plan is known as the Central Valley Flood Protection Plan (CVFPP). The CVFPP is intended to guide more-detailed Regional Flood Management Plans, flooding provisions of local general plans and zoning, and local flood management and facility improvement plans. Likewise, these local plans must be consistent with the CVFPP.

6.3 Assembly Bill 162

AB 162 requires the general plans land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources (DWR). The bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. By imposing new duties on local public officials, the bill creates a State-mandated local program. This bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified...
information for the protection of the community from, among other things, the unreasonable risks of flooding.

AB 162 augments the SB 5 requirement that cities and counties amend their general plans to reflect State standards and strategies. AB 162 sets forth more specific requirements for amendment of the Land Use, Conservation, and Safety Elements of the general plan, including required content of the elements. In addition to the Government Code’s requirements related to consultation with agencies during preparation and amendment of general plans, AB 162 requires specific consultations and reviews that must take place during the amendment of Safety Elements in response to the SB 5 Bills. These include a required review of the GPA by the CVFPB and a requirement that the local agency consider and document its response to CVFPB comments. AB 162 also contains specifications related to Housing Element updates; no changes to the Manteca Housing Element are proposed at this time however, section 8.0 (Consistence Review) below provides a review of all General Plan elements relating to internal consistency and consistence with SB 5 requirements, and included amendments needed to comply with State law.

6.4 ASSEMBLY BILL 70
This bill provides that a City or County may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the State’s exposure to liability for property damage by unreasonably approving new development in areas protected by SPFC facilities, as defined, new development in a previously undeveloped area, as defined, that is protected by a State flood control project, unless the City or County meets specified requirements.

6.5 SENATE BILL 1278
This bill relates to the timing of when cities and counties are required to have their general plans and zoning ordinances updated. Under SB 5, cities and counties in the Sacramento-San Joaquin Valley were required to amend their general plans within 24 months of the Central Valley Flood Protection Board (Board) adoption of the 2012 Central Valley Flood Protection (2012 CVFPP). Additionally, cities and counties were required to amend their zoning ordinances within 12 months of amending their general plans.

With the passage of SB 1278 and AB 1965, cities and counties in the Sacramento-San Joaquin Valley now have up to 24 months after July 2, 2013 to amend their general plans.

As part of the requirements of SB 1278, amendments to city and county general plans must include data and analysis contained in the 2012 CVFPP, including the location of the facilities of the SPFC and locations of real property protected by those facilities. Additionally, general plans must include the locations of flood hazard zones mapped by the Federal Emergency Management Agency (FEMA) and flood hazard locations mapped by local flood agencies or flood districts. Cities and counties have an additional 12 months after their general plan amendments to update their zoning ordinances to be consistent with the general plan amendments.

After these amendments (to be completed no later than July 2, 2016), cities and counties will be required to make findings related to an urban level of flood protection as stipulated in California Government Code Sections 65865.5, 65962, and 66474.5.

Finally, SB 1278 also limited the type of flooding considered for an urban level of flood protection by excluding shallow flooding and flooding from local drainage if FEMA standards are met.
6.6 **FloodSAFE California**

FloodSAFE is a statewide program launched in 2006 by DWR in order to achieve the following goals: reduce the chance of flooding, reduce the consequences of flooding, sustain economic growth, protect and enhance ecosystems, and promote sustainability. Initial funding was provided by Propositions 1E and 84.

6.7 **California Environmental Quality Act**

The GPA is a “project” as defined in the California Environmental Quality Act (CEQA), and therefore its potential environmental effects of the project must be considered under CEQA before the GPA can be adopted. The anticipated level of environmental review is a Negative Declaration, or Mitigated Negative Declaration.

**Federal**

6.8 **Federal Emergency Management Agency (FEMA)**

FEMA operates the National Flood Insurance Program (NFIP). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

6.9 **Rivers and Harbors Appropriation Act of 1899**

One of the country’s first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

6.10 **Flood Control Act**

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

6.11 **National Flood Insurance Program (NFIP)**

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes: 1) Better indemnify individuals for flood losses through insurance; 2) Reduce future flood damages through State and community floodplain management regulations; and 3) Reduce Federal expenditures for disaster assistance and flood control.

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.
6.12 Flood Disaster Protection Act (FDPA)

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited Federal assistance, including acquisition, construction and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all Federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

Local

6.13 City of Manteca General Plan

The existing City of Manteca General Plan identifies the following goals, policies, and implementation measures related to flooding and emergency response:

Section 7 Safety Element (Amended December 17, 2013) Subsection 7.2 Flood Hazards:

Goals:

- **Goal S-3.** Prevent loss of lives, injury, and property damage due to flooding.
- **Goal S-4.** Pursue flood control solutions that minimize environmental impacts.
- **Goal S-5.** Participate in a Regional Flood Management Plan.

Policies: Flood Safety

- **S-P-7.** Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.
- **S-P-8.** Cooperate with other agencies in the pursuit of a regional approach to flood issues.
- **S-P-9.** Combine flood control, recreation, water quality, and open space functions where feasible.
- **S-P-10.** Ensure that any existing structures subject to the 200-year flood provide adequate
protection from flood hazards.

S-P-11. Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.

S-P-12. New residential development, including mobile homes, shall be constructed so that the lowest floor is at least one foot above the 200-year flood level.

S-P-13. Non-residential development shall be anchored and floodproofed in accordance with Federal Emergency Management Agency (FEMA) standards to prevent damage or causing damage due to a 200-year flood or, alternatively, elevated to at least one foot above the 200-year flood level.

S-P-14. When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, the structure shall be brought into compliance with FEMA standards.

S-P-15. Ensure the City is in compliance with the Central Valley Flood Protect Plan.

**Implementation: Flood Safety**

S-I-4. The City shall continue to participate in the National Flood Insurance Program. To this end, the City shall ensure that local regulations are in full compliance with standards adopted by the Federal Emergency Management Agency (FEMA). The City shall adopt and implement local flood management development standards.

S-I-5. Provide flood warning and forecasting information to City residents.

S-I-6. Discourage large continuous paved areas unless provided with engineered drainage facilities.

S-I-7. Where feasible, require the use of pervious paving materials, such as brick or stepping stones with sand joints.

S-I-8. New development shall be required to maintain natural stream courses and adjacent habitat and combine flood control, recreation, water quality, and open space functions.


**Section 7 Safety Element (Amended December 17, 2013) Subsection 7.4 Emergency Procedures:**

Goal S-7. Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

**Policies: Emergency Procedures**

S-P-19. The City shall maintain and periodically update the City’s Emergency Plan.

**Implementation Policies: Emergency Procedures**

S-I-15. The City shall conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-I-16. The City shall review County and State emergency response procedures that must be coordinated with City procedures.
Section 6 Public Facilities and Services Element Subsection 6.7 Major Drainage

Goals:

Goal PF-9. Maintain an adequate level of service in the City’s drainage system to accommodate runoff from existing and projected development and to prevent property damage due to flooding.

Policies: Major Drainage

PF-P-26. The City shall continue to complete gaps in the drainage system in areas of existing development.

PF-P-27. The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of stormwater runoff resulting from each development.

PF-P-28. Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, bike and pedestrian paths, and visual open space within neighborhoods. The width and length of the corridors would be determined by the stormwater management requirements. The drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on, the open space corridor.

Implementation: Major Drainage

PF-I-13. The City shall update the Storm Drainage Master Plan and Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.
7.0 PROPOSED GENERAL PLAN SAFETY ELEMENT AMENDMENT

The following information is specifically an amendment to Section 7.2 Flood Hazards from the General Plan.

Section 7.2 Flood Hazards

Flood hazards in the Planning Area are the result of the 100 and 200 year flood, localized drainage problems, levee breaches, and dam failure. The effects of flooding include the initial force of floodwaters that can damage structures, vehicles, and overwhelm people within the floodway. Floodwaters can carry large objects downstream, which have the force to remove stationary structures and may cause loss of life and injury to people. Saturation of materials and earth can cause instability, collapse, and damage, and objects can be buried through sediment deposition. Floods can cause drowning or isolation of persons and animals, break utility lines, interrupting services and potentially affecting public health and safety. The secondary effects of flooding are due to standing water, which can result in the loss of crops, septic tank failure, water well contamination and illness. Standing water can also damage road, foundations, and electrical circuits.

Impervious Surfaces and Stormwater Runoff

Development and redevelopment activities allowed under the General Plan will result in the introduction of additional impervious surfaces in the planning area and diminish the amount of pervious areas where rain waters can permeate. Based on the higher urbanized nature of the planning area, the extent of additional site coverage and the additional storm flows resulting therefrom will be minimal. Storm water pollution can result from the contamination of runoff from urban areas as it drains from streets or property through the municipal storm water drainage system and into waterways (rivers, sloughs, creeks etc.) The contaminated storm water may affect commercial fisheries, restrict swimming areas or affect the navigability of the regional waters.

100 and 200-Year Flood Areas

The primary flood hazard in the study area is the San Joaquin River and its tributaries. The hydrology of the region consists of this established river system and can be directly affected by several external factors. Meteorological events such as intense precipitation may adversely affect the natural drainage of the region. In addition, seasonal snowmelt will significantly contribute to the volume of water in the local hydrologic system. Urbanization contributes to an increased volume in the hydrologic system by maintaining a high percentage of impervious surface, which does not allow for infiltration of water into the soil and thus results in increased velocities and volumes of runoff. All of these factors can lead to exceeding the natural carrying capacity of the existing hydrology, which results in flooding of low-lying areas.

Dam Failure Inundation

The City, or portions of the City, would be subject to inundation in the event of dam failure. The City is subject to inundation from five upstream dams including: New Melones Dam (Calaveras County), San Luis Reservoir (Merced County), Tulloch Reservoir (Calaveras County), Lake McClure Reservoir (Mariposa County), and the Pine Flat Dam (Fresno County). Although the likelihood of dam failure is remote, failure of a dam would release stored water that could inundate areas within the City and result in loss of life, damage to property, displacement of residents and damage to water resources and other infrastructure.
Goals: Flood Safety

**Goal S-3.** Protect life and property from flood events.

**Goal S-4.** Provide a planning framework suitable for flood protection and risk management consistent with Federal and State law.

**Goal S-5.** Pursue flood control solutions that minimize environmental impacts.

Policies: Flood Safety

**Policy S-P-7.** Periodically review and update when necessary, the General Plan Safety Element goals, policies, and implementation measures in order to maintain compliance with applicable Federal and State requirements.

**Policy S-P-8.** Maintain and periodically update, City flood safety plans, floodplain management ordinances, zoning ordinance, building codes and other related sections of the Manteca Municipal Code to reflect Safety Element goals, policies and standards, applicable Federal and State law, and National Flood Insurance Program requirement.

**Policy S-P-9.** The City shall require evaluation of potential flood hazards prior to approval of development projects to determine whether the proposed development is reasonably safe from flooding and consistent with California Department of Water Resources (DWR) Urban Level of Flood Protection Criteria. The City shall not approve the execution of a development agreement, a tentative map, or a parcel map for which a tentative map is not required, or a discretionary permit or other discretionary entitlement that would result in the construction of a new building, or construction that would result in an increase in allowed occupancy for an existing building, or issuance of a ministerial permit that would result in the construction of a new residence for property that is located within a 200-year flood hazard zone, unless the adequacy of flood protection as described in Government Code §65865.5(a), 65962(a), or 66474.5(a), has been demonstrated.

**Policy S-P-10.** The City may permit new development in areas not identified as “urban” or “urbanizing” provided that they are protected from 100-year flooding by FEMA-accredited levees or equivalent flood protection as shown on an adopted FEMA FIRM, a FEMA-approved Letter of Map Revision (LOMR) or a Conditional Letter of Map Revision (CLOMR), subject to conditions specified in the CLOMR.

**Policy S-P-11.** The City may permit new development in areas not protected by FEMA-accredited 100-year levees subject to all applicable requirements of Manteca Municipal Code Chapter 8.30 (Floodplain Management), the California Building Standards Code as adopted by the City, and the latest promulgated FEMA standards for development in the 100-year floodplain, provided that new development approval will not cause the project site or area to be defined as “urban” or “urbanizing.”

**Policy S-P-12.** Work closely with the City of Lathrop, and the local reclamation districts to improve levee systems as required to provide ULOP for urban and urbanizing areas in Manteca by 2025, and to provide the basis for findings of “adequate
progress” toward that objective based on substantial evidence as soon as possible.

**Policy S-P-13.** The City shall continue to cooperate with local, regional, State, and Federal agencies in securing funding to obtain the maximum level of flood protection that is practical, with a goal of achieving 200-year flood protection for all areas of the City.

**Policy S-P-14.** Maintain active participation in the National Flood Insurance Program (NFIP).

**Policy S-P-15.** The City shall maintain eligibility in the Federal Emergency Management Agency’s (FEMA’s) Community Rating System (CRS) program, which gives property owners discounts on flood insurance.

**Policy S-P-16.** Provide technical assistance and encourage landowners within the FEMA Special Flood Hazard Area (100-year floodplain) to purchase and maintain flood insurance.

**Policy S-P-17.** Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.

**Policy S-P-18.** Provide opportunities for review of and comment by the reclamation districts, Manteca Police Services, Manteca Fire Department, the Lathrop Manteca Fire District for comment during new development project review.

**Policy S-P-19.** Consider the risks of catastrophic dam failure in the planning and environmental review of new development projects.

**Policy S-P-20.** Incorporate riparian habitat protection, mitigation or enhancement into flood protection improvements to maintain existing floodwater capacity where feasible.

**Policy S-P-21.** Combine flood control, recreation, water quality, and open space functions where feasible.

**Policy S-P-22.** Discourage large continuous paved areas unless provided with engineered drainage facilities, and where feasible, require the use of pervious paving materials.

**Policy S-P-23.** When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, structures shall be brought into compliance with relevant FEMA standards.

**Policy S-P-24.** The City shall require, for areas protected by levees, all new developments to include a notice within the deed that the property is protected from flooding by a levee and that the property can be subject to flooding if the levee fails or is overwhelmed by floodwater flow.

**Policy S-P-25.** The City shall update flood hazard maps as necessary to reflect impacts from climate change in terms of long-term flood safety and long-term flood event probabilities.

**Implementation: Flood Safety**

**S-I-4.** The City will amend Title 17 (Zoning) of the Manteca Municipal Code so as to
require that ULOP or “adequate progress” findings specified in the Safety Element, and in Government Code Sections 65007, 65865.5, 65962 and 66474.5, be made prior to approving a development project located within RD 17 with predicted 200-year flood depths of more than three feet according to the official map approved by the City of Manteca or Floodplain Administrator. Title 17 amendments shall also implement all Safety Element policies related to development permitting in potentially flooded areas.

S-I-5. The City will evaluate the consistency of the Safety Element with applicable laws, regulations and plans in conjunction with its annual review of the General Plan. The City shall determine whether and when an amendment of the Safety Element is required.

S-I-6. The City will continue to participate in the FEMA CRS program, including dissemination of information to the public and annual reviews of its participation in the FEMA CRS program and improve the program as feasible to maintain or improve effects on flood insurance costs.

S-I-7. The City will consider, in the review of plans for new development, the need for levee setbacks, dam failure risks and the views of the local flood protection and emergency response agencies.

S-I-8. Applications for development in areas subject to 200-year flooding shall indicate the depth of predicted 200-year flooding on the basis of official maps approved by the City of Manteca or Floodplain Administrator.

S-I-9. The City will monitor changes in Federal and State laws and regulations related to local flood protection, including the National Flood Insurance Program (NFIP) and incorporate necessary changes into Section 15.56, Title 17 of the Manteca Municipal Code, the City’s Emergency Operations Plan and building codes as required.

S-I-10. The City will prepare an official 200-year Floodplain Map for the City of Manteca identifying predicted flood depths for reference when making land use determinations.

S-I-11. The City will amend Chapter 8.30 (Floodplain Management) of the Manteca Municipal Code to reflect flood protection requirements specified in the Safety Element as well as any relevant updates to Federal or State requirements.

S-I-12. The City will consider potential effects of climate change in planning, design and maintenance of levee improvements and other flood control facilities.

S-I-13. City will coordinate with RD 17 and RD 2094 as required for the purpose of ensuring that ULOP is available as soon as possible and that “adequate progress” findings can be made.

S-I-14. The City will encourage the reclamation districts to incorporate riparian habitat protection and/or enhancement in levee improvement plans where feasible.
8.0 Consistency Review

The Manteca General Plan, including the required elements of the Plan, was reviewed during the preparation of this Safety Element Amendment. The General Plan was reviewed for any information or policy statements that might render the General Plan internally inconsistent. In addition, modifications to the other General Plan elements required by the SB 5 Bills were identified. General Plan revisions addressing both purposes are described below by General Plan Element:

**Land Use**

The Land Use Element of the Manteca General Plan contains no references to flooding and no policies or other statements that would conflict with the GPA.

However, AB 162 sets forth more specific requirements for amendment of the Land Use Element of the General Plan, including required content of the elements. Areas subject to flooding must be identified as part of the Land Use Element. Additionally, AB162 requires the land use element to identify and annually review those areas covered by the General Plan that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA), the Department of Water Resources (DWR), or refined City flood mapping.

Therefore, this GPA includes the following implementation measure to be added to the Manteca General Plan Land Use Element upon adoption of this General Plan Amendment.

**LU-I-8.**

Annually review areas covered by the General Plan that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA), the Department of Water Resources (DWR), or refined City flood mapping as identified in the City’s Safety Element and Safety Element background report.

**Community Design**

The Community Design Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

**Circulation**

The Circulation Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

**Economic Development**

The Economic Development Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

**Housing**

The Housing Element of the Manteca General Plan was adopted June 15, 2010 and is a 209-page standalone document. References to floods or flooding contained in the Housing Element are listed below:

The Housing Element (Policy Document) of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.
The Housing Element (Background Report) of the Manteca General Plan contains two references to floods or flooding as listed below:

**Page 2-65:** “All parcels (or portions of parcels) that met the criteria above were reviewed by City staff to confirm vacancy status, ownership, adequacy of public utilities and services, possible environmental constraints such as flood zones and steep slopes, and other possible constraints to development feasibility.”

**Page 2-66:** “Environmental Constraints. The Consultants reviewed all parcels (or portions of parcels) that met the criteria above for any possible environmental constraints such as flood zones, steep slopes, and other possible constraints to development feasibility. None of the sites included in the inventory have any known environmental constraints that would limit or prohibit development of the site.”

No statements contained in the Manteca Housing Element Background Report would conflict with the GPA.

**PUBLIC FACILITIES AND SERVICES**

The Public Facilities and Services Element of the Manteca General Plan contains references and policy statements related to floods or flooding, as listed below:

**Page 6-10:** “The City of Manteca’s target level of service is to provide 10-year storm drainage protection for all development and to provide 100-year storm drainage protection for all structures.”

**Page 6-11 through 6-12:**

**Goal PF-9.** Maintain an adequate level of service in the City’s drainage system to accommodate runoff from existing and projected development and to prevent property damage due to flooding.

**Policies: Major Drainage**

**PF-P-26.** The City shall continue to complete gaps in the drainage system in areas of existing development.

**PF-P-27.** The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of stormwater runoff resulting from each development.

**PF-P-28.** Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters exceeding a 10-year event, storm water quality treatment, bike and pedestrian paths, and visual open space within neighborhoods. The width and length of the corridors would be determined by the stormwater management requirements. The drainage systems would provide a pedestrian connection between parks and access to open space from residential neighborhoods. The neighborhoods would be designed with homes oriented to, rather than backing on the open space corridor.

**Implementation: Major Drainage**

**PF-I-13.** The City shall update the Storm Drainage Master Plan and Public Facilities Implementation Plan, regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

No Public Facilities and Services Element policies or other statements would conflict with the GPA.
SAFETY

Section 7.2 Flood Hazards

Upon Amendment to Section 7.2 “Flood Hazards” of the Manteca General Plan Safety Element any and all existing goals policies and implementation measures of the Manteca General Plan Safety Element Section 7.2 are deleted and replaced by this Amendment upon the adoption of this document. Therefore, there will be no policy conflicts between existing and post-adoption versions of the Safety Element as it pertains to Section 7.2 (Flood Hazards).

Section 7.3 Hazardous Materials

The Manteca General Plan Safety Element Section 7.3 (Hazardous Materials) contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

However, due to additional policy statements and implementation measures contained in the Safety Element Section 7.2 (Flood Hazards), re-numbering of policies and implementation measures will be required throughout this section. These numbering revisions include:

Policies: Hazardous Materials Safety

S-P-16. Re-number to S-P-26.
S-P-17. Re-number to S-P-27.
S-P-18. Re-number to S-P-28.

Implementation: Hazardous Materials Safety

S-I-10. Re-number to S-I-15
S-I-11. Re-number to S-I-16
S-I-12. Re-number to S-I-17
S-I-13. Re-number to S-I-18
S-I-14. Re-number to S-I-19

Section 7.4 Emergency Procedures

The Emergency Procedures section of the Manteca General Plan Safety Element contains references and policy statements related to floods or flooding in terms Emergency Procedures as listed below:

Goal S-7. Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

Policies: Emergency Procedures

S-P-19. The City shall maintain and periodically update the City’s Emergency Plan.

Implementation Policies: Emergency Procedures

S-I-15. The City shall conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.
No Public Safety Element policies or other statements Contained within Section 7.4 (Emergency Procedures) would conflict with the GPA.

However, due to additional policy statements and implementation measures contained in the Safety Element Section 7.2 (Flood Hazards), re-numbering of policies and implementation measures will be required throughout this section. These numbering revisions include:

**Policies: Emergency Procedures**

*S-P-19.* Re-numbered to *S-P-29.*

**Implementation Policies: Emergency Procedures**

*S-I-15.* Re-number to *S-I-20*

*S-I-16.* Re-number to *S-I-21*

Additionally, as described in the SB 5 Bills, and as described in more detail in AB 162, the Safety Element shall establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including:

iii.  *Maintaining the structural and operational integrity of essential public facilities during flooding.*

iv.  *Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities.*

vi.  *Establishing cooperative working relationships among public agencies with responsibility for flood protection.*

Therefore, this GPA includes the flowing policies and implementation measures to be added to the Manteca General Plan Safety Element Section 7.4 (Emergency Procedures) upon adoption of this General Plan Amendment.

**Policies: Emergency Procedures**

*S-P-30.* The City shall provide for the availability and functionality of critical facilities during flooding events.

*S-P-31.* Locate new critical City facilities, and promote the location of non-City critical facilities, including hospitals, emergency shelters, fire stations, emergency response centers and emergency communications facilities outside of flood hazard zones where feasible. Essential facilities that are, or must be located within flood hazard zones should incorporate feasible site design or building construction features to mitigate potential flood risk to ensure operation during a flood event.
Implementation Policies: Emergency Procedures

S-I-22. Cooperate with San Joaquin County OES, Manteca Fire Department, Lathrop Manteca Fire District, Manteca Police Services, the reclamation districts and other agencies with responsibility for emergency management in emergency response planning, training and provision of logistical support.

S-I-23. Support participation by City staff, the Police Services, Manteca Fire Department, and Lathrop Manteca Fire District in emergency response demonstrations and training where feasible.

S-I-24. The City will periodically coordinate local flood protection agencies, including the reclamation districts, to discuss the status of flood protection facilities and improvements, strategize future improvements, consider potential climate change effects, financing for improvements, emergency response plans, and worker training for emergency response situations.

S-I-25. The City will consider options for location of essential facilities outside flood-prone areas where feasible, and if essential facilities they must be located in areas of potential flooding how to mitigate the effects of flooding on the availability and use of those facilities.

RESOURCE CONSERVATION

The Resource Conservation Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

AB 162 sets forth specific requirements for amendment of the Conservation Element of the General Plan. The bill requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the General Plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management (California Government Code Section 65302(d)(3) as amended by AB 162).

In addition to the Safety Element Section 7.2 (Flood Hazards), which contains policies and implementation measures to increase permeable surfaces throughout the City that limit flood flows, and increase groundwater recharge capabilities; the City of Manteca Resource Conservation Element currently addresses lands that may accommodate floodwater for purposes of groundwater recharge and stormwater management through the following goals policies and implementation measures.

Section 8.6 Water Quality

Goal RC-7. To protect water quality in the San Joaquin River and in the area’s groundwater basin.

8.6.1 Policies: Water Quality

RC-P-13. Protect the quality of Manteca’s groundwater.

RC-P-14. Encourage participation by the County and surrounding communities in a basin-wide groundwater management study.

8.6.2 Implementation: Water Quality

RC-I-19. The City shall work with the County and surrounding communities to develop an action plan and/or to create an agency to manage and protect local and regional groundwater resources.
RC-I-22. Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.

RC-I-23. Utilize cost-effective urban runoff controls, including Best Management Practices (BMPs), to limit urban pollutants from entering the water courses.

RC-I-24. Comply with the Regional Water Quality Control Board’s regulations and standards to maintain and improve groundwater quality in Manteca.

Section 8.7 Open Space

8.7.2 Implementation: Open Space

RC-I-28. Monitor groundwater resources and consider locating required detention basins where recharge potential is determined to be high.

No Resources Conservation Element policies or other statements Contained within Section 8.6 (Water Quality) or 8.7 (Open Space) would conflict with the GPA.

Noise

The Noise Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

Air Quality

The Air Quality Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.

Administration

The Administration Element of the Manteca General Plan contains no references to floods or flooding and no policies or other statements that would conflict with the GPA.
Resources


California Department of Water Resources. DWR, 2015. Awareness Floodplain Maps. 2015


Central Valley Flood Protection Board. San Joaquin-San Joaquin Drainage District Maps > San Joaquin County http://www.cvfpb.ca.gov/cvfpb/ssjdd_maps/san_joaquin/


Conservation Biology Institute. Reclamation district boundaries within the state of California. http://databasin.org/datasets/8aee127380164046b32c2c85dee44d55


FloodSAFE CA Urban Level of Flood Protection Criteria

Peterson Brustad Inc. 2014. 200-Year Freeboard Analysis and Floodplain Data RD 17. 2014.


San Joaquin Area Flood Control Agency. Lower San Joaquin and Delta South Planning Area

University of the Pacific JOIN CENTER FOR BUSINESS AND POLICY RESEARCH RD 17 SB 5 Analysis


Figure 1: Regional Location Map

Legend

City Limits
- City of Manteca
- Other City

Spheres Of Influence
- Manteca SOI
- Other SOI

Sources: San Joaquin County, California Spatial Information Library.
Map date: May 16, 2016.

MANTECA SB 5 SAFETY ELEMENT AMENDMENT

1:200,000
Figure 2: General Plan Land Use Map

General Plan Designations

AG: AG: AGRICULTURE COMMERCIAL
NC: NEIGHBORHOOD COMMERCIAL
CMU: COMMERCIAL MIXED USE
GC: GENERAL COMMERCIAL
VLDR: VERY LOW DENSITY RES. (0.5 TO 2 DUA/AC)
LDR: LOW DENSITY RES. (2.1 TO 8 DUA/AC)
MDR: MEDIUM DENSITY RES. (8.1 TO 15 DUA/AC)
HDR: HIGH DENSITY RES. (15.1 TO 20 DUA/AC)
BP: BUSINESS PROFESSIONAL
LI: LIGHT INDUSTRIAL
HI: HEAVY INDUSTRIAL
OS: OPEN SPACE
P: PARK
PQP: PUBLIC/QUASI-PUBLIC
UR: URBAN RESERVE
UR-AG: URBAN RESERVE (AGRICULTURE)
UR-CMU: URBAN RESERVE (COMMERCIAL MIXED USE)
UR-GC: URBAN RESERVE (GENERAL COMMERCIAL)
UR-LDR: URBAN RESERVE (LOW DENSITY RESIDENTIAL)
UR-MDR: URBAN RESERVE (MEDIUM DENSITY RESIDENTIAL)
UR-BIP: URBAN RESERVE (BUSINESS INDUSTRIAL PARK)
UR-LI: URBAN RESERVE (LIGHT INDUSTRIAL)
UR-P: URBAN RESERVE (PARK)
UR-PQP: URBAN RESERVE (PUBLIC/QUASI-PUBLIC)
UR-VLDR: URBAN RESERVE (VERY LOW DENSITY RESIDENTIAL)
UR-HDR: URBAN RESERVE (HIGH DENSITY RESIDENTIAL)
UR-UR: URBAN RESERVE (URBAN RESERVE)
UR-UR-CMU: URBAN RESERVE (COMMERICAL MIXED USE)
UR-UR-GC: URBAN RESERVE (GENERAL COMMERCIAL)

Planning Areas

CITY OF MANTECA
SURROUNDING CITIES

MANTECA SPHERE OF INFLUENCE

Source: City of Manteca, San Joaquin County. Map date: April 11, 2016.
This page left intentionally blank
Figure 3: San Joaquin River Watershed

Sources: Department of Water Resources, San Joaquin County, California Spatial Information Library. Map date: February 1, 2016.
Figure 4: Reclamation District Boundaries

Legend
- City of Manteca
- Other Cities
- City of Manteca Sphere of Influence
- Reclamation Districts

Source: San Joaquin County, California Spatial Information Library.
Map date: April 11, 2016.
This page left intentionally blank
This page left intentionally blank
Reclamation District 17
City of Manteca
Other Cities
City of Manteca Sphere of Influence
State-Federal SPFC Levee
Non-SPFC Levee

Figure 6: Reclamation District 17 and Levee System

Sources: California Department of Water Resources; San Joaquin County, CalAtlas. Map date: April 11, 2016.
Legend
- Reclamation District 2094
- City of Manteca
- Other Cities
- City of Manteca Sphere of Influence
- State-Federal SPFC Levee
- Non-SPFC Levee

Sources: California Department of Water Resources; San Joaquin County, CalAtlas. Map date: April 11, 2016.
This page left intentionally blank
Figure 8: FEMA Flood Map

Legend

- City of Manteca
- City of Lathrop
- City of Manteca Sphere of Influence

FEMA Flood Zone Designation

- Zone A: 100-yr Flood Zone
- Zone X (shaded): 500-yr Flood Zone
- Zone X (unshaded): Areas determined to be outside the 0.2% annual chance floodplain

Figure 9: 200-Year Floodplain

Legend
- City of Manteca
- City of Lathrop
- City of Manteca Sphere of Influence
- 200-Year Floodplain

Sources: City of Manteca; San Joaquin County; CalAtlas. Map date: April 11, 2016.
Figure 10: 200-Year Floodplain by Depth East of the San Joaquin River

Legend
- City of Manteca
- City of Lathrop
- City of Manteca Sphere of Influence

200-yr Floodplain Depth
- <= 1.00
- 1.01 - 3.00
- 3.01 - 5.00
- 5.01 - 10.00
- > 10.00

Sources: City of Manteca, San Joaquin County, CalAtlas. Map date: April 11, 2016.
This page left intentionally blank
Legend
- City of Manteca
- Other Cities
- City of Manteca Sphere of Influence
- Levee Flood Protection Zone
  - Shallow
  - Deep
  - Depth Unknown

MANTECA SB 5 SAFETY ELEMENT AMENDMENT
Figure 11: DWR Levee Flood Protection Zones

Sources: California Department of Water Resources; San Joaquin County; CalAtlas. Map date: April 11, 2016.
This page left intentionally blank
Figure 12: Dam Inundation Map

Sources: California Emergency Management Agency, April 2009; San Joaquin County; CalAtlas. Map date: April 11, 2016.
This page left intentionally blank
4.0 HAZARDS, SAFETY, AND NOISE

Issues and topics related to health, safety, and noise within the Planning Area are addressed in this chapter. Some of these hazards may be naturally induced, such as wildfire hazards. Other health and safety hazards may be the result of natural hazards, which are exacerbated by human activity, such as development in areas prone to flooding. Additional hazards are entirely human-made, including airport crash hazards and exposure to hazardous materials.

This chapter is divided into the following sections:

• 4.1 Hazards and Hazardous Materials
• 4.2 Air Traffic
• 4.3 Fire Hazards
• 4.4 Flooding
• 4.5 Noise

4.1 HAZARDS AND HAZARDOUS MATERIALS

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

REGULATORY FRAMEWORK

FEDERAL

Comprehensive Environmental Response, Compensation & Liability Act (CERCLA)

This act, commonly associated with the term “Superfund,” established:

• Regulations concerning closed and abandoned hazardous waste sites
• Liability of parties responsible for any releases of hazardous waste at these sites
• Funding for cleanup when responsible parties cannot be identified
4.0 HAZARDS, SAFETY, AND NOISE

Resource Conservation and Recovery Act (RCRA)
This act established EPA’s “cradle to grave” control (generation, transportation, treatment, storage, and disposal) over hazardous materials and wastes. In California, the Department of Toxic Substances Control (DTSC) has RCRA authorization.

Clean Air Act
In according with the Clean Air Act, the EPA has established National Emissions Standards for Hazardous Air Pollutants. Exceeding the emissions standard for a given air pollutant may cause an increase in illnesses and/or fatalities.

Clean Water Act (CWA)
The CWA, which amended the WPCA of 1972, sets forth the Section 404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the Section 402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The Section 401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA Section 404, CWA Section 402, FERC Hydropower and Section 10 Rivers and Harbors).

STATE
California Health & Safety Code
Division 20 of the Health and Safety Code establishes Department of Toxic Substances Control (DTSC) authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a State superfund framework that mirrors the Federal program.

Division 26 of the Health and Safety Code establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

Food and Agriculture Code
Division 6 of the California Food and Agricultural Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

Water Code
Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

California Code of Regulations
Title 3 of the CCR pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application
- Damage non-target crops or animals or any other public or private property
- Contaminate public or private property or create health hazards on said property
Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation and maintenance of the State’s landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

LOCAL

City of Manteca General Plan

The current City of Manteca General Plan identifies the following policy framework related to hazardous materials and waste:

Safety Element

GOAL S-1: Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity.

GOAL S-2: Prevent loss of lives, injury, and property damage due to the collapse of buildings and critical facilities, and to prevent disruption of essential services in the event of an earthquake.

POLICY S-P-1: The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of potentially significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.

POLICY S-P-2: The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.

POLICY S-P-3: The City shall require new development to mitigate the potential impacts of seismic induced settlement of uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.

POLICY S-P-4: The City shall maintain an inventory of pre-1940 unreinforced masonry buildings within the city. No change in use to a higher occupancy or more intensive use shall be approved in such
structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected. The Redevelopment Agency shall be encouraged to assist property owners in reinforcing buildings.

**POLICY S-P-5:** The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.

**POLICY S-P-6:** The City shall comply with the California State seismic and building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

**IMPLEMENTATION S-I-1:** All new development shall comply with the current Uniform Building Code (UBC) requirements that stipulate building structural material and reinforcement.

**IMPLEMENTATION S-I-2:** All new development shall comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

**IMPLEMENTATION S-I-3:** The City shall inventory potentially hazardous buildings within the city and adopt a mitigation program, including requirements for strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing the buildings.

**GOAL S-3:** Prevent loss of lives, injury, and property damage due to flooding.

**GOAL S-4:** Pursue flood control solutions that minimize environmental impacts.

**POLICY S-P-7:** Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.

**POLICY S-P-8:** Cooperate with other agencies in the pursuit of a regional approach to flood issues.

**POLICY S-P-9:** Combine flood control, recreation, water quality, and open space functions where feasible.

**POLICY S-P-10:** Ensure that any existing structures subject to the 100-year flood provide adequate protection from flood hazards.

**POLICY S-P-11:** Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.

**POLICY S-P-12:** New residential development, including mobilehomes, shall be constructed so that the lowest floor is at least one foot above the 100-year flood level.

**POLICY S-P-13:** Non-residential development shall be anchored and flood-proofed in accord with Federal Emergency Management Agency (FEMA) standards to prevent damage or causing damage due to a 100-year flood or, alternatively, elevated to at least one foot above the 100-year flood level.

**POLICY S-P-14:** When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, the structure shall be brought into compliance with FEMA standards.
IMPLEMENTATION S-I-4: The City shall continue to participate in the National Flood Insurance Program. To this end, the City shall ensure that local regulations are in full compliance with standards adopted by the Federal Emergency Management Agency (FEMA). The City shall adopt and implement local flood management development standards.

IMPLEMENTATION S-I-5: Provide flood warning and forecasting information to City residents.

IMPLEMENTATION S-I-6: Discourage large continuous paved areas unless provided with engineered drainage facilities.

IMPLEMENTATION S-I-7: Where feasible, require the use of pervious paving materials, such as brick or stepping stones with sand joints.

IMPLEMENTATION S-I-8: New development shall be required to maintain natural stream courses and adjacent habitat and combine flood control, recreation, water quality, and open space functions.

GOAL S-5: The City shall protect the health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

POLICY S-P-15: The City shall maintain an awareness of hazardous materials throughout the Manteca region.

POLICY S-P-16: City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.

POLICY S-P-17: Within its authority, the City shall regulate the production, use, storage, and transport of hazardous materials to protect the health of Manteca residents.

  IMPLEMENTATION S-I-9: The City shall require businesses that manufacture, store, use, or transport significant quantities of hazardous materials to identify annually such materials and their quantities.

  IMPLEMENTATION S-I-10: The City shall require the submittal of lists of hazardous materials used in existing and proposed industrial and commercial businesses within the City of Manteca. The list shall be maintained through the Manteca Fire Department and updated through periodic review.

  IMPLEMENTATION S-I-11: The City shall work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

  IMPLEMENTATION S-I-12: Cooperate fully with Union Pacific Railroad and other agencies, such as the CHP, in the event of a hazardous material emergency.

  IMPLEMENTATION S-I-13: Continue the City hazardous waste pick-up program for household hazardous materials.

GOAL S-6: Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

POLICY S-P-18: The City shall maintain and periodically update the City’s Emergency Plan.
IMPLEMENTATION S-I-14: The City shall conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

IMPLEMENTATION S-I-15: The City shall review County and State emergency response procedures that must be coordinated with City procedures.

ENVIRONMENTAL SETTING

Envirostor Data Management System
The DTSC maintains the Envirostor Data Management System, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There are 19 locations with a Manteca address that are listed in the Envirostor database. Ten sites are listed as school investigation sites with no action required, one site is listed as a school investigation site which requires further evaluation, two sites were listed as active and are under state cleanup programs, two sites were listed as no further action, two sites were listed as inactive and need further evaluation, one site was referred to the RWQCB, and one site is a voluntary cleanup site that has land use restrictions. Table 4.1-1 lists the active sites and the inactive (needs evaluation or action required) sites within Manteca. Following the table is a background discussion of these sites.

Table 4.1-1: Manteca Site Cleanup and Hazardous Facilities List (Envirostor)

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACTIVE – STATE RESPONSE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gordon Research Company</td>
<td></td>
<td>10/15/2007</td>
<td>1085 South Union Road</td>
</tr>
<tr>
<td>Nur-Al-Huda Academy</td>
<td></td>
<td>10/3/2014</td>
<td>1085 South Union Road</td>
</tr>
<tr>
<td><strong>INACTIVE – NEEDS EVALUATION (TIERED PERMIT)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISE Labs, Inc., Assembly Operations</td>
<td>N/A</td>
<td></td>
<td>400 Industrial Park Drive</td>
</tr>
<tr>
<td>Qualex, Inc. - Manteca</td>
<td>N/A</td>
<td></td>
<td>555 Industrial Park Drive</td>
</tr>
<tr>
<td><strong>INACTIVE – NEEDS EVALUATION (SCHOOL INVESTIGATION)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposed Manteca High School Addition</td>
<td>10/17/2007</td>
<td>206, 216 &amp; 220 South Garfield Avenue</td>
<td></td>
</tr>
<tr>
<td><strong>INACTIVE – ACTION REQUIRED (VOLUNTARY CLEANUP)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satellite Housing</td>
<td>3/16/2009</td>
<td>280 and 282 North Airport</td>
<td></td>
</tr>
<tr>
<td><strong>REFER – OTHER AGENCY (EVALUATION)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schmiedt Soil Service, Inc.</td>
<td>3/7/1996</td>
<td>20696 South Manteca Road</td>
<td></td>
</tr>
</tbody>
</table>

Source: California Department of Toxic Substances Control, Envirostor Database, 2016.

ACTIVE SITES

The Gordon Research Company site is located within a residential district of Manteca. The southwestern corner of the property abuts the northwestern corner of the Brock Elliot Elementary School.

According to information provided by the DTSC, state and local agencies involvement in the site began in 1984 in response to a complaint. An inspection by agency representatives revealed that Mr. Larry Gordon was engaged in chemical reformulation and repackaging of chemicals for resale without the
required permits. A review of the available DTSC file revealed that prior to 1988, a chemical formulation, repackaging and resale businesses operated at the Site. The businesses were known as Gordon Research Company and U.S. Gordon Subproperty. These businesses purchased bulk chemicals and stored them at the site. In 1984, in response to a complaint received by the State of California DHS, a predecessor to DTSC, conducted an inspection at the site. The inspection revealed activities for which the operator did not hold the required permits. By December 1985, DHS inspections found that most of the chemicals were removed from the site.

From 1984 through 1986, the San Joaquin County District Attorney’s Office along with the California Department of Health Services (DHS) conducted enforcement actions. In 1986, a permanent injunction was obtained prohibiting Mr. Gordon from handling, treating, storing, or disposing of hazardous substances or wastes.

In 1988, the site was inspected by DHS staff, the Manteca Fire Department, and the county District Attorney’s office. At the time of the inspection, a portion of the property was surrounded by a fence. Within the fenced area, approximately 10 to 20 drums with markings similar to military specifications were noted. These drums contained products used by the property owner in maintaining equipment used in the commercial/agricultural operations. A 2007 inspection noted unlabeled containers, high pressure cylinders, and open containers with handwritten notations; some of these containers were deteriorated and leaking.

In October of 2007, San Joaquin County Environmental Health Department conducted an inspection which revealed wastes accumulated and potentially being deposited into the soil at the site. Reportedly, trespassers are scavenging for recyclable or salable materials, or squatting on the site. A deceased owner of the property operated numerous commercial ventures at the site and maintained a residence at the property. The county requested DTSC oversight of the removal and disposal of the improperly stored chemicals at the site.

On November 28, 2007, the DTSC issued an Imminent and Substantial Determination and Order that specified the assessment and remedies necessary to address existing conditions at the site. In response, the property owner representatives (the Gordon Family Trust) began removing unlabeled containers, high-pressure cylinders, and debris; however, the Gordon Family Trust was unable to finish the required activities in 2009. The DTSC obtained the necessary funds to complete the removal action. Between 2010 and 2011, DTSC conducted a Preliminary Endangerment Assessment where soil and groundwater samples were taken from the property in order to determine extent of contamination.

The Nur-Al-Huda Academy site is located within a residential district of Manteca. The southwestern corner of the property abuts the northwestern corner of the Brock Elliot Elementary School. As shown in Table 4.1-1, this site is located on the same site as the Gordon Research Company site. The Nur-Al-Huda Academy site property owner is working with DTSC to remediate the site in order to establish a school, Nur-Al-Huda Academy, on the site.

In response to the Imminent & Substantial Determination and Order issued by the DTSC in 2007, representatives of the property owner have constructed and maintained site fencing, submitted a draft public participation plan, and a draft chemical identification and disposal plan. Once the plan is approved, all of the containers and vessels will be located, assessed, and if necessary packaged for off-site disposal. Following this removal, soil sampling will occur to determine if there has been an impact to the soil.
Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. There are no hazardous materials release sites located in the Planning Area.

GeoTracker

GeoTracker is the California Water Resource Control Board’s data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites.

Leaking Underground Storage Tanks (LUST)

There are 60 locations with a Manteca address that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Fifty-eight of the locations have undergone LUST cleanup and the State has closed the case. There are six locations in Manteca with an open case. Table 4.1-2 lists the location of open and closed cases for LUSTs in Manteca.

**Table 4.1-2: Manteca LUST Cleanup Sites**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ACTIVITY</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank’s One Stop</td>
<td>Open - Verification Monitoring</td>
<td>2072 Yosemite Ave W</td>
</tr>
<tr>
<td>Rainwater Car Wash</td>
<td>Open - Verification Monitoring</td>
<td>420 Yosemite Ave W</td>
</tr>
<tr>
<td>7-11 Store #2243-17647</td>
<td>Completed - Case Closed</td>
<td>1048 Yosemite Ave W</td>
</tr>
<tr>
<td>7-Eleven Store #21756</td>
<td>Completed - Case Closed</td>
<td>853 Yosemite Ave E</td>
</tr>
<tr>
<td>ABF Freight</td>
<td>Completed - Case Closed</td>
<td>2427 Yosemite Ave W</td>
</tr>
<tr>
<td>Ace Tomato Co Inc</td>
<td>Completed - Case Closed</td>
<td>2771 E. French Camp Rd</td>
</tr>
<tr>
<td>Arco #6020 Case #2</td>
<td>Completed - Case Closed</td>
<td>1711 Yosemite Ave E</td>
</tr>
<tr>
<td>Arco #6020 Case #1</td>
<td>Completed - Case Closed</td>
<td>1711 Yosemite Ave E</td>
</tr>
<tr>
<td>Beacon #3-492</td>
<td>Completed - Case Closed</td>
<td>470 Main St N</td>
</tr>
<tr>
<td>Bob’s Muffler</td>
<td>Completed - Case Closed</td>
<td>466 Moffat Blvd</td>
</tr>
<tr>
<td>Boyett Petroleum</td>
<td>Completed - Case Closed</td>
<td>419 Main St S</td>
</tr>
<tr>
<td>Brophy Texaco (Former)</td>
<td>Completed - Case Closed</td>
<td>941 Yosemite Ave E</td>
</tr>
<tr>
<td>Cal-West Concrete Cutting Inc</td>
<td>Completed - Case Closed</td>
<td>1153 Vanderbilt Cir</td>
</tr>
<tr>
<td>Cardoza Enterprises</td>
<td>Completed - Case Closed</td>
<td>1151 Louise</td>
</tr>
<tr>
<td>Carl Karcher Enterprises</td>
<td>Completed - Case Closed</td>
<td>800 Mellon St</td>
</tr>
<tr>
<td>Carrol/Richie Property</td>
<td>Completed - Case Closed</td>
<td>443 Sycamore Ave</td>
</tr>
<tr>
<td>Center Plumbing</td>
<td>Completed - Case Closed</td>
<td>2001 Main St N</td>
</tr>
<tr>
<td>Chevron #9-1848</td>
<td>Completed - Case Closed</td>
<td>1257 Yosemite Ave W</td>
</tr>
<tr>
<td>City Of Manteca</td>
<td>Completed - Case Closed</td>
<td>210 Wetmore St E</td>
</tr>
<tr>
<td>City Of Manteca Public Works</td>
<td>Completed - Case Closed</td>
<td>220 Oak St</td>
</tr>
</tbody>
</table>
4.0 HAZARDS, SAFETY, AND NOISE

<table>
<thead>
<tr>
<th>Name</th>
<th>Activity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claudio Dell'eva</td>
<td>Completed - Case Closed</td>
<td>260 Main St S</td>
</tr>
<tr>
<td>Delicato Vineyards</td>
<td>Completed - Case Closed</td>
<td>12001 Hwy 99 S</td>
</tr>
<tr>
<td>Diamond Lumber</td>
<td>Completed - Case Closed</td>
<td>151 Main St S</td>
</tr>
<tr>
<td>E-Z Serve #100878</td>
<td>Completed - Case Closed</td>
<td>1012 Yosemite Ave W</td>
</tr>
<tr>
<td>Eckert Cold Storage</td>
<td>Completed - Case Closed</td>
<td>757 Moffat Blvd</td>
</tr>
<tr>
<td>Food &amp; Liquor #76</td>
<td>Completed - Case Closed</td>
<td>890 Main St N</td>
</tr>
<tr>
<td>Frank's Exxon #2</td>
<td>Completed - Case Closed</td>
<td>1399 Yosemite Ave E</td>
</tr>
<tr>
<td>Frank's Exxon #4</td>
<td>Completed - Case Closed</td>
<td>14800 Frontage Rd W &amp; Hwy 99 S</td>
</tr>
<tr>
<td>House Of Redwood</td>
<td>Completed - Case Closed</td>
<td>1199 Vanderbilt Cir</td>
</tr>
<tr>
<td>Jackpot Food Mart</td>
<td>Completed - Case Closed</td>
<td>1434 Yosemite Ave W</td>
</tr>
<tr>
<td>Jiffy Lube</td>
<td>Completed - Case Closed</td>
<td>1130 Main St N</td>
</tr>
<tr>
<td>Karlson Bros Trucking</td>
<td>Completed - Case Closed</td>
<td>23675 Airport Way S</td>
</tr>
<tr>
<td>Lathrop Gas And Food Mart</td>
<td>Completed - Case Closed</td>
<td>14800 West Frontage Road, Hwy 99</td>
</tr>
<tr>
<td>Lee Jennings Enterprises</td>
<td>Completed - Case Closed</td>
<td>815 Moffat Blvd</td>
</tr>
<tr>
<td>Manteca Bean</td>
<td>Completed - Case Closed</td>
<td>229 Moffat Blvd</td>
</tr>
<tr>
<td>Manteca Equipment Rental</td>
<td>Completed - Case Closed</td>
<td>616 Main St S</td>
</tr>
<tr>
<td>Manteca School Dist (Case #1)</td>
<td>Completed - Case Closed</td>
<td>2901 Louise Ave E</td>
</tr>
<tr>
<td>Manteca Unified School Dist</td>
<td>Completed - Case Closed</td>
<td>2901 Louise Ave (Case #2)</td>
</tr>
<tr>
<td>Manteca Unified School Dist</td>
<td>Completed - Case Closed</td>
<td>660 Mikesell Rd</td>
</tr>
<tr>
<td>Manteca-Lathrop Fire Protect.</td>
<td>Completed - Case Closed</td>
<td>9121 Lathrop Rd E</td>
</tr>
<tr>
<td>MBP-Manteca</td>
<td>Completed - Case Closed</td>
<td>983 Moffat Blvd</td>
</tr>
<tr>
<td>Mountain Valley Express</td>
<td>Completed - Case Closed</td>
<td>1299 Vanderbilt Cir</td>
</tr>
<tr>
<td>Payless Shoe Store</td>
<td>Completed - Case Closed</td>
<td>1160 Yosemite Ave W</td>
</tr>
<tr>
<td>Pitts Property</td>
<td>Completed - Case Closed</td>
<td>203 Lincoln Ave S</td>
</tr>
<tr>
<td>Ponte's Car Wash Case #2</td>
<td>Completed - Case Closed</td>
<td>707 Yosemite Ave E</td>
</tr>
<tr>
<td>Ponte's Car Wash Case #1</td>
<td>Completed - Case Closed</td>
<td>707 Yosemite Ave E</td>
</tr>
<tr>
<td>Pony Express Courier</td>
<td>Completed - Case Closed</td>
<td>959 Moffat Blvd</td>
</tr>
<tr>
<td>Private Residence</td>
<td>Completed - Case Closed</td>
<td>Private Residence</td>
</tr>
<tr>
<td>Quick Stop #121</td>
<td>Completed - Case Closed</td>
<td>1196 Louise Ave W</td>
</tr>
<tr>
<td>Rino Gas (Diablo Gasoline)</td>
<td>Completed - Case Closed</td>
<td>1001 Yosemite Ave E</td>
</tr>
<tr>
<td>Royal Oaks S&amp;L</td>
<td>Completed - Case Closed</td>
<td>510 Main St N</td>
</tr>
<tr>
<td>Samuel Farrow</td>
<td>Completed - Case Closed</td>
<td>440 Main St N</td>
</tr>
<tr>
<td>San Joaquin Delta College Farm</td>
<td>Completed - Case Closed</td>
<td>5298 Brunswick Rd</td>
</tr>
<tr>
<td>Shell SS</td>
<td>Completed - Case Closed</td>
<td>1071 Main St N</td>
</tr>
<tr>
<td>Southland 7-11 #19976</td>
<td>Completed - Case Closed</td>
<td>1399 Main St N</td>
</tr>
<tr>
<td>Super Stop Market</td>
<td>Completed - Case Closed</td>
<td>290 Main St N</td>
</tr>
<tr>
<td>Ted Peters Trucking</td>
<td>Completed - Case Closed</td>
<td>1985 Yosemite Ave W</td>
</tr>
<tr>
<td>Tuff Boy Trailers</td>
<td>Completed - Case Closed</td>
<td>5151 Almondwood Dr</td>
</tr>
<tr>
<td>Union #5417</td>
<td>Completed - Case Closed</td>
<td>1700 Yosemite Ave E</td>
</tr>
<tr>
<td>Western Stone Products</td>
<td>Completed - Case Closed</td>
<td>1945 Lathrop Rd E</td>
</tr>
</tbody>
</table>

PERMITTED UNDERGROUND STORAGE TANK (UST)

There are 14 locations with a Manteca address that have Underground Storage Tanks (UST) that are permitted through the California Water Resources Control Board. Table 4.1-3 lists the location of the 14 permitted underground storage tanks in Manteca.

<table>
<thead>
<tr>
<th>NAME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arco Product Co #6313</td>
<td>1100 Main St</td>
</tr>
<tr>
<td>Boyett Petroleum</td>
<td>419 Main St</td>
</tr>
<tr>
<td>Cal Central Farm Service</td>
<td>12776 French Camp Rd</td>
</tr>
<tr>
<td>Chevron USA #201761</td>
<td>1103 Main St</td>
</tr>
<tr>
<td>Doctors Hospital Of Manteca</td>
<td>1205 North St</td>
</tr>
<tr>
<td>Jackpot Food Mart</td>
<td>1434 Yosemite Ave</td>
</tr>
<tr>
<td>Machado &amp; Machado Dairy</td>
<td>26234 Union Rd</td>
</tr>
<tr>
<td>Machado Bros Dairy 39-338</td>
<td>12700 Louise Ave</td>
</tr>
<tr>
<td>Manteca Liquor &amp; Food</td>
<td>890 Main St</td>
</tr>
<tr>
<td>One Stop Market</td>
<td>1151 Louise Ave</td>
</tr>
<tr>
<td>Quik Stop #124</td>
<td>505 Main St</td>
</tr>
<tr>
<td>Raymond Dowell</td>
<td>8330 Southland Rd</td>
</tr>
<tr>
<td>Shinko Electric America Inc</td>
<td>551 Carnegie St</td>
</tr>
<tr>
<td>St Dominic’s Hospital/Manteca</td>
<td>1777 Yosemite Ave</td>
</tr>
</tbody>
</table>


WATER BOARD PROGRAM CLEANUP SITES

There are 12 locations with a Manteca address that are listed in the GeoTracker database for Water Board Cleanup Sites. Three of the locations have undergone cleanup and the State has closed the case. There are nine locations in Manteca with an open case. Table 4.1-4 lists the location of open and closed cases for Water Board Program Cleanup Sites in Manteca.

<table>
<thead>
<tr>
<th>NAME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Former Suprema Cheese Wastewater Pond</td>
<td>N. Of Lathrop Rd. And E. Of Airport Rd.</td>
</tr>
<tr>
<td>Ted Peters Trucking Mantic Facility</td>
<td>1985 W Yosemite Ave</td>
</tr>
<tr>
<td>99 Auto Recycling (De Rose Property)</td>
<td>430 Moffat Blvd.</td>
</tr>
<tr>
<td>Balmat &amp; Co</td>
<td>Sedan Avenue</td>
</tr>
<tr>
<td>Ditz Brothers Incorporated</td>
<td>575 Industrial Park Drive</td>
</tr>
<tr>
<td>Former French Cleaners</td>
<td>416 West Yosemite Avenue</td>
</tr>
<tr>
<td>ISF Labs Incorporated</td>
<td>400-560 Industrial Park Drive</td>
</tr>
<tr>
<td>Tri-Ag Service</td>
<td>20696 S. Manteca Road</td>
</tr>
<tr>
<td>United Agri Products</td>
<td>301 Wetmore St</td>
</tr>
<tr>
<td>Karlson Trucking</td>
<td>9909 East Woodward Ave</td>
</tr>
<tr>
<td>PG&amp;E Transformer Release</td>
<td>2978 W. Yosemite Ave.</td>
</tr>
<tr>
<td>Sterling Transit</td>
<td>410 S. Main Street</td>
</tr>
</tbody>
</table>

**WATER BOARD CEASE AND DESIST ORDERS**

On March 19, 2004, the Regional Water Quality Control Board, Central Valley Region, adopted Waste Discharge Requirements Order No. R5-2004-0028, (Order) NPDES No. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility. Cease and Desist Order No. R5-2004-0029 (CDO) was also issued, which includes requirements and time schedules to bring the discharge into full compliance with the final effluent and receiving water limitations contained in the Order.

On March 29, 2005, the Executive Officer issued Administrative Civil Liability (ACL) Complaint No. R5-2005-0509 (Complaint) to the City of Manteca to assess mandatory penalties for effluent limitation violations, pursuant to California Water Code Section 13385(h) and (i), and for noncompliance with several time schedules required in the Order and CDO. Following settlement negotiations, on 16 September 2005, the Regional Water Board issued ACL Order No. R5-2005-0128 for $463,000, including a supplemental environmental project. In accordance with the settlement discussions, the Discharger provided an updated schedule for meeting the compliance time schedule for thermal limitations, and requested an extension of an interim compliance date to submit a Thermal Plan Exception Report.

**Solid Waste Information System (SWIS)**

**FACILITY/SITE LISTING**

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The City of Manteca has seven solid waste facilities listed in the database, four of which are active. The site details are listed in Table 4.1-5 below.

**Table 4.1-5: CIWMB Facilities/Sites**

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>NAME</th>
<th>Activity</th>
<th>Regulatory Status</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>39-AA-0008</td>
<td>Lovelace Transfer Station</td>
<td>Large Volume Transfer/Proc Facility</td>
<td>Permitted</td>
<td>Active</td>
</tr>
<tr>
<td>39-AA-0015</td>
<td>Forward Landfill, Inc.</td>
<td>Solid Waste Landfill</td>
<td>Permitted</td>
<td>Active</td>
</tr>
<tr>
<td>39-AA-0020</td>
<td>Forward Resource Recovery Facility</td>
<td>Large Volume Transfer/Proc Facility</td>
<td>Permitted</td>
<td>Active</td>
</tr>
<tr>
<td>39-AA-0037</td>
<td>Delicato Vineyards</td>
<td>Composting Operation (Ag)</td>
<td>Permitted</td>
<td>Active</td>
</tr>
<tr>
<td>39-CR-0024</td>
<td>Manteca City Dump</td>
<td>Solid Waste Disposal Site</td>
<td>Pre-regulations</td>
<td>Closed</td>
</tr>
<tr>
<td>39-CR-0025</td>
<td>Manteca County Dump</td>
<td>Solid Waste Disposal Site</td>
<td>Pre-regulations</td>
<td>Closed</td>
</tr>
<tr>
<td>39-CR-0032</td>
<td>Spic And Span Private Garbage Dump</td>
<td>Solid Waste Disposal Site</td>
<td>Pre-regulations</td>
<td>Closed</td>
</tr>
</tbody>
</table>

*Source: California Department of Resources Recycling and Recovery, 2016.*

The Lovelace Transfer Station is located at 2323 Lovelace Road. The facility is owned by the County of San Joaquin, is administered by the Public Works Department, and is inspected numerous times each year. The most recent inspection of this facility (as of 7/2016) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) shows one area of concern and no violations. The area of concern pertained to truck drivers failing to wearing safety equipment. No other areas of concern or violations have been noted at this facility.

The Forward Landfill is located at 9999 S. Austin Road. The facility is owned by Forward Inc./Allied Waste North America and is inspected numerous times each year. The most recent inspections of this facility (as of 7/2016) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) shows eleven areas of concern and one violation. The violation pertained
to exposed waste from the previous day. The areas of concern pertained to litter accumulation, daily cover, drainage and erosion control, lighting, and grading of fill surfaces.

The Forward Resources Recovery Facility is located at 9999 N. Austin Road. The facility is owned by Forward Inc./Allied Waste North America and is inspected numerous times each year. The most recent inspections of this facility (as of 7/2016) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) show no violations or areas of concern.

The Delicato Vineyards composting operation is located at 12001 S. Highway 99. The facility is owned by Delicato Vineyards, and is inspected numerous times each year. The most recent inspections of this facility (as of 7/2016) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) show no violations or areas of concern.

REFERENCES


4.2 Air Traffic

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2002), prepared by the State Division of Aeronautics, 18.2% of general aviation accidents occur during takeoff and initial climb and 44.2% of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77% of accidents during this phase of flight occur during touchdown onto the runway or during the rollout. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions. (California Division of Aeronautics, 2002).

The remaining 23% of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot’s misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway. (California Division of Aeronautics, 2002).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed. (California Division of Aeronautics, 2002).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65% of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting
to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem. (California Division of Aeronautics, 2002).

**Regulatory Framework**

**Federal**

**Aviation Act of 1958**

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA was charged with the creation and maintenance of a National Airspace System.

**Federal Aviation Regulations (CFR, Title 14)**

The Federal Aviation Regulations (FAR) establish regulations related to aircraft, aeronautics, and inspections and permitting.

**State**

**Aeronautics Act (Public Utilities Code §21001)**

The Caltrans Division of Aeronautics bases the majority of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

**Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)**

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses (§21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

**Environmental Setting**

**Local Airport Facilities**

There are no private or public airport facilities in the Planning Area.

**Stockton Metropolitan Airport:** The Stockton Metropolitan Airport is located approximately 3.5 miles north of the Manteca City limits. This airport is a County-owned facility that occupies approximately 1,609 acres at an elevation of 23 feet above Mean Sea Level (MSL). The acreage within Airport Influence Area is 56,184 acres.

The Stockton Metropolitan Airport is designated as a Non-hub Commercial Service Airport within the Federal Aviation Administration’s (FAA) National Plan of Integrated Airport Systems (NPIAS). The airport
is served by Allegiant Air, which provides service to Phoenix/Mesa, Arizona and Las Vegas, Nevada. In addition to commercial service, Stockton Metropolitan Airport offers a wide range of fixed base operators (FBOs) providing fuel, aircraft maintenance, aircraft hangar and tie-down rental, aircraft rental, flight training, aircraft management services, and pilot lounges for corporate and general aviation pilots. The airport also houses FBOs that support air cargo operations.

Stockton Metropolitan Airport is served by a parallel runway system in a northwest-southeast orientation. Runway 11L-29R is 10,650 feet long and 150 feet wide and is constructed of asphalt. Runway 11R-29L is 4,448 feet long and 75 feet wide and also constructed of asphalt. Runway 11L-29R is accommodated by several instrument approach procedures aiding pilots in navigation to the runway. Runway 29R contains a medium intensity approach lighting system with runway alignment lights (MALSR) to provide runway alignment guidance for pilots in reduced visibility conditions. Runway 11L-29R is served by a four-light Precision Approach Path Indicator (PAPI-4) at both ends and contains high intensity runway lighting (HIRL) to indicate the location of the runway edge. Runway 11R-29L does not contain approach or runway edge lighting.

The northernmost portion of the Planning Area is located within the airport influence area for the Stockton Metropolitan Airport identified in the ALUCP. The majority of this land within the airport influence area is zoned for agricultural uses by the City’s General Plan 2023. Other land uses within the airport influence area include park, industrial, commercial, public, low density residential, and medium density residential.

The lands within the City limits that are located in the airport influence area for the Stockton Metropolitan Airport are not within the Airport’s noise exposure contours. However, the lands within the City that are located in the airport influence area are within two of the Airport’s Safety Zones: Traffic Pattern Zone 7b and Zone 8. Lands within Traffic Pattern Zone 7b cannot be developed with non-residential intensities greater than 450 persons per acre and must have open land over 10% of the site. Additionally, uses within Traffic Pattern Zone 7b cannot be hazardous to flight, and outdoor stadiums are prohibited. Non-residential development on land within Traffic Pattern Zone 8 is not subject to a maximum intensity or open space requirement. Airspace review is required for development greater than 100 feet tall on lands within Zone 7b or Zone 8. Similarly, new dumps or landfills within Zone 7b or Zone 8 are subject to the FAA notification and review and are further subject to restrictions and conditions outlined by the FAA.

**Major Regional Airport Facilities**

**San Francisco International Airport (SFO):** SFO is the largest airport in the region, and a hub for United Airlines. It provides a wide range of domestic airline service and all of the region’s long-haul international flights. San Francisco serves 68% of regional Bay Area air passengers and 43% of regional air cargo shipments.

**Metropolitan Oakland International Airport (OAK):** Oakland Airport has traditionally been the hub for low cost carriers and a major air cargo center due to operations by FedEx and UPS. Oakland serves 17% of Bay Area regional air passengers and 52% of air cargo.

**Norman Y. Mineta San Jose International Airport (SJC):** Traffic at San Jose Airport has been affected by the recent realignment of airline services in the Bay Area. The airport does not currently offer any long-haul international flights, and air cargo facilities are limited due to space constraints. San Jose serves 15% of the Bay Area regional air passengers and 6% of air cargo.
Sacramento International Airport (SMF): The Sacramento Airport served nearly 9 million passengers in 2012 with 150 daily departures to 36 destinations. Southwest provides the majority of flights. Many Sacramento area air passengers use Oakland and San Francisco for their air service needs. Conversely, some Bay Area passengers choose Sacramento Airport.

National Transportation Safety Board Aviation Accident Database
The National Transportation Safety Board Aviation Accident Database does not identify any aircraft accidents with Manteca identified as the nearest location between January of 1983 to 2017. (National Transportation Safety Board, 2017).

References


4.3 FIRE HAZARDS

This section addresses the hazards associated with wildfires in the Planning Area. The discussion of fire suppression resources is located in the Community Services and Facilities section of this report.

REGULATORY SETTING

FEDERAL

FY 2001 Appropriations Act
Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

STATE

California Government Code Section 65302
This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

Assembly Bill 337
Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify “Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

California Public Resources Code
The State’s Fire Safe Regulations are set forth in Public Resources Code §4290, which include the establishment of State Responsibility Areas (SRA).

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone that ...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material (§4291(a)).

Uniform Fire Code
The Uniform Fire Code (UFC) establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the UFC range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials.

CA Code of Regulations Title 8
In accordance with CCR, Title 8, §§1270 and §6773 (Fire Prevention and Fire Protection and Fire Equipment), the Occupational Safety and Health Administration (Cal OSHA) establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

CA Code of Regulations Title 14 (Natural Resources)
Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.
CA Code of Regulations Title 19 (Public Safety)
Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

CA Code of Regulations Title 24 (CA Building Standards Code)
The California Fire Code is set forth in Part 9 of the Building Standards Code. The CA Fire Code, which is pre-assembled with the International Fire Code by the ICC, contains fire-safety building standards referenced in other parts of Title 24.

CA Health and Safety Code and UBC Section 13000 et seq.
State fire regulations are set forth in §13000 et seq. of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the UBC and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

CA Health and Safety Code Division 11 (Explosives)
Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

CA Health and Safety Code Division 12.5 (Buildings Used by the Public)
This Division establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

CA Vehicle Code §31600 (Transportation of Explosives)
Establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

LOCAL
City of Manteca General Plan
The existing City of Manteca General Plan identifies the following goals, policies, and implementation measures related to fire:

Safety Element
GOAL S-1: Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity.

GOAL S-5: The City shall protect the health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

GOAL S-6: Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.
POLICY S-P-6: The City shall comply with the California State seismic and building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

IMPLEMENTATION S-I-10: The City shall require the submittal of lists of hazardous materials used in existing and proposed industrial and commercial businesses within the City of Manteca. The list shall be maintained through the Manteca Fire Department and updated through periodic review.

Public Facilities and Services Element

POLICY PF-P-42: The City shall endeavor to maintain an overall fire insurance (ISO) rating of 4 or better.

POLICY PF-P-43: The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls.

POLICY PF-P-44: The City shall provide fire services to serve the existing and projected population.

POLICY PF-P-45: The City will establish the criteria for determining the circumstances under which fire service will be enhanced.

IMPLEMENTATION PF-I-24: The Fire Department shall continuously monitor response times and report annually on the results of the monitoring.

IMPLEMENTATION PF-I-25: The Planning Commission and City Engineer will review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response.

Identifying Fire Hazards

Fuel Rank

Fuel rank is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The City of Manteca contains areas with “moderate” and “non-wildland fuel” ranks. The areas warranting “moderate” fuel ranks possess combustible material in sufficient quantities combined with
topographic characteristics that pose a wildfire risk. CalFire data for the areas immediately surrounding the Planning Area also include “moderate” and “non-wildland fuel” ranks. Areas west of Interstate 5, approximately 15 miles or further southwest of the Planning Area, are designated as “moderate” and “high” fuel ranks.

Fire Threat
The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme.

Fire Hazard Severity Zones
The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

Local Responsibility Areas
The majority of the Planning Area is not located within a Local Responsibility Area (LRA). Three portions of the Planning Area are located in an LRA: a developed area near Airport Way and W. Yosemite Avenue, a developed area near E. Yosemite Avenue and Austin Road, and a developed area near W. Louise Avenue and S. Airport Way. Manteca is an LRA that is served by the Manteca Fire Department. The Manteca Fire Department serves approximately 71,164 residents throughout approximately 17.2 square miles within the City limits. The City of Manteca is not categorized as a "Very High" FHSZ by CalFire. No cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire.

State Responsibility Areas
There are no State Responsibility Areas (SRAs) within the vicinity of the Planning Area.

Federal Responsibility Areas
There are no Federal Responsibility Areas (FRAs) within the vicinity of the Planning Area.

References


4.4 FLOODING
This section addresses the hazards associated with flooding in the Planning Area. The discussion of storm drainage infrastructure is located in the Community Services and Facilities section of this report.

REGULATORY FRAMEWORK

FEDERAL

Federal Emergency Management Agency (FEMA)
FEMA operates the National Flood Insurance Program (NFIP). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

Rivers and Harbors Appropriation Act of 1899
One of the country’s first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

Water Pollution Control Act of 1972
The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States.

Clean Water Act of 1977
The CWA, which amended the WPCA of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

Flood Control Act
The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

National Flood Insurance Program (NFIP)
Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes: Better indemnify individuals for flood losses through insurance; Reduce future flood damages through State and community floodplain management regulations; and Reduce Federal expenditures for disaster assistance and flood control.
While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

**Flood Disaster Protection Act (FDPA)**

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited Federal assistance, including acquisition, construction, and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all Federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

**STATE**

**Assembly Bill 162**

This bill requires a general plan’s land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources (DWR). The bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. By imposing new duties on local public officials, the bill creates a State-mandated local program.

This bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.

**Assembly Bill 70**

This bill provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the State’s exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped
area, as defined, that is protected by a State flood control project, unless the city or county meets specified requirements.

CA Government Code
The Senate and Assembly bills identified above have resulted in various changes and additions to the California Government Code. Key sections related to the above referenced bills are identified below.

Section 65302
Revised safety elements must include maps of any 200-year flood plains and levee protection zones within the Planning Area.

Section 65584.04
Any land having inadequate flood protection, as determined by FEMA or DWR, must be excluded from land identified as suitable for urban development within the planning area.

Section 8589.4
California Government Code §8589.4, commonly referred to as the Potential Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a “100-year flood.” In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.

LOCAL

City of Manteca General Plan
The existing City of Manteca General Plan identifies the following goals, policies, and implementation measures related to flooding:

Safety Element
GOAL S-3: Protect life and property from flood events.

GOAL S-4: Provide a planning framework suitable for flood protection and risk management consistent with Federal and State law.

GOAL S-5: Pursue flood control solutions that minimize environmental impacts.

POLICY S-P-7: Periodically review and update when necessary, the General Plan Safety Element goals, policies, and implementation measures in order to maintain compliance with applicable Federal and State requirements.

POLICY S-P-8: Maintain and periodically update, City flood safety plans, floodplain management ordinances, zoning ordinance, building codes and other related sections of the Manteca Municipal Code to reflect Safety Element goals, policies and standards, applicable Federal and State law, and National Flood Insurance Program requirement.
**4.0 Hazards, Safety, and Noise**

**POLICY S-P-9:** The City shall require evaluation of potential flood hazards prior to approval of development projects to determine whether the proposed development is reasonably safe from flooding and consistent with California Department of Water Resources (DWR) Urban Level of Flood Protection Criteria. The City shall not approve the execution of a development agreement, a tentative map, or a parcel map for which a tentative map is not required, or a discretionary permit or other discretionary entitlement that would result in the construction of a new building, or construction that would result in an increase in allowed occupancy for an existing building, or issuance of a ministerial permit that would result in the construction of a new residence for property that is located within a 200-year flood hazard zone, unless the adequacy of flood protection as described in Government Code §65865.5(a), 65962(a), or 66474.5(a), has been demonstrated.

**POLICY S-P-10:** The City may permit new development in areas not identified as “urban” or “urbanizing” provided that they are protected from 100-year flooding by FEMA-accredited levees or equivalent flood protection as shown on an adopted FEMA FIRM, a FEMA-approved Letter of Map Revision (LOMR) or a Conditional Letter of Map Revision (CLOMR), subject to conditions specified in the CLOMR.

**POLICY S-P-11:** The City may permit new development in areas not protected by FEMA-accredited 100-year levees subject to all applicable requirements of Manteca Municipal Code Chapter 8.30 (Floodplain Management), the California Building Standards Code as adopted by the City, and the latest promulgated FEMA standards for development in the 100-year floodplain, provided that new development approval will not cause the project site or area to be defined as “urban” or “urbanizing.”

**POLICY S-P-12:** Work closely with the City of Lathrop, and the local reclamation districts to improve levee systems as required to provide ULOP for urban and urbanizing areas in Manteca by 2025, and to provide the basis for findings of “adequate progress” toward that objective based on substantial evidence as soon as possible.

**POLICY S-P-13:** The City shall continue to cooperate with local, regional, State, and Federal agencies in securing funding to obtain the maximum level of flood protection that is practical, with a goal of achieving 200-year flood protection for all areas of the City.

**POLICY S-P-14:** Maintain active participation in the National Flood Insurance Program (NFIP).

**POLICY S-P-15:** The City shall maintain eligibility in the Federal Emergency Management Agency’s (FEMA’s) Community Rating System (CRS) program, which gives property owners discounts on flood insurance.

**POLICY S-P-16:** Provide technical assistance and encourage landowners within the FEMA Special Flood Hazard Area (100-year floodplain) to purchase and maintain flood insurance.

**POLICY S-P-17:** Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.

**POLICY S-P-18:** Provide opportunities for review of and comment by the reclamation districts, Manteca Police Services, Manteca Fire Department, the Lathrop Manteca Fire District for comment during new development project review.
POLICY S-P-19: Consider the risks of catastrophic dam failure in the planning and environmental review of new development projects.

POLICY S-P-20: Incorporate riparian habitat protection, mitigation or enhancement into flood protection improvements to maintain existing floodwater capacity where feasible.

POLICY S-P-21: Combine flood control, recreation, water quality, and open space functions where feasible.

POLICY S-P-22: Discourage large continuous paved areas unless provided with engineered drainage facilities, and where feasible, require the use of pervious paving materials.

POLICY S-P-23: When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, structures shall be brought into compliance with relevant FEMA standards.

POLICY S-P-24: The City shall require, for areas protected by levees, all new developments to include a notice within the deed that the property is protected from flooding by a levee and that the property can be subject to flooding if the levee fails or is overwhelmed by floodwater flow.

POLICY S-P-25: The City shall update flood hazard maps as necessary to reflect impacts from climate change in terms of long-term flood safety and long-term flood event probabilities.

IMPLEMENTATION S-I-4: The City will amend Title 17 (Zoning) of the Manteca Municipal Code so as to require that ULOP or “adequate progress” findings specified in the Safety Element, and in Government Code Sections 65007, 65865.5, 65962 and 66474.5, be made prior to approving a development project located within RD 17 with predicted 200-year flood depths of more than three feet according to the official map approved by the City of Manteca or Floodplain Administrator. Title 17 amendments shall also implement all Safety Element policies related to development permitting in potentially flooded areas.

IMPLEMENTATION S-I-5: The City will evaluate the consistency of the Safety Element with applicable laws, regulations and plans in conjunction with its annual review of the General Plan. The City shall determine whether and when an amendment of the Safety Element is required.

IMPLEMENTATION S-I-6: The City will continue to participate in the FEMA CRS program, including dissemination of information to the public and annual reviews of its participation in the FEMA CRS program and improve the program as feasible to maintain or improve effects on flood insurance costs.

IMPLEMENTATION S-I-7: The City will consider, in the review of plans for new development, the need for levee setbacks, dam failure risks and the views of the local flood protection and emergency response agencies.

IMPLEMENTATION S-I-8: Applications for development in areas subject to 200-year flooding shall indicate the depth of predicted 200-year flooding on the basis of official maps approved by the City of Manteca or Floodplain Administrator.

IMPLEMENTATION S-I-9: The City will monitor changes in Federal and State laws and regulations related to local flood protection, including the National Flood Insurance Program (NFIP) and
incorporate necessary changes into Section 15.56, Title 17 of the Manteca Municipal Code, the City’s Emergency Operations Plan and building codes as required.

IMPLEMENTATION S-I-10: The City will prepare an official 200-year Floodplain Map for the City of Manteca identifying predicted flood depths for reference when making land use determinations.

IMPLEMENTATION S-I-11: The City will amend Chapter 8.30 (Floodplain Management) of the Manteca Municipal Code to reflect flood protection requirements specified in the Safety Element as well as any relevant updates to Federal or State requirements.

IMPLEMENTATION S-I-12: The City will consider potential effects of climate change in planning, design and maintenance of levee improvements and other flood control facilities.

IMPLEMENTATION S-I-13: City will coordinate with RD 17 and RD 2094 as required for the purpose of ensuring that ULOP is available as soon as possible and that “adequate progress” findings can be made.

IMPLEMENTATION S-I-14: The City will encourage the reclamation districts to incorporate riparian habitat protection and/or enhancement in levee improvement plans where feasible.

ENVIRONMENTAL SETTING

The City of Manteca is located 12 miles south of downtown Stockton, 14 miles northwest of Modesto, and 75 miles southeast of San Francisco. The Manteca Planning Area is situated in the south central portion of San Joaquin County. Although Manteca is one of the smaller planning areas within the County geographically, Manteca is the third most populated planning area in the County. The San Joaquin River and the Stanislaus River border the southwest and southern edge of the Planning Area, respectively.

Manteca is located in northern San Joaquin Valley. The San Joaquin Valley is the southern section of the Great Central Valley of California; the Sacramento Valley is the northern section. The Great Central Valley is a sedimentary basin, with the Coast Range to the west and the Sierra Nevada to the east. Almost all of the sediments that fill the Great Central Valley eroded from the Sierra Nevada. The oldest of these sediments are full of fragments of volcanic rocks eroded from its early volcanoes. As erosion stripped the cover of volcanic rocks from the granites of the Sierra Nevada, their detritus of pale quartz and feldspar sand began to wash into the Great Central Valley. Drainage into the San Joaquin Valley is mainly from the Sierra Nevada. The sediments on the valley floor were deposited within the past one-two million years, some within the past few thousand years.

Generally, slopes are nearly level across the Planning Area. The elevation ranges from approximately 10 to 50 feet above sea level, gently rising from the San Joaquin River on the west toward the east and the Sierra Nevada.

Climate

Summers in the Planning Area are warm and dry ranging from an average high in July of 93°F to an average low of approximately 59°F. Winters are cool and mild, with an average high of 53°F and a low of 37°F in January. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5 F to July highs of 94.3 F.
FEMA Flood Zones

FEMA mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA’s National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 4.4-1.

Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- **Zone A**: Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- **Zone AE**: Subject to 100-year flooding with base flood elevations determined.
- **Zone AH**: Subject to 100-year flooding with flood depths between one and three feet being areas of ponding with base flood elevations determined.
- **500-year Flood Zone**: Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.

The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area. The primary flood hazard is the San Joaquin River (four miles outside the Study Area) and its tributaries, notably Walthall Slough (contiguous with the southwestern Study Area boundary). A levee running from Williamson Road east to Airport Way provides flood protection for the land north and east of Walthall Slough. This levee is under the jurisdiction of Reclamation District No. 17.

The 100-year flood plain is largely confined to the southwestern portion of the City limits and SOI. Similarly, the 500-year flood plain is located in the southwestern and western portions of the City limits and SOI.

SB 5 Flood Zones

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The 200-year floodplain for the Planning Area, as mapped by the City of Manteca and San Joaquin County, is shown on Figure 4.4-2. As shown in the figure, the 200-year floodplain is located in the western portion of the City’s SOI and City limits. Existing uses within the 200-year floodplain include mainly agricultural and rural-residential uses. Some more recently developed homes located south of SR 120 are also located within the 200-year floodplain.

The City’s 2013 Public Facilities Implementation Plan (PFIP) Update notes several stormwater control improvements aimed to protect the City from flooding during storm events. The 2013 Storm Drain Master Plan evaluates drainage from the General Plan lands within the City’s Primary Urban Service Area through build out. Five planning zones have been identified to define the capital improvements needed to serve future growth: Zones 30, 32, 34, 36 and 39. With the exception of drainage Zone 39, all drainage zones are located in the SSJID service area. For development within Zone 39, separate facilities
4.0 HAZARDS, SAFETY, AND NOISE

will be constructed to convey runoff to one regional pump station that will discharge to Walthall Slough. These facilities would be required as new development within Zone 39 occurs.

Additionally, as funds are available, the City will construct water level monitoring facilities in the various PFIP zones and in the French Camp Outlet Canal to monitor water elevations in real-time to prevent flooding caused by additional drainage flows. Each zone’s proportionate share of the water level monitoring stations is included the various PFIP zone fees.

**Dam Inundation**

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by four dams: Tulloch Dam, San Luis Dam, New Exchequer Dam (Lake McClure), and New Melones Dam. The dam inundation area for each dam is shown in Figure 4.4-3. Each dam is briefly described below:

- The Tulloch Dam, owned and operated by the Oakdale and South San Joaquin Irrigation Districts (collectively known as the Tri-Dam Project), is a gravity dam located on the Stanislaus River in both Calaveras and Tuolumne Counties. This dam was built in 1958 at a height of 205 feet with a reservoir capacity of 68,400 acre-feet. The Tulloch Dam is a jurisdictional dam.

- The San Luis Dam (or B.F. Sisk Dam), jointly owned and operated by the Bureau of Reclamation and the State of California, is a zoned earthfill dam that provides supplemental irrigation water to land in western Merced, Fresno and Kings Counties, as well as generates power. This dam, located on San Luis Creek near Los Banos, was completed in 1967 at a height of 382 feet with a reservoir capacity of 2,041,000 acre-feet. The San Luis Dam is a non-jurisdictional dam.

- The New Exchequer Dam, owned and operated by the Merced Irrigation District, is utilized for irrigation, power production, and downstream flood control. This concrete gravity-arch dam is located on the Merced River in Mariposa County. New Melones Dam was completed in 1967 at a height of 490 feet and a storage capacity of 1,024,600 acre-feet. The New Exchequer Dam is a jurisdictional dam.

- The New Melones Dam, owned and operated by Bureau of Reclamation’s Central Valley Project, is utilized for irrigation, power production, and downstream flood control. This earth and rockfill dam is located on the Stanislaus River in southern Mother Lode, off of Highway 49. New Melones Dam was completed in 1979 at a height of 625 feet and a storage capacity of 2,400,000 acre-feet. The New Melones Dam is a non-jurisdictional dam.

These dams do not have a history of failure; however, they are identified as having the potential to inundate habitable portions of the Planning Area in the unlikely event of dam failure. The dam owners/operators, Oakdale and South San Joaquin Irrigation Districts, the Bureau of Reclamation, and the State of California, are responsible for the management, monitoring, and improvements to these dams to reduce the risk of dam failure and inundation.

Portions of the 100-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the Study Area is not specifically defined, but would generally coincide with the area delineated as the 100-year floodplain.
Despite the number of dams near San Joaquin County, the risk of dam failure inundating portions of the County is considered low, and the degree and nature of risk for each dam is unknown. Dam failure can occur under three general conditions: as a result of an earthquake, an isolated incident due to structural instability, or because of intense rain in excess of design capacity.

Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. This plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

REFERENCES


4.5 Noise

This section provides a discussion of the regulatory setting and a general description of existing noise sources in the City of Manteca. The analysis in this section was prepared with assistance from j.c. brennan & associates, Inc.

Key Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustics</td>
<td>The science of sound.</td>
</tr>
<tr>
<td>Ambient Noise</td>
<td>The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.</td>
</tr>
<tr>
<td>Attenuation</td>
<td>The reduction of noise.</td>
</tr>
<tr>
<td>A-Weighting</td>
<td>A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.</td>
</tr>
<tr>
<td>CNEL</td>
<td>Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 p.m. - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.</td>
</tr>
<tr>
<td>Decibel or dB</td>
<td>Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.</td>
</tr>
<tr>
<td>Frequency</td>
<td>The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.</td>
</tr>
<tr>
<td>Impulsive</td>
<td>Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.</td>
</tr>
<tr>
<td>Ldn</td>
<td>Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.</td>
</tr>
<tr>
<td>Leq</td>
<td>Equivalent or energy-averaged sound level.</td>
</tr>
<tr>
<td>Lmax</td>
<td>The highest root-mean-square (RMS) sound level measured over a given period of time.</td>
</tr>
<tr>
<td>L(n)</td>
<td>The sound level exceeded as a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one-hour period.</td>
</tr>
<tr>
<td>Loudness</td>
<td>A subjective term for the sensation of the magnitude of sound.</td>
</tr>
<tr>
<td>Noise</td>
<td>Unwanted sound.</td>
</tr>
<tr>
<td>SEL</td>
<td>A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.</td>
</tr>
</tbody>
</table>

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).
Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected, or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals) as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +3 dB penalty for evening noise. Table 4.5-1 lists several examples of the noise levels associated with common situations.
### Table 4.5-1: Typical Noise Levels

<table>
<thead>
<tr>
<th>Common Outdoor Activities</th>
<th>Noise Level (dBA)</th>
<th>Common Indoor Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet Fly-over at 300 m (1,000 ft)</td>
<td>-110</td>
<td>Rock Band</td>
</tr>
<tr>
<td>Gas Lawn Mower at 1 m (3 ft)</td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td>Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)</td>
<td>-80</td>
<td>Food Blender at 1 m (3 ft)</td>
</tr>
<tr>
<td>Noisy Urban Area, Daytime</td>
<td>-70</td>
<td>Garbage Disposal at 1 m (3 ft)</td>
</tr>
<tr>
<td>Gas Lawn Mower, 30 m (100 ft)</td>
<td></td>
<td>Vacuum Cleaner at 3 m (10 ft)</td>
</tr>
<tr>
<td>Commercial Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Traffic at 90 m (300 ft)</td>
<td>-60</td>
<td>Normal Speech at 1 m (3 ft)</td>
</tr>
<tr>
<td>Quiet Urban Daytime</td>
<td>-50</td>
<td>Large Business Office</td>
</tr>
<tr>
<td>Quiet Urban Nighttime</td>
<td>-40</td>
<td>Dishwasher in Next Room</td>
</tr>
<tr>
<td>Quiet Suburban Nighttime</td>
<td>-30</td>
<td>Theater, Large Conference Room (Background)</td>
</tr>
<tr>
<td>Quiet Rural Nighttime</td>
<td>-20</td>
<td>Bedroom at Night, Concert Hall (Background)</td>
</tr>
<tr>
<td>Lowest Threshold of Human Hearing</td>
<td>-10</td>
<td>Broadcast/Recording Studio</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Lowest Threshold of Human Hearing</td>
</tr>
</tbody>
</table>


## Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
• A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

REGULATORY FRAMEWORK

FEDERAL

Federal Highway Administration (FHWA)
The FHWA has developed noise abatement criteria that are used for Federally funded roadway projects or projects that require Federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

Environmental Protection Agency (EPA)
The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an $L_{eq}$ of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an $L_{eq}$ of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA $L_{dn}$ as the basic goal for residential environments. However, other Federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA $L_{dn}$, have generally agreed on the 65 dBA $L_{dn}$ level as being appropriate for residential uses. At 65 dBA $L_{dn}$, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The U.S. Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Act (Public Law 89-117) “to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes.”

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

• 65 dBA $L_{dn}$ or less - an acceptable zone where all projects could be approved.

• Exceeding 65 dBA $L_{dn}$ but not exceeding 75 dBA $L_{dn}$ - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA $L_{dn}$ area and 10 dBA of attenuation in a 70 to 75 dBA $L_{dn}$ area.
4.0 Hazards, Safety, and Noise

- Exceeding 75 dBA $L_{dn}$ - an unacceptable zone in which projects would not, as a rule, be approved.

HUD’s regulations do not include interior noise standards. Rather a goal of 45 dBA $L_{dn}$ is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA $L_{dn}$ or less, the interior level will be 45 dBA $L_{dn}$ or less. Thus, structural attenuation is assumed at 20 dBA. However, HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The Federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility’s or construction contractor’s health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

State

California Department of Transportation (Caltrans)
Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 1998b). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

Governor’s Office of Planning and Research (OPR)
OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 1998). The guidelines include land use compatibility guidelines for noise exposure.

Local

Existing City Noise Thresholds
The City of Manteca General Plan Noise Element establishes goals and policies, as well as criteria for evaluating the compatibility of individual land uses with respect to noise exposure.

Noise Element:
GOAL N-1: Protect the residents of Manteca from the harmful and annoying effects of exposure to excessive noise.

GOAL N-2: Protect the quality of life in the community and the tourism economy from noise generated by incompatible land uses.

GOAL N-3: Ensure that the downtown core noise levels remain acceptable and compatible with commercial and higher density residential land uses.

GOAL N-4: Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.

GOAL N-5: Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.
Policy N-P-1: Areas within Manteca exposed to existing or projected exterior noise sources exceeding the performance standards in Table 9-1 [Table 4.5-2] shall be designated as noise-impacted areas.

| Table 4.5-2: City of Manteca Maximum Allowable Noise Exposure - Mobile Noise Sources |
|-----------------------------------|---------------------------------|-------------------|-----------------|
| **Land Use**                      | **Outdoor Activity Areas** | **Interior Spaces** |                |
| Residential                       | 60                | 45                |                |
| Transient Lodging                | 60                | 45                |                |
| Hospitals, Nursing Homes         | 60                | 45                |                |
| Theatres, Auditoriums, Music Halls | 35            |                   |                |
| Churches, Music Halls            | 60                | 40                |                |
| Office Buildings                 | 65                | 45                |                |
| Schools, Libraries, Museums      | 45                |                   |                |
| Playgrounds, Neighborhood Parks  | 70                |                   |                |

1. Outdoor activity areas for residential development are considered to be backyards of single family dwellings, and the common areas where people generally congregate for multi-family developments. Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

2. In areas where it is not possible to reduce exterior noise levels to 60 dB L_{eq} or below using a practical application of the best noise-reduction technology, an exterior noise level of up to 65 dB L_{eq} will be allowed.

3. Determined for a typical worst-case hour during periods of use.

4. Where a proposed use is not specifically listed on the table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the City.

Source: City of Manteca General Plan Noise Element 2023, Table 9-1.

Policy N-P-2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1 [Table 4.5-1].

Policy N-P-3: The City may permit the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2 [Table 4.5-3]. Noise mitigation may be required to meet Table 9-2 [Table 4.5-3] performance standards.

| Table 4.5-3: City of Manteca Performance Standards for Stationary Noise Sources or Projects Affected by Stationary Noise Sources |
|----------------------------------|-------------------|-------------------|
| **Noise Level Descriptor**      | **Daytime** (7 A.M. to 10 P.M.) | **Nighttime** (10 P.M. to 7 A.M.) |
| Hourly L_{eq}, dB               | 50                | 45                |
| Maximum Level, dB               | 70                | 65                |

1. Each of the noise levels specified above should be lowered by five (5) dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints.

2. No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

Source: City of Manteca General Plan Noise Element 2023, Table 9-2.

Policy N-P-4: The City shall require stationary noise sources proposed adjacent to noise sensitive uses to be mitigated so as to not exceed the noise level performance standards in Table 9-2 [Table 4.5-3].
Policy N-P-5: In accord with the Table 9-2 [Table 4.5-3] standards, the City shall regulate construction-related noise impacts on adjacent uses.

Policy N-P-6: Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area, an acoustical analysis is required as part of the environmental review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:

- Be the responsibility of the applicant.
- Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
- Estimate existing and projected (20 years) noise levels in terms of the standards of Table 9-1 [Table 4.5-2] or Table 9-2 [Table 4.5-3], and compare those levels to the adopted policies of the Noise Element.
- Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.
- Estimate noise exposure after the prescribed mitigation measures have been implemented.
- Describe a post-project assessment program that could be used to monitor the effectiveness of the proposed mitigation measures.

Policy N-P-7: Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with noise performance levels of Table 9-1 [Table 4.5-2] and Table 9-2 [Table 4.5-3].

Policy N-P-8: The City shall enforce the Sound Transmission Control Standards of the California Building Code concerning the construction of new multiple occupancy dwellings such as hotels, apartments, and condominiums.

Policy N-P-9: New equipment and vehicles purchased by the City shall comply with noise level performance standards consistent with the best available noise reduction technology.

Policy N-P-10: The Manteca Police Department shall actively enforce requirements of the California Vehicle Code relating to vehicle mufflers and modified exhaust systems.

Policy N-P-11: For residential development backing on to a freeway or railroad right-of-way, the developer shall be required to build a sound barrier wall, and provide for other appropriate mitigation measures, to satisfy the performance standards in Table 9-1 [Table 4.5-2].

Policy N-P-12: The City shall require new roadways to be mitigated so as to not exceed the noise levels specified in Table 9-1 [Table 4.5-2]. Widening or other improvement projects of existing roadways shall be mitigated to the most practical extent.
Policy N-P-13: The City shall carefully review and shall give potentially affected residents an opportunity to fully review any proposals for the establishment of helipads or heliports.

IMPLEMENTATION N-I-1: New development in residential areas with an actual or projected exterior noise level of greater than 60 dB $L_{dn}$ will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB $L_{dn}$.

IMPLEMENTATION N-I-2: Assist in enforcing compliance with noise emissions standards for all types of vehicles, established by the California Vehicle Code and by federal regulations, through coordination with the Manteca Police Department and the California Highway Patrol.

IMPLEMENTATION N-I-3: In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:

- the resulting noise levels
- the duration and frequency of the noise
- the number of people affected
- the land use designation of the affected receptor sites
- public reactions or controversy as demonstrated at workshops or hearings, or by correspondence
- prior CEQA determinations by other agencies specific to the project

IMPLEMENTATION N-I-4: Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.

IMPLEMENTATION N-I-5: Evaluate new transportation projects, such as rail or public transit routes, using the standards contained in Table 9-1 [Table 4.5-2]. However, noise from these projects may be allowed to exceed the standards contained in Table 9-1 [Table 4.5-2], if the City Council finds that there are special overriding circumstances.

IMPLEMENTATION N-I-6: Require an acoustical analysis where:

- Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table 9.1 [Table 4.5-2] or 9.2 [Table 4.5-3].
- Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table 9.1 [Table 4.5-2] or 9.2 [Table 4.5-3] at existing or planned noise sensitive uses.
IMPLEMENTATION N-I-7: Require that all acoustical analyses utilize a consistent format and be prepared in accordance with Policy N-P-6.

IMPLEMENTATION N-I-8: Work in cooperation with Caltrans and the Union Pacific Railroad to maintain noise level standards for both new and existing projects in compliance with Table 9-1 [Table 4.5-2].

**Existing Noise Levels**

**Traffic Noise Levels**
The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop \( L_{dn} \) (24-hour average) noise contours for all highways and major roadways in the Planning Area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly \( L_{eq} \) values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict \( L_{dn} \) values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the Planning Area. Day/night traffic distributions were based upon continuous hourly noise measurement data and j.c. brennan & associates, Inc. file data for similar roadways. Caltrans vehicle truck counts were obtained for CA-99 and CA-120. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 4.5-4 shows the results of this analysis.

**Table 4.5-4: Predicted Existing Traffic Noise Levels**

<table>
<thead>
<tr>
<th>ROADWAY</th>
<th>SEGMENT</th>
<th>NOISE LEVEL AT CLOSEST RECEIVERS ( (dB, L_{dn})^1 )</th>
<th>DISTANCES TO TRAFFIC NOISE CONTOURS, ( L_{dn} ) (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>( 70 \text{ dB} )</td>
<td>( 65 \text{ dB} )</td>
</tr>
<tr>
<td>CA-99</td>
<td>North of 120</td>
<td>75.5</td>
<td>212</td>
</tr>
<tr>
<td>CA-99</td>
<td>South of 120</td>
<td>77.8</td>
<td>482</td>
</tr>
<tr>
<td>CA-120</td>
<td>I-5 to Airport Way</td>
<td>75.0</td>
<td>560</td>
</tr>
<tr>
<td>CA-120</td>
<td>Airport Way to Manteca Rd/Main St</td>
<td>71.7</td>
<td>182</td>
</tr>
<tr>
<td>CA-120</td>
<td>Manteca Rd/ Main St. to CA-99</td>
<td>71.8</td>
<td>220</td>
</tr>
<tr>
<td>Lathrop Rd</td>
<td>I-5 to Airport Way</td>
<td>69.3</td>
<td>43</td>
</tr>
<tr>
<td>Lathrop Rd</td>
<td>Airport Way to Main St</td>
<td>70.3</td>
<td>51</td>
</tr>
<tr>
<td>Lathrop Rd</td>
<td>Main St. to Austin Rd</td>
<td>71.1</td>
<td>58</td>
</tr>
<tr>
<td>Louise Ave</td>
<td>I-5 to Airport Way</td>
<td>64.4</td>
<td>24</td>
</tr>
<tr>
<td>Louise Ave</td>
<td>Airport Way to Manteca Rd/Main St</td>
<td>64.8</td>
<td>21</td>
</tr>
<tr>
<td>Louise Ave</td>
<td>Manteca Rd/Main St to Austin Rd</td>
<td>59.1</td>
<td>8</td>
</tr>
<tr>
<td>Yosemite Ave</td>
<td>I-5 to Airport Way</td>
<td>70.4</td>
<td>50</td>
</tr>
<tr>
<td>Yosemite Ave</td>
<td>Airport Way to Union Rd</td>
<td>71.9</td>
<td>72</td>
</tr>
<tr>
<td>Yosemite Ave</td>
<td>Union Rd to Manteca Rd/Main St</td>
<td>68.7</td>
<td>42</td>
</tr>
<tr>
<td>Yosemite Ave</td>
<td>Manteca Rd/Main St to CA-99</td>
<td>70.9</td>
<td>46</td>
</tr>
<tr>
<td>Yosemite Ave</td>
<td>CA-99 to Austin Rd</td>
<td>68.3</td>
<td>55</td>
</tr>
</tbody>
</table>
### 4.0 Hazards, Safety, and Noise

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Segment</th>
<th>Noise Level at Closest Receptors (dB, L_{eq})</th>
<th>Distances to Traffic Noise Contours, L_{eq} (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>70 dB</td>
</tr>
<tr>
<td>Woodward Ave</td>
<td>I-5 to Airport Way</td>
<td>58.5</td>
<td>7</td>
</tr>
<tr>
<td>Woodward Ave</td>
<td>Airport Way to Manteca Rd/Main St</td>
<td>59.3</td>
<td>10</td>
</tr>
<tr>
<td>Woodward Ave</td>
<td>Manteca Rd/Main St to Moffat Blvd</td>
<td>66.2</td>
<td>23</td>
</tr>
<tr>
<td>Airport Way</td>
<td>French Camp Rd to Lathrop Road</td>
<td>72.7</td>
<td>41</td>
</tr>
<tr>
<td>Airport Way</td>
<td>Lathrop Rd to Louise Ave</td>
<td>63.4</td>
<td>17</td>
</tr>
<tr>
<td>Airport Way</td>
<td>Louise Ave to Yosemite Ave</td>
<td>65.1</td>
<td>22</td>
</tr>
<tr>
<td>Airport Way</td>
<td>Yosemite Ave to CA-120</td>
<td>70.8</td>
<td>45</td>
</tr>
<tr>
<td>Airport Way</td>
<td>CA-120 to Woodward Ave</td>
<td>66.7</td>
<td>42</td>
</tr>
<tr>
<td>Airport Way</td>
<td>Woodward Ave to Nile Rd</td>
<td>72.1</td>
<td>69</td>
</tr>
<tr>
<td>Union Rd</td>
<td>French Camp Rd to Lathrop Road</td>
<td>61.4</td>
<td>13</td>
</tr>
<tr>
<td>Union Rd</td>
<td>Lathrop Rd to Louise Ave</td>
<td>64.3</td>
<td>19</td>
</tr>
<tr>
<td>Union Rd</td>
<td>Louise Ave to Yosemite Ave</td>
<td>65.9</td>
<td>21</td>
</tr>
<tr>
<td>Union Rd</td>
<td>Yosemite Ave to CA-120</td>
<td>70.5</td>
<td>50</td>
</tr>
<tr>
<td>Union Rd</td>
<td>CA-120 to Woodward Ave</td>
<td>61.3</td>
<td>18</td>
</tr>
<tr>
<td>Union Rd</td>
<td>Woodward Ave to Rippon Rd</td>
<td>68.8</td>
<td>31</td>
</tr>
<tr>
<td>Manteca Rd/Main St</td>
<td>Lathrop Rd to Louise Ave</td>
<td>67.7</td>
<td>34</td>
</tr>
<tr>
<td>Manteca Rd/Main St</td>
<td>Louise Ave to Yosemite Ave</td>
<td>60.1</td>
<td>43</td>
</tr>
<tr>
<td>Manteca Rd/Main St</td>
<td>Yosemite Ave to CA-120</td>
<td>70.2</td>
<td>60</td>
</tr>
<tr>
<td>Manteca Rd/Main St</td>
<td>CA-120 to Woodward Ave</td>
<td>68.0</td>
<td>41</td>
</tr>
<tr>
<td>Manteca Rd/Main St</td>
<td>Woodward Ave to Sedan Ave</td>
<td>67.0</td>
<td>21</td>
</tr>
<tr>
<td>Austin Rd</td>
<td>Lathrop Rd to Yosemite Ave</td>
<td>63.9</td>
<td>17</td>
</tr>
<tr>
<td>Austin Rd</td>
<td>Yosemite Ave to Woodward Ave</td>
<td>63.6</td>
<td>17</td>
</tr>
<tr>
<td>Austin Rd</td>
<td>Woodward Ave to Rippon Rd</td>
<td>65.9</td>
<td>25</td>
</tr>
</tbody>
</table>

**Notes:** Distances to traffic noise contours are measured in feet from the centerlines of the roadways.

1 Traffic noise levels are predicted at the closest sensitive receptors or at a distance of 100 feet in commercial/retail areas.


Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Planning Area roadway segment. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the Planning Area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 4.5-4 are generally considered to be conservative.
estimates of noise exposure along roadways in the City of Manteca. Figure 4.5-1 shows existing citywide traffic noise contours.

**Railroad Noise Levels**

In order to quantify noise exposure from existing train operations, two continuous (24-hour) noise level measurement surveys were conducted along the two Union Pacific (UP) railroad lines which run through the City. In addition to freight, the westernmost line also carries commuter trains for the Altamont Corridor Express (ACE) service which provides passenger transportation between Stockton and San Jose.

The purpose of the noise level measurements was to determine typical sound exposure levels (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns and other factors which may affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train events so that the typical number of train operations could be determined.

Table 4.5-5 shows a summary of the continuous noise measurement results for railroad activity within the City.

**Table 4.5-5: Railroad Noise Measurement Results**

<table>
<thead>
<tr>
<th>Measurement Location</th>
<th>Railroad Track</th>
<th>Grade Crossing/ Warning Horn</th>
<th>Train Events Per 24-Hour Period</th>
<th>Average SEL at 50 Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site A</td>
<td>U.P. and A.C.E.</td>
<td>Yes</td>
<td>13</td>
<td>109 dBA</td>
</tr>
<tr>
<td>Site B</td>
<td>U.P.</td>
<td>Yes</td>
<td>26</td>
<td>108 dBA</td>
</tr>
</tbody>
</table>


Noise measurement equipment consisted of Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the day/night average ($L_{dn}$) railroad contours, it is necessary to calculate the $L_{dn}$ for typical train operations. This was done using the SEL values and above-described number and distribution of daily train operations. The $L_{dn}$ may be calculated as follows:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dB},$$

where:

SEL is the mean Sound Exposure Level of the event, $N_{eq}$ is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the $L_{dn}$ value for railroad line operations have been calculated, and the distances to the $L_{dn}$ noise level contours are shown in Table 4.5-6.
4.0 Hazards, Safety, and Noise

**Table 4.5-6: Approximate Distances to the Railroad Noise Contours**

<table>
<thead>
<tr>
<th>Exterior Noise Level at 100 feet, L_{100}</th>
<th>Distance to Exterior Noise Level Contours, Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60 dB L_{100}</td>
</tr>
<tr>
<td>U.P. and A.C.E Line with Warning Horns</td>
<td></td>
</tr>
<tr>
<td>77 dB</td>
<td>642’</td>
</tr>
<tr>
<td>U.P.R.R. – with Warning Horns</td>
<td></td>
</tr>
<tr>
<td>78 dB</td>
<td>833’</td>
</tr>
</tbody>
</table>


**Fixed Noise Sources**

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by Federal and State employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational, and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day, and existing ambient noise levels.

In Manteca, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (HVAC, exhaust fans, etc.)

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified Music and Voice
4.0 Hazards, Safety, and Noise

The types of uses which may typically produce the noise sources described above include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and special events such as concerts and athletic fields. Typical noise levels associated with various types of stationary noise sources are shown in Table 4.5-7.

**Table 4.5-7: Typical Stationary Source Noise Levels**

<table>
<thead>
<tr>
<th>Use</th>
<th>Noise Level at 100 Feet, Leq</th>
<th>50 dB Leq (No Shielding)</th>
<th>45 dB Leq (No Shielding)</th>
<th>50 dB Leq (With 5 dB Shielding)</th>
<th>45 dB Leq (With 5 dB Shielding)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Body Shop</td>
<td>56 dB</td>
<td>200</td>
<td>355</td>
<td>112</td>
<td>200</td>
</tr>
<tr>
<td>Auto Repair (Light)</td>
<td>53 dB</td>
<td>141</td>
<td>251</td>
<td>79</td>
<td>141</td>
</tr>
<tr>
<td>Busy Parking Lot</td>
<td>54 dB</td>
<td>158</td>
<td>281</td>
<td>89</td>
<td>158</td>
</tr>
<tr>
<td>Cabinet Shop</td>
<td>62 dB</td>
<td>398</td>
<td>708</td>
<td>224</td>
<td>398</td>
</tr>
<tr>
<td>Car Wash</td>
<td>63 dB</td>
<td>446</td>
<td>792</td>
<td>251</td>
<td>446</td>
</tr>
<tr>
<td>Cooling Tower</td>
<td>69 dB</td>
<td>889</td>
<td>1,581</td>
<td>500</td>
<td>889</td>
</tr>
<tr>
<td>Loading Dock</td>
<td>66 dB</td>
<td>596</td>
<td>1,059</td>
<td>335</td>
<td>596</td>
</tr>
<tr>
<td>Lumber Yard</td>
<td>68 dB</td>
<td>794</td>
<td>1,413</td>
<td>447</td>
<td>794</td>
</tr>
<tr>
<td>Maintenance Yard</td>
<td>68 dB</td>
<td>794</td>
<td>1,413</td>
<td>447</td>
<td>794</td>
</tr>
<tr>
<td>Outdoor Music Venue</td>
<td>90 dB</td>
<td>10,000</td>
<td>17,783</td>
<td>5,623</td>
<td>10,000</td>
</tr>
<tr>
<td>Paint Booth Exhaust</td>
<td>61 dB</td>
<td>355</td>
<td>631</td>
<td>200</td>
<td>355</td>
</tr>
<tr>
<td>School Playground / Neighborhood Park</td>
<td>54 dB</td>
<td>158</td>
<td>281</td>
<td>89</td>
<td>158</td>
</tr>
<tr>
<td>Skate Park</td>
<td>60 dB</td>
<td>316</td>
<td>562</td>
<td>178</td>
<td>316</td>
</tr>
<tr>
<td>Truck Circulation</td>
<td>48 dB</td>
<td>84</td>
<td>149</td>
<td>47</td>
<td>84</td>
</tr>
<tr>
<td>Vendor Deliveries</td>
<td>58 dB</td>
<td>251</td>
<td>446</td>
<td>141</td>
<td>251</td>
</tr>
</tbody>
</table>

1 Analysis assumes a source-receiver distance of approximately 100 feet, no shielding, and flat topography. Actual noise levels will vary depending on site conditions and intensity of the use. This information is intended as a general rule only, and is not suitable for final site-specific noise studies.


Community Noise Survey

A community noise survey was conducted to document ambient noise levels at various locations throughout the city. Short-term noise measurements were conducted at seven locations throughout the city on January 17th and 18th, 2017 during daytime and evening periods. In addition, three continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends. The data collected included the hourly average (Leq), median (L50), and the maximum level (Lmax) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 4.5-8 and Table 4.5-9. Figure 4.5-2 shows the locations of the noise monitoring sites.
### Table 4.5-8: Existing Continuous 24-Hour Ambient Noise Monitoring Results

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Measured Hourly Noise Levels, dBA</th>
<th>Daytime (7:00 AM - 10:00 PM)</th>
<th>Nighttime (10:00 PM - 7:00 AM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low-High (Average)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$L_{A24}$ dB (DA)</td>
<td>$L_{A24}$ dB</td>
<td>$L_{A24}$ dB</td>
</tr>
<tr>
<td>A</td>
<td>Lathrop/Manteca Light Rail Station. 51 ft from centerline of railroad.</td>
<td>79</td>
<td>58-76 (70)</td>
<td>55-64 (61)</td>
</tr>
<tr>
<td>B</td>
<td>Manteca Community Center. 48 ft from centerline of railroad.</td>
<td>78</td>
<td>53-76 (73)</td>
<td>49-61 (55)</td>
</tr>
<tr>
<td>C</td>
<td>12878 S. Austin Rd., North boundary. 78 ft to centerline of railroad.</td>
<td>63</td>
<td>56-63 (60)</td>
<td>49-59 (56)</td>
</tr>
<tr>
<td>D</td>
<td>Cottage Ave. at SR-99, 90 feet from median of SR-99 (collected 11/13/2015)</td>
<td>77</td>
<td>70-74 (73)</td>
<td>67-72 (71)</td>
</tr>
<tr>
<td>E</td>
<td>Atherton Dr., west of Hearthsong Dr. 330-feet from centerline of SR-120 (collected 5/24/16)</td>
<td>66</td>
<td>60-64 (61)</td>
<td>59-61 (60)</td>
</tr>
</tbody>
</table>


### Table 4.5-9: Existing Short-Term Community Noise Monitoring Results

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Time</th>
<th>Measured Sound Level, dB</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$L_{A2}$ dB</td>
<td>$L_{A2}$ dB</td>
</tr>
<tr>
<td>1</td>
<td>BMX Park on Spreckles Avenue</td>
<td>12:40 p.m.</td>
<td>59</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:57 a.m.</td>
<td>65</td>
<td>64</td>
</tr>
<tr>
<td>2</td>
<td>Delicato Family Vineyards</td>
<td>1:59 p.m.</td>
<td>68</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11:28 a.m.</td>
<td>73</td>
<td>72</td>
</tr>
<tr>
<td>3</td>
<td>Raymus Village Park</td>
<td>2:40 p.m.</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11:52 a.m.</td>
<td>59</td>
<td>58</td>
</tr>
<tr>
<td>4</td>
<td>Airport Way, adjacent to 13033 Airport Way</td>
<td>3:18 p.m.</td>
<td>70</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8:29 a.m.</td>
<td>70</td>
<td>66</td>
</tr>
<tr>
<td>5</td>
<td>Intersection of Airport Way and Fig Ave.</td>
<td>9:15 a.m.</td>
<td>65</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12:44 a.m.</td>
<td>67</td>
<td>55</td>
</tr>
</tbody>
</table>
### 4.0 Hazards, Safety, and Noise

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Time¹</th>
<th>Measured Sound Level, dB</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Intersection of Austin Rd. and Palm Ave.</td>
<td>10:02 a.m.</td>
<td>$L_{eq}$: 68, $L_{50}$: 58, $L_{max}$: 83</td>
<td>Austin Rd. is primary noise source.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1:52 p.m.</td>
<td>$L_{eq}$: 69, $L_{50}$: 62, $L_{max}$: 84</td>
<td>Austin Rd. is primary noise source.</td>
</tr>
<tr>
<td>7</td>
<td>Dead end of Vasconcellos Ave, adjacent to El Rancho Mobile Home Park.</td>
<td>10:30 a.m.</td>
<td>$L_{eq}$: 60, $L_{50}$: 59, $L_{max}$: 72</td>
<td>CA-99 is primary noise source.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2:24 p.m.</td>
<td>$L_{eq}$: 63, $L_{50}$: 57, $L_{max}$: 80</td>
<td>CA-99 is primary noise source.</td>
</tr>
</tbody>
</table>

¹ - All community noise measurement sites have test durations of 10:00 minutes.


Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½” microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

The results of the community noise survey shown in Tables 4.5-8 and 4.5-9 indicate that existing transportation noise sources were the major contributor of noise observed during daytime hours, especially during vehicle passbys.
Figure 4.4-1: FEMA Flood Zone Designations

CITY OF MANTECA GENERAL PLAN UPDATE

FEMA Flood Hazards Designations
- 1% Annual Chance Flood Hazard (100-yr Flood)
- 0.2% Annual Chance Flood Hazard (500-yr Flood)
- Area with Reduced Risk Due to Levee

Planning Area
- Manteca City Limits
- Manteca Sphere of Influence

Source: FEMA's National Flood Hazard Layer, City of Manteca GIS
Map date: October 7, 2016
This page left intentionally blank.
San Joaquin
§¨¦
5
UV
99
UV
120
LATHROP
MANTECA

CITY OF MANTECA GENERAL PLAN UPDATE

Figure 4.4-2: 200-Year Floodplain

Legend

- City of Manteca
- City of Lathrop
- City of Manteca Sphere of Influence
- 200-Year Floodplain

Sources: City of Manteca; San Joaquin County; CalAtlas. Map date: February 3, 2016.
4.0 HAZARDS, SAFETY, AND NOISE

This page left intentionally blank.
Figure 4.4-3: Dam Inundation Areas

Source: Office of Emergency Services Dam Inundation Areas offered by sjmap.org, San Joaquin County GIS, July 29, 2016; City of Manteca GIS. Map date: October 7, 2016.
This page left intentionally blank.
Figure 4.5-1: Existing Transportation Noise Contours (dBA, $L_{dn}$)

Legend:
- Major Noise Contour (5 dBA)
- Minor Noise Contour (1 dBA)

Note: Noise contours do not account for existing sound walls or building coverage and are intended to represent maximum noise exposure assuming the site is close to the noise source. Railroad noise contours assume use of warning horns. These contours are intended for screening purposes only. Site-specific noise studies should be done for projects which may be located within a high noise contour region.

Date: 1/30/2017

[Figure 4.5-1: Existing Transportation Noise Contours (dBA, $L_{dn}$)]
Figure 4.5-2: Noise Measurement Locations

Legend:
- : Continuous (24-hr) Noise Measurement Site
- #: Short-Term Noise Measurement Site

Source: Comprehensive Airport Land Use Plan for the Environs of San Francisco International

Date: 1/27/2017
| This page left intentionally blank. |