Limitations -- Application of the rational method in this analysis was limited to the areas less than one square mile or 640 acres.

TABLE 5-9

RUNOFF COEFFICIENTS
City of Woodland General Plan

Effective Percent Impervious	Runoff Coefficients for Hydrologic Soil Group		
	B	C	D
Agriculture			
2	0.26	0.41	0.51
Urban			
2	0.12	0.26	0.36
5	0.14	0.28	0.38
10	0.18	0.32	0.41
15	0.22	0.35	0.43
20	0.26	0.38	0.46
25	0.30	0.41	0.49
30	0.34	0.45	0.52
35	0.38	0.48	0.54
40	0.42	0.51	0.57
45	0.46	0.54	0.60
50	0.50	0.58	0.63
55	0.54	0.61	0.65
60	0.58	0.64	0.68
65	0.62	0.67	0.71
70	0.66	0.71	0.74
75	0.70	0.74	0.76
80	0.74	0.77	0.79
85	0.78	0.80	0.82
90	0.82	0.84	0.85
95	0.86	0.87	0.87
100	0.90	0.90	0.90

Source: Borcalli & Associates, 1995

Design Criteria

Following is a description of the basic design criteria used to develop the conceptual drainage. For purposes of presentation and design, the conceptual systems are comprised of two functional components. These components are defined as:

Drainage Facilities -- Features including detention ponds, open channels, and pump stations.

Storm Sewer Facilities -- Features for collecting and conveying runoff to the "drainage facilities" including storm drainage trunks.

1. Drainage Facilities

The drainage facilities were sized using the following criteria:

Detention Ponds -- The detention ponds were designed to provide flood control storage. The multi-use potential for the detention ponds will be studied as part of the preparation of the *Storm Drainage Master Plan.* Detention ponds were sized and located to use existing available storage sites where possible and to limit the combined peak discharge to the City's existing pumping plants to 900 cfs during the 24-hour, 100-year storm event.

The limit of 900 cfs for the City's main pumping plant was adopted for purposes of this study and is consistent with the pumping capacity recommended in the City's 1987 *Drainage Master Plan.* The level of detention storage and pumping capacity required will be evaluated further during preparation of the *Storm Drainage Master Plan.*

The stormwater detention pond volumes were established using the HEC-1 models with projected land use conditions. Proposed ponds were sized to accommodate the volume of runoff resulting from the imbalance between the 100-year inflow hydrographs and the "target" pond outflows.

The surface areas for the detention ponds reflect a 20-foot perimeter buffer containing a 12-foot perimeter road and side slopes of 3:1. The ponds were configured to provide the necessary storage while maintaining a minimum of three feet of freeboard.

Stormwater Quality Controls -- Stormwater quality controls were not specifically incorporated into the conceptual drainage plans. However, the proposed detention ponds and open channels could provide an opportunity for some level of treatment of the urban stormwater runoff. The City plans to make a decision as to whether or not stormwater quality controls will be incorporated into the *Drainage Master Plan.*

Detention Pond Pump Stations -- Based upon the conceptual design, it was estimated that discharges from some detention ponds would require pumping. The ability to discharge from the detention ponds by gravity will be evaluated in detail in the *Storm Drainage Master Plan.*

Preliminary design of the pump stations for detention ponds will be based upon the City of Sacramento, Department of Public Works, *Design and Procedures Manual and Improvement Standards* (City Standards). Each pump station will be designed to discharge the design capacity (Target Outflows) using two mixed flow vertical pump and motor units. A third pump and motor unit of equal size will be included as a backup to provide an installed pumping capacity of one and one-half times the design capacity of the drainage system.

A minimum ten horsepower pump and motor will be incorporated into the pump station to discharge runoff that occurs during the summer months. The summer flow pump will be omitted where the horsepower of the pumps required for the design capacity is less than 20 horsepower.

The sump for each pump station will be sized according to the *Hydraulic Institute Standards for Centrifugal, Rotary & Reciprocating Pumps*, Fourteenth Edition. Stormwater will be conveyed from

the detention pond into the sump through an open inlet section. Before entering the pump vault, the stormwater will pass through a power-driven catenary trash rack system. The invert of each sump will be lower than the invert of the respective pond, so that the detention ponds can be completely drained through the pump stations to facilitate maintenance.

Open Channels -- Unless stated otherwise, the conceptual design of the open channels was based upon normal depth calculations using the estimated maximum flows for the 100-year event obtained from the HEC-1 models for each channel reach. The channels were sized to convey the design flow while maintaining a minimum freeboard of one foot in "cut" sections and three feet for embankment sections. Channel velocities were limited to four feet per second. All open channels are trapezoidal in cross sections with side slopes of 3:1 to prevent the need to fence the channels for public safety. A conservative value of 0.040 was used for Manning's "n" value to allow for some vegetative growth in the channel. Where levees are constructed, the land side levee slope will be 1V:2H. The water side slope of the new levee embankment will be constructed at 1V:3H. The top width of the levee berm will be 12 feet and will also function as a patrol road. The limits of the right-of-way will extend to the top of the land side of the new levee embankment.

Main Drainage Pump Stations -- The main drainage pump stations were designed to provide a combined pump capacity of 900 cfs into the outfall channel. The basis for design, including the sump, outlet works, electrical controls, backup power, and site improvements, is similar to that used for the detention pond pump stations. Additional pumps will be included as backup to provide an installed pumping capacity of one and one-quarter times the design capacity.

2. *Storm Sewer Facilities*

The conceptual layout of the storm sewer facilities, to serve new urban areas located between the existing city limit and the urban growth boundary, was developed using the following criteria.

Design Flow -- The design flows for the storm sewer pipelines were established using the rational method for the 10-year storm event.

Pipelines -- The conceptual layout of the storm sewer system consisted of storm sewer pipelines having diameters equal to or greater than 30 inches.

The storm sewer pipelines were sized to convey the design flow by gravity to detention ponds or drainage channels. The pipe inverts were based upon a minimum cover over the pipe of three to four feet, a pipe gradient equal to the gradient of the hydraulic grade line, and the hydraulic grade line located at the top of the pipe. The pipe material is reinforced concrete. Hydraulic grade lines were computed using Manning's formula and a Manning's "n" value of 0.015 to account for friction and minor losses.

Manholes -- It was assumed that the overall spacing of manholes will average 300 feet. Sixty-inch manholes were used for pipe diameters less than or equal to 42 inches. Seventy-two-inch manholes were used for pipe diameters from 48 inches to 54 inches. Saddle manholes were used for pipes greater than 60 inches in diameter.

Drop Inlets -- It was assumed that the overall spacing will be four drop inlet structures and four 12-inch-diameter leads every 750 feet.

Thresholds of Significance

For the purposes of this *EIR*, an impact is considered significant if adoption or implementation of the *General Plan* would result in new development without adequate system capacity, either currently or feasibly available.

IMPLICATIONS OF THE LAND USE DIAGRAM

To assess overall impacts, peak discharges were estimated using HEC-1 modeling reflecting existing and projected land use conditions for the 10-year and 100-year storm events. Discharge peaks and volumes would increase as a result of the increased impervious area and the improved drainage system that would accompany new development.

In general, under the proposed drainage plans, runoff from new development would be conveyed by gravity to detention ponds or open channels. The detention ponds will discharge by gravity where possible and by pumps, where required, into the open channels. The open channels will consist of new channels and enlarged existing channels. The channels will convey runoff generally from west to east to the vicinity of the City's existing pumping station. Additional pumping capacity will be provided to discharge the runoff into the City's outfall channel.

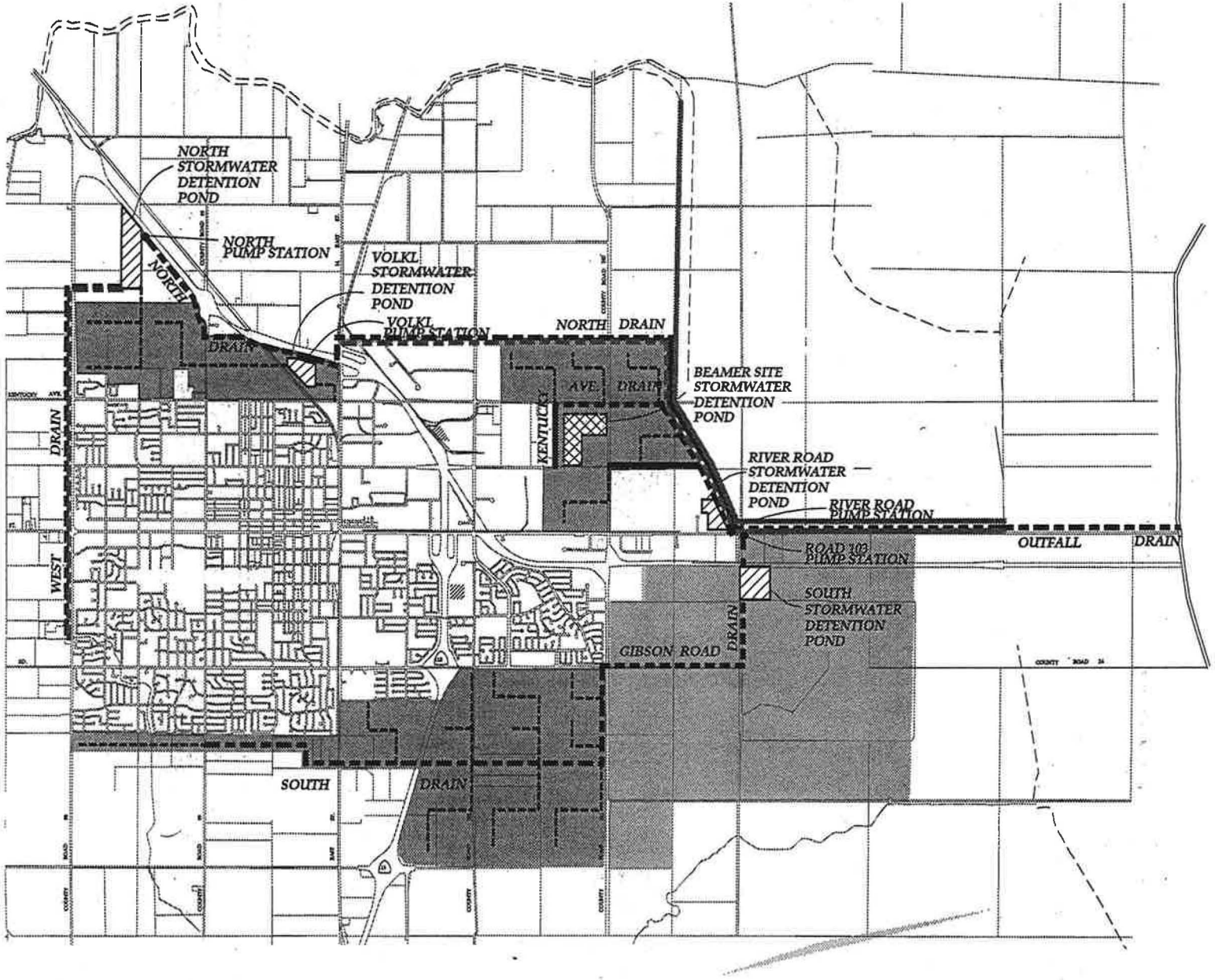
Willow Slough and the Willow Slough Bypass were considered as alternatives to the City's outfall channel. With respect to Willow Slough, channel improvements would be required and the pumping capacity of the RD 2035 facilities would have to be increased. Willow Slough has riparian habitat along much of it making enlargement difficult in view of likely environmental constraints. After discussions with RD 2035 and City staff, Willow Slough was eliminated from further consideration. With respect to the Willow Slough Bypass, the YCFCWCD and Corps of Engineers determined that it provides less than a 20-year level of protection and was eliminated from further consideration.

Due to the high costs of large-capacity pumping stations, it is generally not economically feasible to provide pumping capacity to match the anticipated peak runoff resulting from infrequent storm events. For this reason the use of detention facilities to reduce peak flows was incorporated into the drainage plans.

The conceptual drainage plans were to provide service to new development located between the existing city limit and the proposed Urban Limit Line boundaries. By necessity, some of the proposed drainage facilities provide benefits to existing as well as new development because existing development is tributary to these same facilities, such as the main pump stations. In addition to drainage, some facilities provide flood control benefits to existing and proposed developments.

Conceptual layout of the drainage facilities and storm drainage sewer system to serve development of the Land Use Diagram is presented in Figure 5-3. The plan is described generally in the following paragraphs.

The area within the Urban Limit Line that is located south of Interstate 5 and north of Kentucky Avenue is currently subject to flooding from overflows from Cache Creek and runoff from agricultural lands to the west. To protect the area from 100-year runoff from the agricultural lands and to provide some level of protection from Cache Creek, the West Drain would be constructed. The West Drain would be sized for the 10-year event with a levee along the east bank to protect development from greater flows. This drain would convey runoff from south to north and discharge into the North Stormwater Detention Pond. The West Drain would benefit new and existing development.



CITY OF WOODLAND GENERAL PLAN

Draft Environmental Impact Report

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FIGURE 5-3
CONCEPTUAL DRAINAGE FACILITIES LAYOUT

- Existing Channel
- Improved Existing Channel
- Proposed Channel
- Existing Levee
- Proposed Levee
- Proposed Storm Drain Trunk
- Existing Storm Drain Trunk
- Proposed Pumping Plant
- Existing Stormwater Detention Pond
- Proposed Stormwater Detention Pond
- Urban Growth Area
- Urban Reserve Area

City of Woodland

J. Laurence Mintier & Associates September 1995

New development in this area would drain to the North and Volkl stormwater detention ponds. A significant portion of the existing Kentucky Avenue storm trunk would also be diverted to the Volkl Pond in order to relieve downstream drainage capacity problems. Discharge from these ponds would be pumped into the proposed North Drain.

The North Drain would extend along the northern Urban Limit Line boundary to the existing channel along the west levee of the Settling Basin. Beginning at this point, the existing channel would be improved and directly connected to the City's outfall channel. A levee would be constructed along the urban side of the North Drain. This drain would provide 100-year protection of the urban area from runoff from the agricultural lands located to the north and would provide some level of protection from Cache Creek area flows.

The North Drain would allow runoff from the agricultural lands located north and west of the urban limit line, as well as runoff from urban areas draining to the North and Volkl stormwater detention ponds, to gravity drain to the outfall channel and bypass the City's main pumping plants. This ability reduces the pumping requirements and associated costs for the disposal of runoff from these areas.

Land within the Urban Limit Line north of Interstate 5 would gravity drain to open channels. The Kentucky Avenue Drain would convey runoff to the Beamer and River Road stormwater detention ponds.

For purposes of this analysis, it has been assumed that the existing East Main Pumping Plant has a capacity of 280 cfs and that it could be incorporated into the River Road Stormwater Detention Pond. Therefore, a new 120 cfs pumping plant would be constructed to pump from the River Road Stormwater Detention Pond to the outfall channel.

Land within the Urban Limit Line south of Gibson Road would drain to the South Drain. The South Drain would convey runoff to the Gibson Road Drain that would be enlarged. These channels would alleviate overland flow from the City to the east for the 100-year event. The Gibson Road Drain would discharge into the South Stormwater Detention Pond. A new 500 cfs pumping plant would be constructed to pump runoff from the detention pond into the outfall channel.

The existing outfall channel would be improved and a new channel would be constructed from west to east across the Yolo Bypass to the Tule Canal. The new channel would alleviate the portion of the scour problem at the Yolo Shortline Railroad trestle that is attributable to the City's discharge.

The actual location of the River Road and the South stormwater detention ponds will be determined in the *Stormwater Drainage Master Plan*, as will the ability to incorporate the City's existing pumping plants. In addition, the ability to locate detention within the City's wastewater treatment plant property will be determined.

GENERAL PLAN POLICY RESPONSE

The following *General Plan* policies address the implications of increased storm drainage flows from new development:

Stormwater Drainage

4.E.1. The City shall require development to provide for the overland flow of stormwaters exceeding the City's standard design capacity of the storm drainage system. These overland flow waters shall

be conveyed over public streets where possible and shall be at least one foot below building pad elevations.

4.E.2. The City shall encourage project designs that minimize drainage concentrations and impervious coverage.

4.E.3. The City shall prohibit grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of storm drainage facilities.

4.E.4. The City shall require projects that have significant impacts on the quantity and quality of surface water runoff to incorporate mitigation measures for impacts related to urban runoff.

4.E.5. Future drainage system requirements shall comply with applicable state and federal pollutant discharge requirements.

4.E.6. The City shall seek to minimize operational complexities and maintenance requirements of the storm drainage system.

4.E.7. The City shall allow stormwater detention facilities to mitigate drainage impacts and reduce storm drainage system costs. To the extent practical, stormwater detention facilities should be designed for multiple purposes, including recreational and/or stormwater quality improvement.

4.E.8. The City shall consider using stormwater of adequate quality to replenish local groundwater basins, restore wetlands and riparian habitat, and irrigate agricultural lands.

4.6 The City shall prepare and adopt a stormwater ordinance to implement the updated Storm Drainage Master Plan to address stormwater runoff.

Policies of this section require the expansion of the storm drainage system in the safest and most efficient manner.

General Public Facilities and Services

4.A.1. Where new development requires the construction of new public facilities, the new development shall fund its fair share of the construction of those facilities.

4.A.2. The City shall ensure through the development review process that adequate public facilities and services are available to serve new development. The City shall not approve new development where existing facilities are inadequate unless the following conditions are met:

a. The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and

b. The facility improvements are consistent with applicable master or facility plans adopted by the City.

4.A.3. The City shall require specific plan proposals to include plans for development and financing of public facilities and services.

4.A.4. The City shall update City facility master plans on a regular basis to ensure: compliance with appropriate state and federal laws; use of modern and cost-effective technologies; and compatibility with current land use policy.

4.A.5. Through fiscal revenues generated by new development, the City shall provide for expansion of general government services (e.g., City administrative services) in connection with new development., if warranted.

4.1. The City shall update the Water Master Plan, Wastewater Master Plan, and Storm Drainage Master Plan based on the updated General Plan.

These policies provide for the logical and efficient extension of the storm drainage system as new development occurs.

Public Facilities and Services Funding

4.B.1. The City shall require that new development pay its fair share of the cost of providing new public services and/or the costs for upgrading of all existing facilities it uses, based on the demand for these facilities attributable to the new development; exceptions may be made when new development generates significant public benefits (e.g., low-income housing, primary-wage-earner employment) and when alternative sources of funding can be obtained to offset foregone revenues.

4.B.2. The City shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the city.

4.B.3. The City shall require preparation of a fiscal impact analysis for all specific plans or significant general plan land use amendments. The analysis will examine the fiscal impacts on the City and other service providers that result from large-scale development. The fiscal analysis shall project a positive fiscal impact from new development or include mechanisms to fund projected fiscal deficits; exceptions may be made when new development generates significant public benefits (e.g., low-income housing, primary-wage-earner employment) and when alternative sources of funding can be obtained to offset foregone revenues.

4.2. The City will update the Major Projects Financing Plan based on updated water, sewer, and drainage master plans.

4.3. The City will update its development fee schedules based on updated Master Projects Financing Plan.

These policies and programs seek to provide for funding of new facilities and services as new development occurs, and to consider how the ongoing maintenance and operations of these facilities will be funded to ensure that operational levels do not decline.

IMPACTS

Development according to the *General Plan* will increase stormwater runoff from urban development covering pervious surfaces such as dirt or fields with impervious surfaces such as roofs and pavement. The most substantial increases in runoff will occur on areas that are currently in agricultural production. This EIR describes drainage improvements needed to serve projected development under the *General Plan.*

Policies and programs of the *General Plan* provide for the detailed storm drainage planning and expansion, development, and financing of new storm drainage facilities. The impact of the *General Plan* on drainage in Woodland would therefore, be less-than-significant.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs of the *General Plan* are necessary.

5.4 LAW ENFORCEMENT

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing law enforcement services in Woodland. The Woodland area is policed primarily by three agencies: the Woodland Police Department; the Yolo County Sheriff's Department; and the California Highway Patrol.

Woodland Police Department

The Woodland Police Department is a full service police department managed by the Chief of Police. There are three major divisions within the department: Administration, Patrol, and Investigation. Total personnel at the Woodland Police Department is 72, comprising 54 sworn police officers, 14 non-sworn personnel, and four civilian employees. This supports the City's current population of 42,500. Based on officer-per-population ratio (in addition to the substantial new residential development approved in the Southeast Area) the department has projected the addition of five new police officers in the coming year, and plans are continuing for a new police station facility.

Yolo County Sheriff's Department

The Yolo County Sheriff's Department is located south of Gibson Road, between County Road 101 and 102, and presently has three patrol units per shift, 24-hours a day, serving the Woodland area. These same patrol units will cover the area surrounding Woodland, north to Knights Landing, east to the Sacramento River, south to Davis and Clarksburg, and west to Madison and Esparto. The Sheriff's Departments has jurisdiction anywhere in the county, but traditionally, does not routinely exercise those powers when the incorporated areas have their own law enforcement agencies, and would not respond to calls within the City of Woodland unless requested by the Woodland Police Department. The Yolo County Sheriff's Department operates the County Detention Facility on Gibson Road.

California Highway Patrol

The Woodland area office of the California Highway Patrol (CHP) is currently staffed by 22 road patrol officers and three sergeants. During a typical day and afternoon shift two parol cars cover I-5 from the Sacramento River to the Colusa-Yolo County line, I-505 from Dunnigan to Winters, and all other roadways in the norther half of Yolo County. After 11:00 P.M. two cars patrol all of Yolo County. As a major statewide law enforcement agency, the CHP provides a variety of services to the Woodland area. The primary mission is management and regulation of traffic in and effort to achieve safe, lawful, and efficient use of the highway transportation system within Yolo County.

The CHP has never used a staffing formula to maintain a certain ration of officers to population. Instead, personnel strengths have been adjusted for a variety of factors, such as the number of accidents, the number

of injuries and fatalities, miles of roadway patrolled, response distances and times, millions of miles driven by the public, percentage of accidents caused by drinking drivers, and how many miles of Interstate highway there are to patrol (Federal law mandated 24-hour coverage of these roads).

METHODOLOGY

Assumptions

1. As new development occurs, it will be annexed to the City and law enforcement services will be provided by Woodland Police Department.

2. The Yolo County Sheriff's Department will continue to provide services to the unincorporated area and the California Highway Patrol will be responsible for the interstate freeways and state highways.

3. This analysis relies on the following service ratios:

Non-Sworn Personnel	0.5/1000 population
Sworn Personnel	1.5/1000 population
Total	2.0/1,000 population

Threshold of Significance

For the purposes of this *EIR*, an impact is considered significant if adoption or implementation of the *General Plan* would generate demand for law enforcement services that would exceed the ability of the local law enforcement agency to comply with the service ratio policies included in the *General Plan*.

IMPLICATIONS OF THE LAND USE DIAGRAM

Development under the *Land Use Diagram* will result in increase population and new commercial and industrial development, which will increase the need for police service. Police service requirements are also influenced by the demand for traffic control and traffic accident services. Response times could increase if staffing does not keep pace with the increased demand for police services.

Existing City Limits

Continued development within the existing city limits would accommodate approximately 7,900 new population, creating a demand for another 16 police officers, 12 sworn and 4 non-sworn personnel. Additional commercial and industrial development would also be accommodated in the existing city limits.

Outside Existing City Limits

Development outside the existing city limits would accommodate approximately 16,400 additional residents. Using the Woodland Police Department's service ratio standard of two personnel per 1,000 population, development outside the city limits would require a total addition to the Woodland Police Department of 32 staff, including 24 sworn personnel and 8 non-sworn personnel.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies concerning law enforcement:

Law Enforcement

4.H.1. Within the City's overall budgetary constraints, the City shall strive to maintain a staffing ratio of 2.0 personnel per 1,000 residents (0.5 non-sworn and 1.5 sworn).

4.H.2. The City shall, through adequate staffing and patrol arrangements, endeavor to maintain the minimum feasible response times for police calls. The following are the goals for average response times for calls for service:

Priority	*Class of Crime*	*Dispatch/Response Standard*
Priority 1	*Major Crimes*	*Dispatch time: 1 minute* *Police response time: 4 minutes*
Priority 2	*Major Crimes*	*Dispatch time: 1 minutes* *Police response time: 5 minutes*
Priority 3	*Major Crimes Cold*	*Dispatch time: 15 minutes* *Police response time: 10 minutes*
Priority 4	*Minor Crimes Cold*	*Dispatch time: 30 minutes* *Police response time: 10 minutes*
Priority 5	*Service Calls*	*Dispatch time: 35 minutes* *Police response time: 10 minutes*

To maintain the ability for quick response, the City shall strive to not exceed an average of 30 percent committed/preventive police patrol time..

4.H.3. The City shall strive to maintain conditions in the city so that "major eight" crimes (homicide, aggravated assault, rape, robbery, burglary, grand theft (over $400), vehicle theft, and arson) do not exceed 30 crimes per 1,000 population, annually.

4.H.4. Within the City's overall budgetary constraints, the City shall provide police support (including patrol and other vehicles, necessary equipment, and support personnel) sufficient to maintain its service standards.

4.H.5. The City shall require new development to develop or fund police facilities and equipment that, at a minimum, maintain the above standards.

4.H.6. The City shall require new development, as demonstrated through positive fiscal impacts or through specific funding mechanisms in the event of fiscal deficits, to fund police personnel and operations and maintenance that, at a minimum, maintain the above standards.

4.H.7. The City shall promote and fund public safety programs, including neighborhood watch, child identification and fingerprinting, substance abuse prevention, violence prevention, conflict resolution, and other public education and crime prevention efforts.

4.H.8. The City shall provide and promote services for children at risk of abuse, neglect, youth violence and exploitation.

4.H.9. The City shall consider public safety issues in all aspects of public facility, commercial, and residential project design, including crime prevention through environmental design.

The policies in this section address public safety by setting standards for police service and by providing for other public safety programs and addressing the design of new residential and commercial development and remodels and public facilities such as parks, schools, and pedestrian and bike trail to maximize public safety.

IMPACTS

Population and employment growth in Woodland will create the demand for additional law enforcement services, totaling approximately 36 sworn personnel and 12 non-sworn personnel by the year 2020. The *General Plan Policy Document* contains policies aimed at reducing demand for police services and endorses staffing goals and minimum response times to ensure these goals. Additional development within the existing city limits includes a balance of commercial and industrial development to residential, which should adequately provide for costs for providing increased police personnel and equipment.

The impacts on police equipment and operations are required to be addressed in connection with specific plans for new residential development outside the existing city limits. The impact of the *General Plan* on police services would, therefore, be less-than-significant.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs of the *General Plan* are necessary.

5.5 FIRE PROTECTION

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing fire protection services in the City of Woodland. The Woodland Fire Department provides fire protection and emergency medical services within the city. here is also a countywide agreement which calls for automatic emergency aid when requested from all cities, the county and other fire districts in the region. Within the Planning Area, the average response time from the nearest fire station within the different planning sections is approximately two to four minutes.

The Woodland Fire Department currently has a staff of 1 Fire Chief, 3 assistant chiefs, 36 suppression personnel, 3 support staff and 30 volunteers. There are three fire station sites. Station One is located Downtown and Station Two is located in the southern part of the community. A new station is located on the east side of SR 113. The new station replaced Station 3 which was located on East Street immediately north of the County Fairgrounds. The City also owns a site in the northwest part of the city which would be large enough for a fourth station as development warrants.

In 1994 the Fire Department responded to 2,742 calls, 1,791 of which were medical aid calls. Due to the high number of medical aid calls, all fire personnel are emergency medical trained certified.

The City's Public Improvement Standards regarding fire hydrant installation require that fire hydrants be installed every 300 feet along streets throughout the city. On-site fire hydrants may also be needed depending on the size and the use of the building and the distance from the street hydrant. The City has a water supply system with flow capacity of approximately 3,500 gallons per minute. This system is adequate to maintain water service when needed for fire protection.

METHODOLOGY

Assumptions

The Woodland Fire Department will serve all new development within the Urban Limit Line. The City will continue to maintain mutual aid agreements with other fire agencies in the county.

Threshold of Significance

For the purposes of this *EIR*, an impact is considered significant if adoption or implementation of the *General Plan* would generate demand for fire protection services that would exceed the ability of the Woodland Fire Department to comply with fire protection and response time policies included in the *General Plan*.

IMPLICATIONS OF THE LAND USE DIAGRAM

Fire service is similar to police service in terms of the need to maintain a 24-hour response capability and the need to minimize response times to calls. For fire service, however, the location of stations in relation to service area is critical, while police typically respond to calls from a patrol beat.

Existing City Limits

Continued development within the existing city limits would accommodate approximately 7,900 new population, creating a demand for additional fire protection and emergency medical personnel. Assuming the current ratio of approximately 1.0 firefighter per 1,000 population, an additional eight firefighters would be required to serve new development within the existing city limits. The location of a new station east of SR 113 will assist in providing service to new development in the Southeast area.

Outside Existing City Limits

Development outside the existing city limits would accommodate approximately 16,400 additional residents. Using the current ratio standard of one firefighter per 1,000 population, development outside the existing city limits would require a total addition to the Woodland Fire Department of 17 firefighters, along with additional equipment. The additional station site to the north would be required to provide adequate response time to industrial areas in the north. An additional station would probably also be required to serve new residential development in the southern part of the Planning Area.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies concerning fire protection:

Fire Protection

4.I.1. The City shall attempt to maintain an ISO (Insurance Service Organization) rating of 3.

4.I.2. The City shall, through adequate staffing and patrol arrangements, endeavor to maintain the minimum feasible response times for fire calls. To this end, the City shall attempt to maintain the following fire flow and response time standards:

Type of Development	*Fire Flow Standard*	*Response Standard*
Commercial and Industrial	*3,500 gallons per minute (GPM)*	*First response within 4 minutes*
Light Commercial and Multi-Family	*2,500 GPM*	*First response within 4 minutes*
Single-Family	*1,500 GPM*	*First response within 4 minutes*

4.I.3. The City shall require new development to develop or fund fire protection facilities that, at a minimum, maintains the above service level standards.

4.I.4. The City shall require new development, as demonstrated through positive fiscal impacts or through specific funding mechanisms in the event of fiscal deficits, to fund fire protection personnel and operations and maintenance that, at a minimum, maintain the above standards.

4.I.5. The City shall identify key fire loss problems and design appropriate fire safety education programs to reduce fire incidents and losses.

4.I.6. The City shall implement ordinances to control fire losses and fire protection costs through continued use of automatic fire detection, control, and suppression systems.

4.I.7. The City Fire Department shall attempt to maintain response time of four minutes for emergency medical service (EMS) calls.

4.I.8. The City shall require that ambulance service maintains a response time of six minutes or less for emergency medical service (EMS) calls.

These policies establish fire protection goals for response time and provide for continued provisions for expansion of the City's fire protection capability.

IMPACTS

Population and employment growth in Woodland will create the demand for additional fire protection services, totaling approximately 25 firefighters at current standards. Additional personnel and volunteers will also be required. The *General Plan Policy Document* contains policies aimed at reducing fire hazards and endorses fire safety standards and minimum response times. Additional development within the existing city limits includes a balance of commercial and industrial development to residential, which should adequately provide for costs for providing increased firefighting personnel and equipment.

The impacts on fire protection equipment and operations are required to be addressed in connection with specific plans for new residential development outside the existing city limits. The impact of the *General Plan* on fire protection services would, therefore, be less-than-significant.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs of the *General Plan* are necessary.

5.6 SOLID WASTE COLLECTION AND DISPOSAL

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing solid waste collection and disposal services in Woodland. The City of Woodland contracts for refuse collection services with Waste Management of Woodland. In addition, the City contracts with Waste Management for weekly curbside collection of recyclable materials to all single-family and several multi-family units in the city. These services are funded through refuse service fees which adjust annually based on the annual percentage increases in the Consumer Price Index (CPI). In the event that increases in landfill disposal fees exceed the CPI, service rates are adjusted by service category based on corresponding waste volume criteria for the incremental disposal cost difference.

Local solid waste management planning is governed by the Integrated Waste Management Act of 1989. The Act established strict mandates for local agencies to achieve a 25 percent reduction in solid waste disposed of by 1995 and a 50 percent reduction by the year 2000. Each city is required to prepare, adopt, and submit to the county a *Source Reduction and Recycling Element* (SRRE). Counties must also prepare an SRRE for unincorporated areas. Woodland adopted its SRRE in March 1992. Each county must also prepare and submit to the State Integrated Waste Management and Recycling Board a countywide integrated waste management plan which includes the cities' and county's source reduction and recycling elements, a county wide siting element, and a summary of significant waste management problems for the county. Yolo County is in the process of preparing its countywide siting element as of January 1995.

According to the *Woodland Source Reduction and Recycling Element,* the city of Woodland generated 84,557 tons of solid waste in 1991. Of that amount, approximately 20.6 percent was recycled, reused, or composted. The remainder was deposed of at the Yolo County Central Landfill. A waste disposal summary by source is shown in Table 5-10.

TABLE 5-10

WASTE DISPOSAL SUMMARY BY SOURCE
City of Woodland
1990

Source	Tons per Year	Percent
Residential single family	10,597	15.78%
Residential multi-family	3,697	5.50%
Commercial	30,750	45.78%
Industrial	7,577	11.28%
Other sources (separate yard waste collection)	9,993	14.88%
Self-haul	4,555	6.78%
Total	**67,169**	**100.0%**

Source: City of Woodland Source Reduction and Recycling Element, March 1992

The total quantity of waste generated from the residential sector (single family, multi-family, yard waste, and self-haul) was reported to account for approximately 36 percent of the disposed waste stream. Commercial and industrial sectors account for approximately 46 percent and 11 percent of the disposed waste stream, respectively.

The landfill is owned and operated by the Yolo County Department of Public Works and Transportation. The landfill is located between Woodland and Davis on a 722-acre parcel, of which 640 acres are permitted by the State for waste disposal. According to the SRRE, as of January 1991, the landfill has a remaining capacity of 11,250,000 tons, and is projected to reach capacity in the year 2025 with no reduction in the future waste-stream. However, recycling, composting, source reduction and other programs are expected to lengthen the projected life of the facility. Under the landfill's existing permit, the facility is allowed to receive up to 1,500 tons per day of refuse for 360 days a year. In 1991, the landfill received approximately 750 tons per day, 35 percent of which was imported from Sacramento County.

METHODOLOGY

Assumptions

1. The Yolo County Central Landfill has a remaining capacity of roughly 11,000, 000 tons and is projected to reach capacity in the year 2025 based on 1991 population projections with no reduction in the future waste-stream.

2. The analysis assumes that the City will continue to implement the goals of the SRRE in an effort to increase waste diversion to 50 percent in the year 2000,

3. The SRRE identified an average waste generation rate in the City of Woodland of 40 pounds per week for single-family residential (not including separate yard waste collection) and 38 pounds per week for multi-family.

Threshold of Significance

For the purposes of this *EIR*, an impact is considered significant if adoption or implementation of the *General Plan* would lead to waste generation that exceeded the standards established by the Woodland SRRE, or would deplete the capacity of the Yolo County landfill at a significantly higher rate than projected by the County.

IMPLICATIONS OF THE LAND USE DIAGRAM

Development according to the *General Plan* would result in increasing waste generations from residential, commercial, and industrial development. In 2020, the City would include about 9,000 additional dwelling units and substantial new commercial and industrial development. At current generation rates, an additional 9,500 tons per year would be generated by residential development in the year 2020, plus another 6,000 tons of yard waste would be generated. Additional commercial and industrial development would account for approximately 25,000 tons of waste in 2020. At current generation rates, this would require disposal of an additional 40,500 tons of year by the year 2020.

If the City increase its waste diversion from 20 percent in 1990 to 50 percent by the year 2000 as required by the SRRE, the current 67,000 tons of waste disposed of annually would be reduced to about 40,000 tons of year. The additional waste in 2020 would be reduced from 40,500 to 24,000 tons per year. The total of 64,000 tons per year in 2020 would be less than the current disposal rates.

With the City's commitment to recycling and reducing wastes from all components, this waste should be accommodated within the capacity of the Landfill.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes the following policies and programs concerning solid waste collection, disposal, source reduction, and recycling:

Solid Waste Collection and Disposal

4.G.1. The City shall require waste collection in all new development.

4.G.2. The City shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.

4.G.3. The City shall require that all new development complies with applicable provisions of the City of Woodland Source Reduction and Recycling Element and the Yolo County Integrated Waste Management Plan.

4.G.4. The City shall encourage the development of regional and community-based recycling facilities and secondary resource businesses in heavy commercial and industrial areas.

4.G.5. The City shall encourage businesses to use recycled products in their manufacturing processes and consumers to buy recycled products.

4.G.6. The City shall work with Yolo County to employ methods to lengthen the life of the County landfill.

4.12 The City shall periodically review and update the Source Reduction and Recycling Element and evaluate progress in achieving stated source reduction goals.

These policies and program seek to reduce the amount of waste produced through source reduction, reuse, and recycling, and to ensure safe disposal of waste. Solid waste management policy is specifically addressed in the City's *Source Reduction and Recycling Element* and the *County Integrated Waste Management Plan.*

IMPACTS

At current generation rates, an additional 9,500 tons per year would be generated by residential development in the year 2020, plus another 6,000 tons of yard waste would be generated. Additional commercial and industrial development would account for approximately 25,000 tons of waste in 2020. At current generation rates, this would require disposal of an additional 40,500 tons of year by the year 2020.

If the City increase its waste diversion from 20 percent in 1990 to 50 percent by the year 2000 as required by the SRRE, the current 67,000 tons of waste disposed of annually would be reduced to about 40,000 tons of year. The additional waste in 2020 would be reduced from 40,500 to 24,000 tons per year. The total of 64,000 tons per year in 2020 would be less than the current disposal rates.

Given the significant quantities of commercial and industrial development and since the ratio of commercial and industrial development to residential development is projected to be even higher, the City should focus its attention on reducing commercial and industrial solid waste disposal. The SRRE calls for the City of Woodland to develop a joint city/county automated Materials Recovery Facility for non-source separated commercial/industrial waste, to be constructed after 1996 and funded through the County Sanitation Enterprise Fund.

The Yolo County Landfill has adequate capacity for Woodland's projected quantities of wastes. Growth under the *General Plan* is consistent with the County's growth projections in projecting the life of the landfill. Therefore, the solid waste impacts of the *General Plan* would be less-than-significant.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs of the *General Plan* are necessary.

5.7 UTILITIES

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing utility services in the city of Woodland. The following summarizes the existing environmental setting for gas services, electric services, telephone and cable television in Woodland.

Gas Service

Pacific Gas and Electric Company provides natural gas to the city of Woodland. Woodland is served by line 220, an 8" gas transmission line and line 172, a 20" gas transmission line. These transmission lines feed two 6" high pressure main feeders in Woodland. The present transmission is sufficient for any future growth within the planning area. However, PG&E does anticipate a need to reinforce their existing distribution mains on a small scale on an as-needed basis.

Electric Service

PG&E also provides electricity to the city of Woodland. Woodland is served by a 96-megawatt substation and twelve 10 megawatt circuits radiating from it. This capacity is insufficient for future growth, especially for large scale projects. Plans will be developed on an as-needed basis to upgrade this capacity.

The City of Woodland enforces Title 24 of the State Administrative Code, which sets energy standards for all residential, commercial, and industrial building.

Telephone Service

Pacific Bell provides telephone service within the city of Woodland. Pacific Bell is required to provide telephone services for growth and future development in accordance with the requirements of, and at the rates and charges specified in its scheduled tariffs on file with the California Public Utilities Commission.

Cable Service

Sonic Cable Television (SCT) provides information and entertainment within Woodland in the form of basic (off-air broadcast, local origination and satellite programming) and premium (e.g., HBO, Showtime. Pay-Per-View) cable television services.

Sonic currently serves 9,500 subscribers in Woodland. The subscriber capacity of the system is approximately 16,000. About 60 percent of the houses currently served by the cable system are subscribers. SCT continuously adds to the system as new housing is constructed.

METHODOLOGY

Assumptions

The current service providers will continue to be responsible for serving future development within their current service areas.

Thresholds of Significance

For the purposes of this *EIR*, an impact is considered significant if adoption or implementation of the *General Plan* would create demand that exceeded the current or feasibly-expanded capacity of existing utility service providers.

IMPLICATIONS OF THE LAND USE DIAGRAM

Development under the *General Plan* would require extension of gas and electrical lines and expansion of existing substations. Additional telephone and cable televisions lines would also be required.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes the following policies to provide for the development and proper siting of utility facilities.

Public Utilities

4.J.1. *The City shall communicate its major development plans with utility companies and coordinate planning of extension of these facilities.*

4.J.2. *The City shall require undergrounding of utility lines in new development and as areas are redeveloped, except where infeasible for operational reasons.*

4.J.3. *The City shall promote technological improvements and upgrading of utility services in Woodland.*

IMPACTS

Development under the *General Plan* would require extensions and improvements to electric, gas, and telephone lines. Expansion of existing substations would also be required. Extensions and improvements to electrical, gas, and telephone lines would be funded by new development as it occurs. The costs for expansion of capital facilities are spread over the entire service area, as regulated by the California Public Utilities Commission.

The impact of the *General Plan* on gas, electricity, and telephone service would be less-than-significant.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs of the *General Plan* are necessary.