PUBLIC FACILITIES FEE NEXUS STUDY

FOR THE

CITY OF CERES

2010 FEE REVISIONS

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POLICE • FIRE PROTECTION • MUNICIPAL FACILITIES • PARKS AND RECREATION • COMMUNITY FACILITIES

WATER • WASTEWATER • TRANSPORTATION • INFORMATION TECHNOLOGY

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SUMMARY-2010 FEE REVISIONS

This 2010 Public Facilities Fee Revision Report presents a limited revision of the Ceres Public Facilities Fee (PFF) Nexus Study (PFF Final Report dated Nov. 10, 2008) adopted by the City Council in January, 2009. The revisions work to reduce the costs of constructing the facilities included in the PFF resulting in an overall reduction of the impact fee on new development. The specific revisions contained in this Fee Revision Report are summarized as follows:

1. Adjustment of the land cost component which reduces the fee rate in most PFF categories such as parks, public buildings, drainage and right-of-way for transportation. In 2008, when the PFF study was completed, land costs were based on a price of $200,000 per acre. Since then land value studies conducted by Stanilaus County for its own facilities fee program have shown that a price for land of $50,000 per acre is reasonable for this area. At $50,000 per acre the cost per square foot is $1.15. However, for road right-of-way a cost of $3.44 per square foot is used, reflecting the higher cost of purchasing strips of land for widening projects, the significant legal costs involved in right-of-way acquisition and the potential need to perform adjustments to adjacent properties to complete widening through built-out areas where sufficient right-of –way may not exist.

2. Transportation project cost adjustments. In addition to reduced right-of-way costs the following projects have been deleted from the final calculation of the transportation fee:
    - Mitchell Road, Service to Freeway, Freeway overpass modification ($30 million reduction)
    - Faith Home River Crossing ($7 million reduction)

    These two projects were removed from the fee program because The time frame for these improvements is beyond the 20-year time horizon of the PFF.

3. Facility construction costs are adjusted by the most recent Engineering News Record 20-City Construction Cost Index (CCI) San Francisco Bay Area. When the PFF was adopted by the City Council in January, 2009 the CCI was 9769. As of March, 2010 the CCI was at 9728 for a reduction of 0.42%.

4. The cost of the "Headworks and Pump Stations" at $4.2 million have been deleted from the wastewater facilities cost. These items have been funded by other sources.

This Report makes no other changes to the adopted 2008 PFF Study beyond the items as indicated above.

This Report does not revise any projections for future land use, population, or employment. The regional comparison of development impact fees also has not been updated.

This Public Facilities Fee Nexus Study presents an analysis of the need for public facitlities to accommodate new development in the City of Ceres. The analysis documents and recommends a set of valid and justifiable impact fees that could be imposed on new development in the following facility categories:

- Police
- Fire Protection
- Municipal Facilities and Equipment
- Wastewater
- Parks and Recreation
- Community Facilities
- Transportation
- Drainage
- Information Technology
- Water

MITIGATION FEE ACT AND REQUIRED FINDINGS

As a result of widespread imposition of public facilities fees throughout the State of California, the State Legislature passed the *Mitigation Fee Act*, (Act) starting with Assembly Bill 1600 in 1988. The Act, contained in *California Government Code* Section 66000 *et seq.*, establishes ground rules for the imposition and ongoing administration of impact fee programs. The *Act* became law in April 1989 and requires local governments to document the following findings and determinations when adopting an impact fee:

1) Identify the purpose of the fee;

2) Identify the use of fee revenues;

3) Determine a reasonable relationship between the fee's use and the type of development paying the fee;

4) Determine a reasonable relationship between the need for the fee and the type of development paying the fee; and

5) Determine a reasonable relationship between the amount of the fee and the cost of the facility attributable to development paying the fee.

This Public Facility Fee Nexus Study complies with California Government Code Section 66000, et seq., by providing the required documentation for the above findings and determinations that establish the basis for imposition of the recommended fees contained herein.

The fundamental premise of the Act is that the burden of the impact fees cannot total more than the actual cost of the public facility needed to serve the development paying the fee. Also, fee revenues can only be used for their intended purposes. In addition, the Act also has specific accounting and reporting requirements annually and every five years for the use of fee revenues covered in Chapter 14 of this report.

BACKGROUND AND STUDY OBJECTIVES

The City of Ceres is facing increasing challenges funding public facilities to accommodate growth. Since the passage of Proposition 13, property tax revenues have been insufficient for capital funding, federal and state assistance has continued to decline and has not replaced the decline in local revenue sources. These funding shortfalls have caused declining facility standards (i.e., the ratio of facility capacity to service population), which has accelerated the rate of physical deterioration, increased operating costs, and reduced efficiency of many departments. Given these funding difficulties and in the face of continued growth, the City requires new development to pay fees to fund the facilities necessary to accommodate growth.

The City will rely on its authority to levy public facilities fees under the Mitigation Fee Act, contained in Government Code Section 66000 et. seq. This Study provides the necessary documentation for the adoption of new and expanded public facilities fees.

POPULATION PROJECTIONS

This PFF Draft is based on a land development "build-out" analysis. The build-out analysis uses the Ceres 1997 General Plan densities and land uses where they have been adopted within the current GP area (see Exhibit 1). Outside the current General Plan area, within the proposed

Sphere of Influence (SOI), the land use designations depicted in the 2006 GP land Use Diagram were applied to obtain the number of units per acre used in the build-out analysis. Residential population is then derived from houses per acre using the current household occupancy rates reported in the U.S census (see Table 1.2 for occupancy rates) Table 1.1 contains the build-out population forecast.

For reasons having to do with the way facility costs were calculated in the major infrastructure categories of drainage, parks and transportation, it is appropriate that a build-out analysis is used for this impact fee study, as opposed to a time-horizon analysis, where development and the public facilities needed to serve that development are projected to a specific year in the future. The cost estimates for the major infrastructure improvements were based on a total planning area build-out. For example, transportation improvements covering the entire proposed SOI area are estimated. The basis for the transportation impact fee is considered to be all development throughout the proposed SOI area potentially benefiting from transportation improvements. This approach recognizes the fact that development is not geographically constrained by a time-horizon (there is no provision in the General Plan for a "future urbanizing area" that may not develop until after 2030, for example) as long as circulation and service capacity is available. It is not possible to determine the cost of these improvements to serve growth only to a specific year unless it is known where this growth occurs within the SOI.

WATER AND WASTEWATER FACILITIES

A departure from the build-out scenario occurs with water and wastewater facilities. At this time, the costs of future water supply and wastewater treatment capacity required to serve the build-out service population cannot be estimated without a comprehensive master planning effort. The cost of water supplies in particular is dependent on development of conjunctive use of well and surface supplies that will require an agreement with the Turlock Irrigation District. Therefore, the facility costs reported in Chapter 6 – Wastewater and Chapter 11 – Water represent only the needs to serve new development over the next few years, during which time there is reasonable confidence that capacities exist in the current systems to serve growth. The impact fees for water and wastewater recommended in the study should be considered only as interim until master plans for these facilities are adopted.

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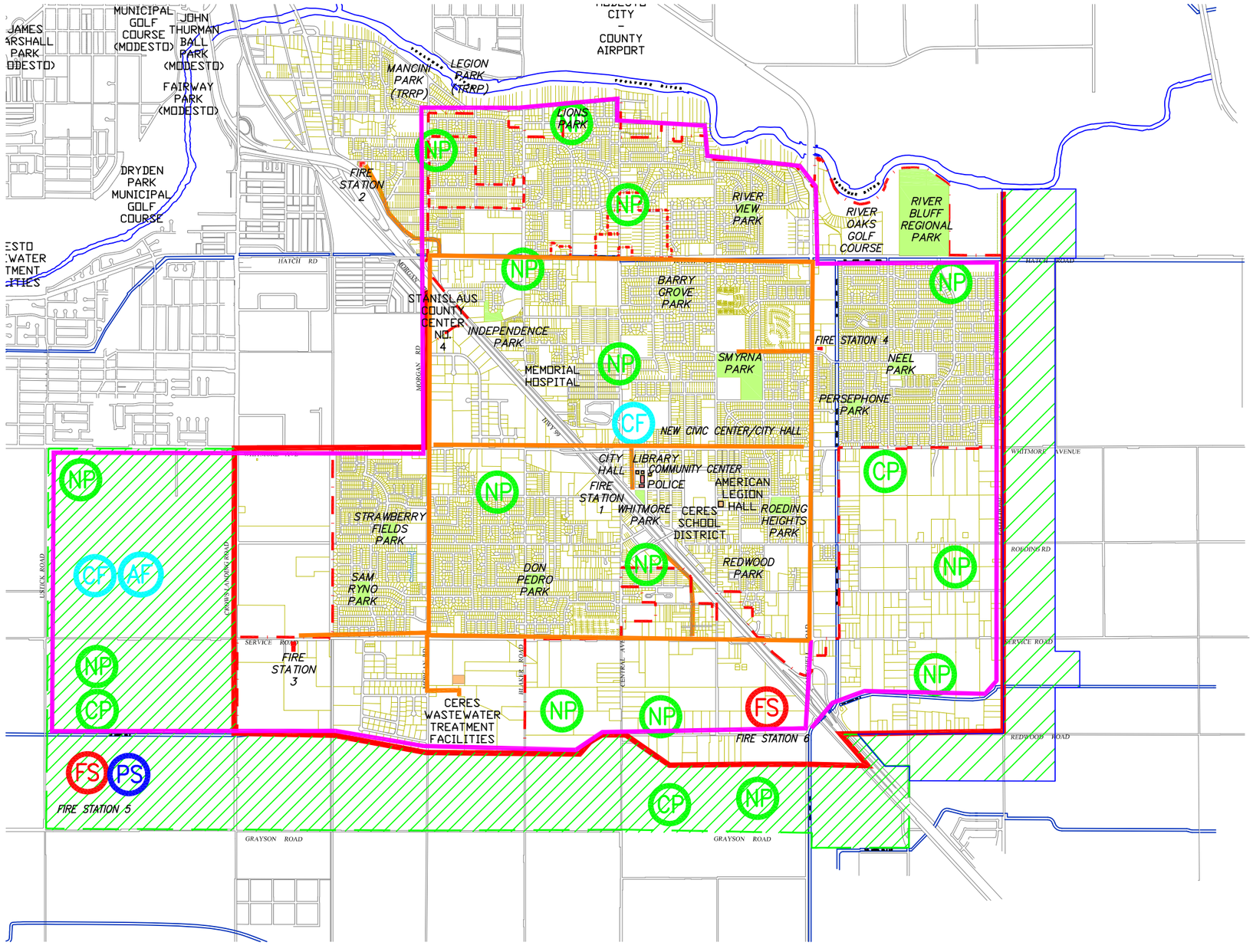
T:_CS\Work\Ceres, City of\Impact Fee Study - 27-00391\Figures\ Exhibit 1 - Parks+PublicSafety+MunicipalFacilities.ai, February 2008



EXISTING PARK

EXISTING FIRE STATION

NP PLANNED NEIGHBORHOOD PARK

CP PLANNED COMMUNITY PARK

PS PLANNED POLICE SUBSTATION

FS PLANNED FIRE STATION

CF PLANNED COMMUNITY FACILITY

AF PLANNED AQUATICS FACILITY

PLANNED FIBER OPTICS LOOPS

Primary Loop

Secondary Loop

CURRENT SPHERE OF INFLUENCE

PROPOSED SPHERE OF INFLUENCE

PHASE 2 GROWTH AREA

CITY LIMITS

0 2 4

MILES

Exhibit 1

Parks, Public Safety & Municipal Facilities

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Table 1.1: Population and Employment Estimates and Projections based on build-out at assumed densities and FAR

	2007	Build-out	Net Growth
Population[1,2]	41,997	86,026	44,029
Employment[3]	8,959	27,805	18,846
Housing[4]			
Single Family Units	10,956	20,965	10,009
Multi-Family Units	1,693	5,177	3,484

[1] Population for City of Ceres based on California Dept. of Finance Estimate Table E-4.

[2] Build-out population is based on development of vacant and underutilized land at 1997 General Plan densities at current residential occupancy rates.

[3] Current employment from: Business Summary Report by InfoUSA, ESRI Forecasts, Aug. 2007. Employment projections are based on land-use projections and worker per square foot of non-residential building factors calibrated to estimated existing non-residential building area.

[4] Housing estimates and projections based on occupancies derived from Table 30 - "Units in Structure" and Table 33 - "Occupied Units by Tenure", 2000 U.S. Census

Sources: CA-DOF Demographics Unit, U.S. Census Bureau

Employment Population

Employment population (number of people who work at businesses located within the City, whether or not they live in the City) was estimated using an assumed annual rate of non-residential building construction (based on the ten previous years of building permit information for non-residential construction) combined with calculated employment density factors per type of non-residential use. Table 1.2 contains the employment density factors used throughout this study. Acreage was converted to building area using the floor area ratios contained in the 1997 General Plan.

Table 1.2: Occupant Density Assumptions

Land Use		Density	Employees per 1,000 sf
Residential[1]			
Single Family	3.38	persons per dwelling unit	~
Multi-family	2.92	persons per dwelling unit	~
Senior Housing	1.80	persons per dwelling unit	
Nonresidential[2]			
Office	800	building square feet per worker	1.25
Commercial	1,200	building square feet per worker	0.83
Business Park	1,000	building square feet per worker	1.00
Industrial	1,700	building square feet per worker	0.59
Warehousing	2,000	building square feet per worker	0.50

[1]Based on U.S.Census 2000, H33 & H30 Tables Summary File 3.

[2]Building area per worker factors are derived from calculations using estimated existing building area and worker population.

FEE SCHEDULES AND REVENUES

Table 1.3 summarizes the impact fees for the various facility categories analyzed in this report as applicable to example residential and non-residential development types. The transportation fees shown in Table 1.3 for the non-residential developments are for comparison only and to generate a total fee for general non-residential development types. The schedule of fees applicable to specific non-residential development is in **Appendix Table A.4**

Total fee revenues for all facility categories by land use are summarized in **Table 1.4**

Table 1.3: Summary of Fees and Administration Costs

	Residential		Non-Residential					
Facility Category	**Single Family**	**Multi-Family**	**Office**	**Commercial**	**General Light Industrial**	**General Heavy Industrial**	**Business Park**	**Warehouse**
	Fee per Dwelling Unit			*Fee per 1,000 Building Square Feet*				
Police	$419.84	$362.93	$41.31	$27.43	$19.50	$19.50	$33.05	$16.52
Fire Protection	$886.53	$766.35	$87.23	$58.15	$41.05	$41.05	$69.78	$34.89
Municipal Facilities & Equipment	$1,197.85	$1,035.47	$117.86	$78.26	$55.63	$55.63	$94.29	$47.14
Wastewater	$2,022.22	$1,759.33	$520.70	$377.18	$681.65	$681.65	$681.65	$378.69
Parks and Recreation	$5,063.64	$4,377.21	$391.19	$259.75	$184.64	$184.64	$312.95	$156.48
Community Facilities	$1,723.87	$1,490.18	N/A	N/A	N/A	N/A	N/A	N/A
Transportation	$3,034.56	$1,881.43						
Office	**Note: the "Non-residential transportation fees" shown to the right are for comparison purposes only. Please refer to the fee schedule actually applicable to non-residential development found in Appendix Table A.4**		$5,796.01					
Commercial				$9,033.48				
Light Industrial					$3,823.55			
Heavy Industrial						$4,430.46		
Business Park							$3,853.89	
Warehouse								$2,124.19
Drainage[1]	$592.90	$323.40	$371.10	$371.10	$232.04	$232.04	$232.04	$232.04
Water	$4,985.98	$2,136.85	$569.83	$569.83	$747.90	$747.90	$747.90	$747.90
Information Technology	$189.98	$164.22	$35.11	$35.11	$16.52	$16.52	$16.52	$14.05
Subtotal Public Facilities Fee	$20,117	$14,297	$7,930	$10,810	$5,802	$6,409	$6,042	$3,752
Administration 2%	$402.35	$285.95	$158.61	$216.21	$116.05	$128.19	$120.84	$75.04
Total Public Facilities Fee	**$20,520**	**$14,583**	**$8,089**	**$11,026**	**$5,919**	**$6,538**	**$6,163**	**$3,827**

[1] *Drainage Area A fees are shown*

Table 1.4: Total Impact Fee Revenues with Administration Costs

Facility Category	Revenues from Impact Fees	General Fund/Other Sources[1]	Program Total
Police[2]	$6,089,185	$495,000	$6,584,185
Fire Protection	$12,857,876	$969,124	$13,827,000
Municipal Facilities & Equipment	$17,346,121	$6,738,042	$24,084,163
Wastewater	$17,162,893	$0	$17,162,893
Parks and Recreation	$71,627,359	$0	$71,627,359
Community Facilities	$22,445,157	$7,301,843	$29,747,000
Transportation	$170,349,389	$42,292,160	$212,641,549
Drainage	$17,605,370	$1,004,950	$18,610,320
Water	$31,271,739	$0	$31,271,739
Information Technology	$2,755,365	$2,229,779	$4,985,144
Subtotal	$369,510,453	$61,030,899	$430,541,351
Percentage to the Program	86%	14%	
Administration 2%	$7,390,209		
Total (to nearest $1,000)	**$376,900,662**	**$61,031,000**	**$437,931,662**

[1] Funds identified under General Fund/Other Sources is a City obligation to the program.

[2] Other funds for Police Facilities are programmed Measure H funds for equipment

FEE COMPARISONS

The proposed Ceres impact fees for similar facilities are compared to the current fee schedule and neighboring cities in Table 1.5. The fees listed are for medium density single family homes.

The fee comparison table is provided to give a general idea of fees charged for similar facilities in neighboring cities comparable to Ceres. Even though each city in California, in order to adopt impact fees, must follow the same general principles established by State Law, as described in the Introduction section of this report, fee comparisons, even among neighboring jurisdictions, tend to vary widely due several factors:

- The methods used to calculate the impact fees and allocate the fees to types of development differ from city to city;
- The types of facilities that are covered by impact fees vary;
- Cities adopt different standards, or levels of service, for facilities, and may use different ways to calculate those standards;
- Cities may not have kept up with public improvements over the years and as a consequence have created deficiencies between adopted or desired levels of service and the levels currently provided. This factor may actually work to reduce the impact fee, since the costs to remedy the existing deficiencies cannot be passed on to new development

Furthermore, cities may allow alternatives to impact fees to finance public facilities. Assessment and Mello-Roos districts may be used for improvements that serve specific projects. District assessments and special taxes levied to provide public improvements sometimes replace impact fees that would otherwise be used for those improvements.

Table 1.5 - Comparison of Impact Fees in Selected Communities applied to Single family Homes[1]

		Impact Fee and Public Facility Charges[2]											
City	Population	Transpor.	Community Facilities	Parks	Municipal Facilities	Drainage	Water	Sewer	Police	Fire	IT	Other	Totals
Hughson	6,000	$4,101	$1,008	$4,658	$3,050	$2,814	$3,803	$5,710					$25,144
Lodi	64,000	$2,800		$5,687	$1,830	$3,599	$1,580	$6,695	$561	$607		$2,067	$25,426
Manteca	63,000	$2,723		$2,447	$4,600	$1,368	$4,700	$8,690				$1,887	$26,415
Merced	75,000			$6,090			$5,715	$12,933				$9,843	$34,581
Modesto	210,000	$15,119		$3,803	$876		$5,354	$4,876	$812	$286		$688	$31,814
Oakdale	18,000	$5,338		$8,324	$564	$4,936	$4,741	$3,608	$678	$1,005			$29,194
Tracy	80,000	$7,005	$2,628	$5,429		$4,389	$5,494	$9,051					$33,996
Turlock	68,000			$1,231		$5,238	$2,395	$3,546	$963	$164		$8,613	$22,150
Average Fee:		$6,181	$1,818	$4,709	$2,184	$3,724	$4,223	$6,889	$754	$515		$4,620	$28,590
Ceres Fees													
Current (Adopted 2009)	41,997	$3,873	$1,771	$7,205	$1,242	$914	$5,107	$3,644	$434	$914	$195		$25,299
Proposed (2010 Revision)	86,026	$3,095	$1,758	$5,165	$1,222	$605	$5,086	$2,063	$428	$904	$194		$20,520

* Proposed park fee given is the single family rate with park impact cost spread to both residential and non-residential

[1]Survey of fees as adopted by each agency; a typical development assumes 3 BD/2 Ba Single-Family detached 1,800 sq. ft. Lot @ 6 units/Ac; 50 unit subdivision
Table includes the AB1600 fees adopted by the agency; for Modesto the impact fees resulting from special assessment districts for fire, sewer, school, utilities, special traffic, etc. also does not include regional transportation fees, or county-wide public facility fees which for Stanislaus County (Ceres-Modesto sphere) are: and $, respectively:

[2]Fees are for a single familly home in the build-out scenario; Drainage fee is for Area A

Notes:

Hughson	Municipal facilities include city hall/police, public works shops & offices, equipment and vehicles
Lodi	Other includes Habitat Conservation; Transportation does not Regional Trans. Fee. Fee schedule values have been converted into fee per dwelling unit from fee per acre for medium density single family ($79,822) assuming 5 units per acre
	Other includes fees for: water, streets, general city
Manteca	Other includes fees for: Habitat Conservation and Agricultural Preservation; Transportation does not include Regional Trans. Fee
Merced	Other includes fees for: Police, fire, bikeways and other public facilities roadways, bridges, and railroad crossings, traffic signals
Modesto	capital facilities fees program is organized such that single family residential is given in terms of only a total amount, this includes: police headquarters and vehicles, fire stations and vehicles, streets, expressways, buses, wastewater treatment plants and facilities, parks, city hall and its expansion, traffic signals and their synchronization, bike facilities, administrative cost of collection and accounting
Oakdale	averaged storm drainage from two zone areas
	Other includes fees for: streets / public works, water, general government, admin. (2%)
Tracy	Infill zone rates. Transportation Fee does not include the Regional Transportation Fee.
Turlock	Other includes fees for: water, transportation, general government, street lights, building permit tax fees (water well, transportation, traffic signals, public safety, & park development)

ORGANIZATION OF THE REPORT

Chapter 2 presents the population and employment assumptions used for the public facilities fee analysis. Chapters 3 through 12 document the maximum justified impact fee for each of the following facility categories:

- Police facilities
- Fire Protection
- Municipal facilities and equipment
- Water
- Wastewater
- Parks and Recreation
- Community facilities
- Transportation
- Drainage
- Information Technology

Each chapter is organized using the following sections to clearly document the requirements of the *Mitigation Fee Act* discussed above:

- The *Existing and Future Planned Facilities Inventory* section summarizes the investment of existing development in this type of facility to date and identifies future planned facilities, if any.
- The *Service Population* section defines what type of development requires this type of facility, whether (1) only residents, or (2) residents and businesses (measured by employment). It also projects the service population growth anticipated to occur over the planning horizon.
- The *Facility Standards and Unit Costs* section establishes a reasonable relationship between the need for the fee and the type of development paying the fee. This section also estimates the cost per capita for facilities to accommodate growth.
- The *Facility Costs to Accommodate Growth* section establishes a reasonable relationship between the use of fee revenues and the type of development paying the fee. This section estimates the total facilities costs associated with new development over the planning horizon, equal to the revenues that would be collected through the impact fee.
- The *Fee Schedule* section establishes a reasonable relationship between the amount of the fee and the cost of the facility attributable to development paying the fee. Using a common factor for facility costs per capita, the schedule ensures that each development project pays its fair share of total facility costs.

Chapter 13 calculates the Administrative Fee, which is a surcharge on the total impact fee that will be used to implement the fee program including funding for future updates.

The final chapter of the report, Chapter 14, provides a summary of fee implementation procedures and recommendations for the ongoing administration of the fee. The recommendations are provided to ensure compliance with the Act, and to ensure that fees are updated in the future for facility cost inflation.

FACILITY STANDARDS

New development alone cannot be asked to improve facility standards that benefit both new and existing development. Additionally, new development alone cannot correct an existing facility deficiency. Either way, facility standards cannot be increased compared to existing standards solely "on the backs of new development".

By policy, the City can adopt its own reasonable facility standard to reduce, maintain, or increase the existing facility standard. However, basing an impact fee on a standard that is higher than the existing standard is only fair to new development if the City uses alternative funds to expand existing facilities to the same standard for existing development. This extra funding is needed to correct the "existing deficiency".

This study uses four approaches for establishing facility standards.

- The existing inventory method uses a standard based on the ratio of existing facilities to the current service population. Under this approach, new development funds the expansion of facilities at the same standard currently serving existing development. By definition, this approach results in no facility deficiencies attributable to existing development. This method is used for Parks and Recreation.

- The master plan method establishes the standard based on the ratio of all existing plus planned facilities to total future demand (current and future development). This method is used when the local agency anticipates increasing its facility standards above the existing inventory standard and planned facilities are part of a system that benefit both existing and new development. This method typically results in "existing deficiencies that must be funded outside of the impact fee program. The master plan method is used for Fire Protection, Municipal Facilities, Community Facilities and Information Technology.

- The excess capacity method, a variation on the Master Plan method, determines the standard based upon the ratio of existing facilities, including recent construction, to the current and future service population. This approach is used where the facilities have been sized to accommodate the current population as well as the future population. Use of this approach may not result in additional facilities being built. Fees are collected from new development to reimburse the City its costs for having constructed a facility which has excess capacity sufficient to serve new development. The City is responsible for funding the share related to the existing service population. A modification of this method is used for Police facilities.

- The level of service approach is based upon standards adopted by the City and/or standard engineering or planning criteria. This method is used for the traffic facilities. The standard is to maintain the appropriate level of service for all roadway segments/intersections. Any costs related to existing deficiencies are not passed on to

new development. Transportation, Water, Wastewater and Drainage use the level of service approach.

Use of these standards is not meant to label them as City policy; they are a means to establish a fair–share of facility cost for new development through an appropriate allocation of existing and planned facilities.

2. LAND USE ASSUMPTIONS, SERVICE POPULATIONS AND PROJECTIONS

INTRODUCTION

This chapter explains how development projections are used to calculate impact fees, and summarizes estimates of existing development and projections of growth used throughout this study. As explained in the Summary existing development and populations were estimated for 2007. This study is based on build-out of the proposed Sphere of Influence (PSOI) delineated on Exhibit 1. The development potential of all lands within the PSOI is estimated assuming General Plan densities as presented in the Build-Out Land Use Analysis found in Table A.1

POPULATION AND EMPLOYMENT ESTIMATES

Estimates of existing development and projections of growth are critical assumptions used throughout the public facility fee chapters that follow in this report. Current residential population is taken from California Department of Finance estimates[1].

Existing estimates of employment within the City (workers working at jobs within the City as opposed to employed City residents) are based on the Business Summary Report for the City of Ceres (August, 2007) purchased from Environmental Sciences Research Institute.

The number of workers for each use is estimated by first calculating a worker per square foot factor by distributing the existing worker population, about 8,000 in 2007, among the existing non-residential building area.

Population estimates are used as follows:

- Estimates of existing population and land development are used to determine current facility standards; for example: square feet of public buildings per capita or average daily trips per household to correlate with traffic level of service.

- Estimates of future growth are used to determine the total amount of public facilities required to accommodate growth to build-out.

Tables 1.1 summarizes the Population and Employment Estimates and Projections.

LAND USE CATEGORIES

Measuring the impact of growth requires land use types for summarizing different categories of new development. The land use types used in this analysis are defined in the 1997 General Plan and summarized as follows:

- **Single family:** Detached and attached (townhomes and condominiums) and one-family dwelling units including mobile and manufactured homes. Mobile homes are included in

[1] California Department of Finance. Table 2: E-4 Population Estimates for Cities, Counties and State, for January 2008 with 2000 DRU Benchmark

the single-family category because these units typically have occupancy densities similar to other single-family units;

- **Multi-family:** All attached multiple-family dwellings such as duplexes, apartments, and dormitories;

- **Commercial:** Includes the various commercial designations of the 1997 General Plan: Neighborhood Commercial, Community Commercial, Highway Commercial, Service Commercial, Downtown /Residential Commercial, Regional Commercial, which provides for a wide range of sales and service uses, educational, and hotel/motel development.

- **Office:** All general, professional, administrative, medical office development and limited commercial development intended to serve the employees and clientele of the office uses and the immediate surrounding areas;

- **Business Park:** Includes limited industrial uses, office centers, research and development, warehousing, "back-office" uses and ancillary employee-serving retail and services;

- **Industrial:** Includes the General Industrial designation of the 1997 General Plan: manufacturing, fabrication, food processing, motor vehicle repair, warehousing, truck yards and terminals.

Some developments may include more than one land use category, such as an educational institution with dormitories, or a mixed-use development with both residential and commercial uses. In these cases, the impact fee would be calculated separately for each land use category.

The City may use its discretion to impose the impact fee based on the specific aspects of a proposed development regardless the parcel's land use type or GP designation. The guideline to use is the probable occupant density of the development, either residents per dwelling unit or workers per building square feet or both. The fee imposed should be based on the land use category that most closely represents the probable occupant density of the development. Table 2.1 summarizes the available land area in each of the above land use categories.

Land Use Projection Methodology

The acreage available totals for each land use category were estimated by taking the 1997 vacant and underutilized acreage information for the Phase 1 area that is delineated in the 1997 General Plan (see Exhibit 1) and applying residential and non-residential development permit information for the 1997-2007 period to calculate the remaining development potential (in dwelling units or square feet of non-residential) in Phase 1. The Phase 2 and the Proposed Sphere of Influence areas were planimetered from a City base map. In the residential land use categories (Residential Reserve, Residential Agriculture, Very Low Density, Low Density, Medium Density Residential and High Density Residential) the densities in units per gross acre were taken from within the ranges given in the 1997 General Plan Table 1-1 and are used to estimate the development potential in remaining Phase 1 and build-out of Phase 2 and the PSOI. Similarly, for non-residential, the floor area ratios (FAR) are within the ranges found in the 1997 General Plan are applied to the estimate of developable land in Phase 1 and the PSOI (in the current General Plan. Except for a relatively small area outside of the PSOI, there is no non-residential land designated in the Phase 2 area. The floor area ratio is defined as the gross floor area of a structure divided by the net lot area. The floor area ratios used in the land use projection are less than the maximums allowed by the General Plan to account for road dedications, drainage

basins, park acreage, height limits and other factors that would tend to limit net floor area yield on a given lot.

Table 2.1 Land Use Summary

Land Use	FAR or du's per acre[1]	Acres in Phase 1 available in 2007[2]	Phase 2 Acres (east of Faith Home only)[2]	Acres in Proposed SOI Acres	Projected available developable acres between 2007 & Buildout
Residential reserve	0.5			847	847
Residential Ag	0.5		122		122
Very Low Density Residential	4	156	561		717
Low Dens. Residential	6	833		277	1110
Total SF Residential		988	683	1124	2795
Med. Dens Residential	9.5	204		5	209
Hi Dens. Residential	18.5	81			81
Total MF Residential		285		5	290
Total Residential		**1273**	**683**	**1129**	**3085**
Office	0.35	18		39	57
Neigh. Comm.	0.25	22			22
Community Comm.	0.25	72		10	82
Highway Comm.	0.25	28			28
Regional Comm.	0.25	57			57
Downtown Comm.	0.75	2			2
Service commercial	0.25	26			26
Commercial recreation	0.02	0		154	154
Total Commercial		**225**		**203**	**428**
Business Park	0.3	101			101
Light Industrial	0.4	173		272	445
General Industrial	0.4	205			205
Industrial reserve	0.4	0		555	555
Warehousing	0.4			60	60
Total Industrial		**478**		**887**	**1365**
Total non--public available acres		**1977**	**683**	**2258**	**4878**

[1] Floor area ratios (FAR) and dwelling units per acre are from the 1997 General Plan, Chapter 1. These are gross densities and FAR's used to calculate total housing and non-residential floor areas for this study. Actual densities will vary depending on the ultimate land use plan and zoning of the PSOI area.

[2] Phase 1 and 2 Growth Areas areas taken from 1997 General Plan Figure 2. The southerly area of Phase 2 (south of the Lower TID Lateral No. 2) is included in the Proposed SOI acreage.

OCCUPANT DENSITIES

Occupant densities ensure a reasonable relationship between the increase in service population and amount of the fee. To do this, the fee must vary by the estimated service population generated by a particular development project. Developers pay the fee based on the number of additional housing units or building square feet, so the fee schedule must convert service population estimates to these measures of project size. This conversion is done with average occupant density factors by land use category, shown in **Table 1.2**.

SERVICE POPULATION

Different types of development use public facilities at different rates in relation to each other, depending on the services provided. In each succeeding chapter, a specific service population is identified for each facility type to reflect this difference. The service population weights one land use category against another based on each category's demand for services.

Different service populations are used to estimate impacts on different types of facilities to calculate the appropriate level of fees. To measure existing development and future growth, this study uses the following:

- City residents and workers for public facilities such as those used by City administration, Fire and Police;
- Workers and City residents for Park and Recreation;
- City residents for Community facilities;
- Dwelling units and building square feet to estimate wastewater generation, water demand and vehicle trips for transportation facilities; and
- Impermeable acreage (per dwelling unit or floor area) for drainage facilities.

When calculating a service population that includes both residents and workers, workers are factored-in at a lower rate than residents. Since workers may be either residents or non-residents living outside the City, it is reasonable to assume that a worker has less net impact than a resident. The relative demand for police, fire[2] and municipal services is a function of the number of individuals and the number of hours these individuals are present in the City.

The demand of one worker relative to one resident for city services is determined by comparing the time spent in the city by two groups: the workforce and the residents. The analysis should consider that some percentage of the workforce lives in the city and that, conversely, some residents work outside the city. This is done to avoid double-counting workers who also live in the city and to discount those residents who work outside the City. However an analysis at this level of detail would require workforce composition data that is not available without a detailed survey of businesses. Therefore, an analysis is provided in **Table 2.2a** that estimates the employee usage factor for public safety and municipal facilities. The calculation in Table 2.2a considers the persons employed in Ceres as a separate population that, on average, is served by facilities 40 hours per week. Residents are broken-out into employed and non-employed

[2] The service population approach is also used for fire services since calls for paramedic and EMS services far outweigh fire calls.

fractions based on U.S. Census Data. The employed residents are shown to use facilities 40 hours less per weekday than non-employed residents. Factoring out these hours avoids double-counting the employed residents in hours of use by all employees. Table 2.2 shows the total service populations used for Police, Fire Protection, Municipal Facilities and Information Technology.

Table 2.2a - Employee Usage Factor for Public Safety and Municipal Services

Type of User	Maximum Weekend Hours (a)	Maximum Mid-week Hours[1] (b)	Maximum Hours per Week (c = a+b)	Employment Status by Percentage of Population[2] (d)	Weekly Person-Hours of City Service Usage (c x d)	
Resident						
Employed Resident	48	80	128	44.3%	56.71	
Non-employed Resident	48	120	168	55.7%	93.57	
Weighted Hours for Residents					150.28	(a)
Employee						
Employee	0	40	40		40.00	(b)
Employee Park Usage Factor (worker to resident weighting factor)					**0.27**	(b)/(a)

[1] Potential mid-week hours of use for all residents. For non-employed residents: assumes 24 hrs. of use per weekday. To avoid double-counting of daytime use for employed residents 16 hrs. of use per weekday (24 minus 8) is assumed.

[2] Percentage of employed residents (over 16 years of age) from 2006 American Community Survey, U.S. Census Bureau is 64%, the population over 16 in Ceres is estimated at 69%, 64% x 69% = 44%.

Table 2.2b: Public Safety and Municipal Facilities Service Population

	Residents	Workers[1]	Factored Workers	Service Population
Existing (2007)	41,997	8,959	2,385	44,382
New Development (2007-Buildout)	44,029	18,846	5,016	49,045
Total	86,026	27,805	7,401	93,427
Weighting factor[2]	*1.00*	*0.27*		

[1] Current employment from: Business Summary Report by InfoUSA, ESRI Forecasts, Aug. 2007. Employment projections are based on land-use projections and worker per square foot of non-residential building factors calibrated to estimated existing non-residential building area.

[2] Weighting factor is calculated in Table 2.2a

Sources: Tables 1.2, 2.2a

These measures are reasonable indicators of the level of demand for public facilities. The City builds public facilities primarily to serve these populations and, typically, the greater the population the larger the facility required to provide a given level of service.

3. POLICE FACILITIES

EXISTING POLICE FACILITIES AND FACILITY STANDARD

The City of Ceres owns the police facilities listed in **Table 3.1.** Presently the Ceres Police Division fully occupies only the first floor of the Police Division Building - approximately 12,300 sq. ft. The second floor of the building is occupied by: the County's alternate 911 Call Center, the County's backup Emergency Operations Center and the joint Gang Intervention Taskforce (GIT) and temporarily by Finance and Information Technology staff (about 1,450 sq. ft., which is counted in Municipal Facilities). Only the portion of the building currently occupied by police personnel and the GIT, about 15,550 sq. ft., is counted towards total police space. The GIT space is counted towards the existing standard since this area could be made available to accommodate additional police operations needed due to service population growth. Space for the other occupants, the EOC and the Call Center, may be retained in the current building or moved to new space elsewhere. Either way, the following analysis provides funding for the net additional space needed for Ceres Police, while still accommodating the EOC and the Call Center.

Table 3.1: Police Services - Existing Inventory & Standard

Facility	Square feet
Police Division building, first and second floor	26,000
1st Floor Occupancy by PD	12,300
2nd Floor Occupancy:	
Emergency Operations	8,000
Alternate 911 Call Center	1,000
Finance and IT	1,450
Gang Intervention Task force[1]	3,250
Sub-total	13,700
Occupied by Police Department	12,300
Gang Intervention Task force[1]	3,250
PD occupied plus GIT space	15,550
Current service population	44,382
Current Standard (sq. ft. of PD-occupied space plus GIT per capita) =	0.350

[1] The GIT space is available for police expansion.

Source: City of Ceres

POLICE FACILITIES SERVICE POPULATION

The Police facilities support the Police force that serves both residents and workers in the City of Ceres. The service populations that pertain to Police facilities are given in Table 2.2. In calculating the service population, residents are given a weight of 1.0 and workers are weighted at 0.27 to reflect lower per capita service demand of employees. Nonresidential buildings are typically occupied less intensively than dwelling units are, so it is reasonable to assume that average per-worker demand of services is less than average per-resident demand.

POLICE FACILITIES FOR NEW DEVELOPMENT

The sizing of police facilities needed for new development is based on the current staffing levels per service population. The staffing level approved by City Council for Public Safety is 1.3 officers and .65 non-sworn staff per 1,000 residential population. However this analysis takes the actual numbers of police personnel--currently 51 officers and 21 non-sworn personnel[1]--divided by the current total service population in order to estimate future staffing and the space needed for future staff. The net staffing ratio, based on service population is calculated in Table 3.2: 1.15 officers and 0.47 non-sworn personnel. The cost of police facilities using these ratios is carried forward to Table 3.5.

PLANNED POLICE FACILITIES

Discussions with Police Division management indicate that a new full service police substation would be needed in the southwest portion of Ceres possibly south of Service Road and west of Crows Landing to serve expected land development in that area. (see **Exhibit 1**). It is possible that the substation could be located adjacent to the planned fire station No. 5 in that area. In addition to a new substation, the police division may occupy an additional 3,250 square feet (the GIT space) on the second floor of the current police building on 3rd Street for a total of 15,550 square feet.

Table 3.2 shows the planned police facility size and costs needed for new development at build-out. The table shows a need for up to 16,750 sq ft. net new space at build-out to house planned staff (based on the Measure H staffing levels) at the rate of 250 sq. ft of total building space per staff.

[1] 51 officers include the additional five positions filled using Measure H funds.

Table 3.2: Planned Police Facilities - Build-out

	Space Needs Calculation	Cost per Sq. Ft[4]	Total Cost
Facility cost based on Approved Staffing			
Current service population	44,382		
Current residential population	41,997		
Service population Growth	49,045		
Residential pop. growth	44,029		
Space Needs Calculations			
Approved staffing level (per 1000)[1]	1.95		
Total personnel required for growth (approved staffing)	86		
Space need per staff (sf/staff)[2]	270		
Total Additional Area:	23,181	$296	$ 6,865,063
Facility Cost based on Measure H current staffing levels			
51 sworn officers[5] /44,382	1.15		
21 non-sworn personel/44,382	0.47		
Adjusted staffing ratio for total service population (per 1,000)	1.62		
Total personnel required for growth (adjusted staffing)	80		
Space per staff (sf/staff)[2]	250		
Total Area:	20,000		
GIT Space[6]	3,250	$225	$ 731,250
Required New Space	16,750	$295	$ 4,941,250
Total to be Funded by PFF:			**$ 5,672,500**

[1]Staffing based on approved ratio of 1.3 sworn and .65 non-sworn personnel per 1,000 residential population

[2]Extended space need per staff calculated as: 140 sf of work space plus 50% for circulation and 25% for general or approxmately 250 sq. ft. per staff. Current space rate is approximately 216 sq. ft. (15,550 divided by 72)

[4] Cost estimate based on recent police facilities construction in Stanislaus County: $276 per sq. ft. for construction plus $20 per sq. ft. for site acquisition and development costs

[5]Includes five sworn positions to be added (3 patrol officers, 1 sargeant & 1 lieutenant) within the current fiscal year.

[6] GIT space is available and is charged to new development based on the uninflated original cost of the Public Services Building plus an allowance for tenant improvements.

Sources: Tables 2.2 and 3.1; Public Safety 10-year Staffing Proposal,City of Ceres; PMC

Existing Police Division Vehicles

Table 3.3 lists current Police Division vehicles and current book value. In this fee nexus study only assets with five years or more of useful life are included for determining current standards for vehicles and equipment. The estimated total value of police vehicles and equipment of $825,000, when divided by the current service population of 44,382, results in a current standard in dollar value of vehicles per capita of about $18.59.

Table 3.3: Police Vehicle Inventory

Item	2007 Value	Year Acquired
Kawasaki Motorcycle	$ 1,200	1990
Harley Davidson motorcycle	$ 4,800	2005
Harley Davidson motorcycle	$ 4,100	2005
Harley Davidson motorcycle	$ 7,300	2006
Harley Davidson motorcycle	$ 7,300	2006
Chev. Tahoe	$ 28,300	2005
Ford Expedition	$ 16,600	2003
Ford Expedition	$ 16,800	2003
Ford Crown Victoria	$ 22,400	2004
Ford Expedition	$ 6,500	1999
Ford Patrol	$ 20,000	2005
Ford Crown Victoria	$ 10,200	2004
DUI Trailer	$ 10,000	1992
Ford Crown Victoria	$ 10,200	2004
Ford Crown Victoria	$ 10,200	2004
Ford Crown Victoria	$ 10,200	2004
Ford Crown Victoria	$ 16,100	2003
Ford Crown Victoria	$ 16,100	2003
Ford Crown Victoria	$ 16,100	2003
Ford Crown Victoria	$ 22,400	2003
Ford Crown Victoria	$ 22,400	2005
Ford Crown Victoria	$ 22,400	2005
Ford Crown Victoria	$ 27,700	2005
Ford Crown Victoria	$ 27,700	2005
Chaplain's car	$ 3,000	1996
2004 Chev. Tahoe, K-9	$ 23,500	2004
2002 Chev. Tahoe, K-9	$ 14,700	2002
Trooper/speedometer trailer	$ 24,800	2006
GMC Sierra	$ 14,000	2003
Ford pickup, traffic	$ 3,500	1996
GMC pickup	$ 13,500	2003
Ford Crown Victoria	$ 12,500	2001
LENCO BEAR SWAT	$ 232,000	2005
Chev. Impala	$ 16,500	2005
Nissan Maxima	$ 23,400	2005
Nissan Maxima	$ 13,400	2000
Toyota Camry	$ 8,700	2002
Chev. Impala	$ 16,000	2005
Ford Cab, Equestrian	$ 17,500	2003
Horse trailer	$ 10,000	2000
Chev. Box van	$ 1,000	1984
Chev. Trailblazer	$ 18,500	2005
Chev. Service body	$ 1,500	1988
Total	**$ 825,000**	
Existing Service Population	44,382	
Vehicle value per capita	$ 18.59	

Source: City of Ceres 2007 Fixed Asset Summary Report

Police Division Vehicle Needs for Development

Table 3.4 shows the vehicle needs of the Police Division at build-out. Vehicles needs are based on actual staffing ratios to current service population . The vehicle rates per staff are based on discussions with Public Safety Division. Patrol units and detective vehicles are both determined as a fraction of the sworn officers (patrol units at about one for every three officers and

detective units at 1 for every eight officers). Other vehicles are based on the number of non-sworn staff. The total cost of vehicles needed for growth, $1.265 million, is higher than the total cost of vehicles calculated using the current standard of $18.50 per capita times service population growth. The amount that is the obligation of new development is the lower total shown on Table 3.4: $911,685. That number is further reduced by the cost of vehicles that are expected to be purchased through Measure H sales tax: eleven units over ten years at a cost of $45,000 each. The net per capita cost of vehicles to be purchased with the Public Facilities Fee is $8.50. This per capita cost preserves the equality of standards between new and existing development and recognize that some vehicles serving future growth will be paid for by Measure H funds[2].

[2] Note that some of the Measure H taxes will certainly be paid by non-residents and could be considered an "other funding source" and the total cost of units paid for by the measure should therefore be discounted. However, the argument can be made that future residents should also benefit from the expenditures of non-residents. The approach taken, to subtract the entire total of new vehicles purchased through Measure H, is conservative.

Table 3.4: Police Vehicle Needs for Growth

Item	Vehicles per Sworn Officer or non-sworn Staff	Personnel for Growth to Buildout	Vehicle Needs for Growth to Buildout
Patrol units[1]	0.35	56	20
Total Cost of patrol units @ $45,000 each			$900,000
Detective units[1]	0.12	56	7
Total Cost of detective units @ $30,000 each			$210,000
Other vehicles[2]	0.18	23	4
Total Cost of other vehicles @ $20,000 each			$80,000
Crime Van	0.01	56	1
Total Cost of crime van @ $75,000 each			$75,000
Total Cost of Vehicals Needed for Growth			$1,265,000
Cost of new vehicles based on existing standard of $18.59/capita			$911,685
Less value of vehicles purchased through Measure H funds			($495,000)
Net to Fund through PFF			**$416,685**
Service population growth			49,045
Net cost per capita for growth			$8.50
Sworn officer staffing ratio:		1.15	
Non-sworn staffing ratio:		0.47	

[1] Patrol units and detective units for sworn personnel

[2] Vehicles for non-sworn staff (rounded down to 23)

Sources: Ceres Public Safety Department, 1/2% Sales Tax Public Safety Expenditure Plan ; Table 3.3

Table 3.5 combines the police building facilities and the vehicles costs at build-out and calculates the total cost per capita for growth.

Table 3.5: Police Facilities Cost per Capita - Build-out Adjusted staffing ratio

Required new construction and Public Safety Building tenant improvements	$5,672,500
Police vehicles	$416,685
Total facilities to serve new development	$6,089,185
Growth (2007-Buildout)	49,045
Cost per Capita	$124.15

Sources: Tables 3.2 and 3.4

Table 3.6 provides a comparison of the Police Facilities required at the current standard with the proposed new facilities and the resulting standard. Table 3.6 shows that there is a very small net decrease in the facility standards for police facilities. This means that the planned new facilities will be provided at a rate slightly lower than the current rate. The value of lower rate in terms of capacity that existing population is providing is equivalent to $1.39 per capita. No deficiency is created; therefore the existing population does not need to provide funding in order to impose the per capita fee of $124.15 on new development (except for Measure H funding already allocated).

Table 3.6: Police Facilities Required at Current Standard - Build-out

Growth (2007-buildout)	49,045
New facilities supported by current standard	17,184 sq. ft.
Service population at buildout	93,427
Currently occupied space plus GIT	15,550 sq. ft.
Additional space per approved staffing ratio	16,750 sq. ft.
Total area, planned plus existing facilities	32,300 sq. ft.
Planned standard: existing occupied space plus space needed per approved staffing divided by total future service population	0.34573 sq. ft.
Current standard, or capacity, per capita	0.35037 sq. ft.
Excess capacity per capita 0.350-0.346	0.00464 sq. ft.
Facility cost per square foot	$295
Per capita value of capacity	$1.37
Total value of existing capacity	$60,803

[1] Planned facilities at approved staffing levels are slightly less than what current standards would support; therefore no other funding is required.

Sources: Tables 3.1 and 3.2

FEE SCHEDULE

Table 3.7 shows the Police facilities impact fee for new development based on the facilities cost per capita shown in Table 3.5. The fee represents the amount required to fully fund all facilities needed to accommodate growth based on the space and vehicle needs of PD personnel at the actual staffing level. Citywide residential and nonresidential development would pay the fee based on the service population for the facilities.

Table 3.7: Police Facilities Impact Fees - Adjusted Staffing ratio

Land Use[1]	Costs per Resident or Worker	Density[2]	Fee[3]
Residential			
Single Family	$124.15	3.38	$419.84
Multi-family	$124.15	2.92	$362.93
Nonresidential			
Office	$33.05	1.25	$41.31
Commercial	$33.05	0.83	$27.43
Business Park	$33.05	1.00	$33.05
Industrial	$33.05	0.59	$19.50
Warehouse	$33.05	0.50	$16.52

[1] See Chapter 2 for land use type descriptions.

[2] Persons per dwelling unit for residential land uses and employee

[3] Per dwelling unit for residential uses and per 1,000 square feet for

Sources: Tables 1.2 and 3.5

4. FIRE PROTECTION

EXISTING FIRE FACILITIES

The City of Ceres owns and operates the facilities and equipment listed in **Table 4.1**. The Department provides fire protection services, emergency medical services, rescue services, fire prevention services, and public education services to city residences and businesses. Fire-fighting vehicles and equipment with a minimum five-year service life are included in the facility inventory as they are integral capital assets in providing fire protection services.

Table 4.1: Existing Fire Protection Services Facilities and Equipment

Item	Floor Area SF	2007 Actual Value of Fire Equipment
Fire Stations		
Station No.1	15,250	
Station No.2	2,700	
Station No.3	9,670	
Station No.4	6,905	
Total Existing Stations:	**34,525**	
Fire Equipment		
Kawasaki Mule		$1,000
2007 Ford F250 Utility truck #94		$17,143
2006 Pierce Quantum Pumper #24		$418,302
2005 Pierce Quantum Pumper #25		$373,542
2005 Boat Zodic #2		$7,714
2004 Chevrolet Tahoe 4WD #91		$22,857
2003 Pierce Quantum Pumper #22		$259,931
2003 Ford F550 Grass Rig #51		$41,680
2002 Pierce Ladder Truck Quint #73		$440,000
2000 Ford 4WD Expedition #93		$3,571
2000 Ford 4WD Expedition #92		$3,571
1999 Pierce Saber Rescue #81		$120,892
1996 Pierce Saber Pumper #31		$77,001
1995 Pierce Responder Pumper #33		$36,211
1990 Pierce Arrow Pumper #32		$1,000
Total Existing Fire Equipment		**$1,824,416**

Sources: City of Ceres, Fixed Asset Summary Report, 2007

FIRE PROTECTION FACILITIES SERVICE POPULATION

The Fire protection and service facilities serve both residents and workers within the City of Ceres. The service populations calculated in Table 2.2b apply to fire protection. The employee usage factor calculated in Table 2.2a also applies to fire protection. In addition, two special districts are served by the Ceres Fire Division. The Ceres Fire Protection District is situated south and southeast of the city limits of Ceres, servicing predominantly very low density residential and mobile home parks. Major portions of the Ceres Fire Protection District's service area are within the proposed SOI. The Industrial Fire Protection District is serviced by the City of Ceres and the

City of Modesto through a joint powers agreement (JPA). Ceres is responsible for the area located primarily northwest of the City, which is mostly depressed commercial and low-income residential housing. This service area is not located within the proposed SOI. An estimated service population of 15,000 is added to the Table 2.2b service population. No service population growth is assigned to these districts. Most growth within the Ceres FPD is accounted for in the proposed SOI growth. If growth is considered likely in the Industrial FPD, a separate renegotiation of the JPA could take place that assigns additional district revenues to Ceres to pay for the district's fair share of fire protection facilities.

PLANNED FIRE PROTECTION FACILITIES FOR NEW DEVELOPMENT

The Fire Division has completed a capital improvement plan which includes two new fire stations (stations 5 & 6) and one replacement fire station (station #2), training facilities (on the Fire Station #3 site) and remodeling and refurbishing of existing facilities. The planned facilities together with the equipment for new stations are listed in **Table 4.2**. Proposed locations for planned stations are shown on Exhibit 1.

Table 4.2: Planned Fire Protection Facilities and Equipment for Growth

Item	Floor Area SF	Estimated Cost[1]
Fire Stations		
Station No.5	8,000	$2,960,000
Station No.6	8,000	$2,960,000
Station No. 2 replacement	7,000	$2,590,000
Training facilities (at FS No.3)	6,100	$2,257,000
Total Planned Fire Facilities:	29,100 sq. ft.	$10,767,000
Average cost /sf		$370
Fire Apparatus		
Aerial Unit, Station 1[2]		$900,000
Pumper Truck, Station #5		$500,000
Pumper Truck, Station #6		$500,000
Additional engine, Station #3		$500,000
Additional engine, Station #2		$500,000
Other Fire Equipment		
Heavy Rescue		$120,000
Utility truck, fully equipped Station 5		$40,000
Utility truck, fully equipped Station 6		$40,000
Total Planned Fire Equipment:		$3,060,000
Total Planned facilities & equipment		$13,827,000

[1] Cost of stations estimated at $370/sf, including site acquisition & off-site improvements (based on projected final cost of the new FS#4: $350/sq. ft. (6,905 sq. ft. @ $2,415,542) plus $20 per sq. ft. for land and off-site improvements); training facility cost per the estimate of the City's project architect for the proposed training facility.

[2] Replacing apparatus #75, which could be relocated to FS#5

Sources: City of Ceres, C3 Design Alliance July,2007

FIRE FACILITIES STANDARDS AND UNIT COSTS

This section calculates the standard used to compare the planned fire protection facilities against the current standard for fire facilities.

Table 4.3: Fire Protection Facility Standards Analysis

	Fire Service Standards
Fire Facilities	
Existing Fire Facilities (sf)	34,525 sq. ft.
2007 Service Population[1]	59,382
2007 Current Standard per Capita	0.5814 sq. ft.
Planned Fire facilities (sf)	29,100 sq. ft.
Existing plus Planned Fire Facilities	63,625 sq. ft.
Service Population Total at Buildout[1]	108,427
Rate per capita of planned facilites for growth	0.5868 sq. ft.
Estimated facility cost/sf (average including land)[1]	$370.00
Cost per capita at the proposed standard	$217.12
Growth's share of cost ($217.12 x 49,045)	**$10,648,491**
Increase in Station Standard per Capita (0.5814 sf-0.5868 sf)[2] :	0.0054 sq. ft.
Cost per Capita for existing development	$2.00
Existing development's share of cost for facilities	$118,509
Fire Equipment	
Existing Fire Equipment (at current book value)	$1,824,416
2007 Service Population[1]	59,382
2007 Current Standard per Capita	$30.72
Planned Fire Equipment	$3,060,000
Existing plus Planned Fire Equipment	$4,884,416
Service Population to Buildout[1]	108,427
Rate of existing and planned equipment per capita for buildout service population (planned standard)	$45.05
Increase in Equipment Standard per Capita ($45.05-$30.72)[3]:	$14.32
Growth will pay at planned standard per capita	$45.05
Service Population Growth (2007 - Buildout)	49,045
Fire Equipment Cost for Growth	**$2,209,384**
Cost of increased fire equipment standard to existing population (cost of planned equipment minus cost for growth)[2]	$850,616

[1] Includes an estimated 15,000 service pop. in Ceres Fire Protection District and Industrial Fire Protection District.

[2] A net increase in the standard would indicate that the City has a current deficiency of fire stations relative to planned facilities.

[3] An increase in the equipment standard indicates a current deficiency exists that the City will need to make up with funds other than the impact fee.

Sources: Tables 2.2, 4.1 and 4.2

Table 4.3 shows that there is a very small net increase in the facility standards for fire stations and for equipment. This means that the planned new stations and facilities will be provided at a rate higher than the current rate per capita. This results in a deficiency that the existing population would need to remedy in order to impose the higher standard on new development.

Per Capita Costs

The impact fee for Fire Protection is based on the master plan method which bases the standard on the ratio of existing facilities plus planned facilities to the total future demand. The per capita costs for new development are calculated in **Table 4.4**.

Table 4.4: Fire Facility Costs for Growth

	Cost for Existing Service Population	Cost for Service Population Growth	2007-Buildout Service Population Growth	Facility Standard Cost per Capita for Growth
Fire facilities (stations ,Training Facility)	$118,509	$10,648,491	49,045	$217.12
Fire Equipment	$850,616	$2,209,384	49,045	$45.05
Total cost	**$969,124**	**$12,857,876**		**$262.16**

Sources: Tables 2.2 and 4.3

FEE SCHEDULE

Table 4.5 shows the Fire protection facilities impact fee for new development based on the facilities cost per capita shown in Table 4.4. Citywide residential and nonresidential development would pay the fee based on the service population for the facilities.

Table 4.5: Fire Protection Impact Fees

Land Use[1]	Costs per Capita	Density[2]	Fee[3]
Residential			
Single Family	$262.16	3.38	$886.53
Multi-family	$262.16	2.92	$766.35
Nonresidential			
Office	$69.78	1.25	$87.23
Commercial	$69.78	0.83	$58.15
Business Park	$69.78	1.00	$69.78
Industrial	$69.78	0.59	$41.05
Warehouse	$69.78	0.50	$34.89

[1] See Chapter 2 for land use type definitions.

[2] Persons per dwelling unit for residential land uses and employee per 1000 sf for nonresidential land uses.

[3] Per dwelling unit for residential uses and per 1,000 square feet for nonresidential land uses.

Sources: Table 4.4

5. MUNICIPAL FACILITIES AND EQUIPMENT

EXISTING MUNICIPAL FACILITIES AND NEEDS ASSESSMENT

The Municipal Facilities category includes all City buildings, equipment and vehicles other than those included in the Police, Fire Protection and Community Facilities categories. Municipal facilities include the office space that houses the departments of Community Development, Finance, Administrative Services, Human Resources, the City Manager and staff, the City Attorney, City Council chambers and its offices. Also included are the City corporation yard offices, maintenance shops and storage buildings. Equipment and vehicles operated by general government, public works and parks maintenance, but not Police and Fire, are also included in this category. The facilities are listed in **Table 5.1a,** equipment listed in **Table 5.1b** and vehicles in **Table 5.1c.** An overall current facility standard was calculated by dividing the total municipal facilities space of 37,660 square feet by the current service population of 44,382 resulting in an existing standard of 0.85 sq. ft./capita.

Table 5.1a: Municipal Facilties Inventory

Facility	Current Floor Area SF	Storage & Other	Total Space and Current Standard
City Hall			
Management Services	724		
Finance	2,524		
City Manager	804		
Redevelopment	200		
PR&F	108		
City Attorney	200		
Stan/Ceres RDA	40		
Council Chambers			
General	1,233		
City Council	1,232		
Planning	415		
Stan/Ceres RDA	160		
In PS Facility:			
Finance	155		
Information Technology	1,294		
Total General Government	**9,089**		**0.205**
Community Dev. (Annex)			
Planning	1,480		
Building Inspection	501		
Public Works	1,621		
PR&F	567		
Code Enforcement	208		
Community Development	**4,377**		**0.099**
Public Works & MUD			
Facilities Services	1,546		
Equipment Maintenance			
Office	360		
Storage		1,600	
Shop	3,200		
General Area			
Streets	280		
Water	280		
Equipment Maintenance	280		
Paint Shed		326	
Water & Street Shop			
Water	960		
Streets	1,440		
MUD Office			
Streets	142		
Water	720		
WWTP	578		
Corp Yard Break Room	2,108		
Water Storage & Shop			
Water	500		
Water Storage		900	
GAG	350		
Corp. Storage			
Streets		490	
Facilities		980	
PS		245	
Parks		490	
Auction Area		245	
WWTP			
office	1,720		
shop	710		
headworks		150	
cover storage		1,200	
cover camel		2,394	
Total PW & MUD	**15,174**		**0.342**
Total	**28,640**	**9,020**	**37,660**
Current Service Population	44,382	44,382	44,382
Current Facility Standard sf/capita	0.65	0.20	0.85

Source: City of Ceres

Table 5.1b: Equipment Inventory

Equipment#	Make	Description	Useful Life	Original Cost	Replacement Cost	2008 Value	Existing Development's Share of Replacement Cost
Fleet Services							
20-228-97	Ford	F450 Versalift	10	$64,623	$105,264	$0	$105,264
20-234-96	Ford	F350 Dump Truck	10	$17,354	$28,268	$0	$28,268
20-260-98	Terex	Crane Truck	15	$52,608	$109,368	$17,536	$91,832
20-264-90	International	4600 Auto Crane	15	$100,000	$207,893	$0	$207,893
20-271-90	International	4600 Dump Truck	15	$21,640	$44,988	$0	$44,988
20-280-02	Freightliner	FL60 Dump Truck - CNG	15	$86,164	$179,129	$51,698	$127,430
20-400-01	Best	Tow Dolly	20	$3,935	$10,441	$2,558	$7,883
20-405-00	Ditch Witch	Trencher/Trailer	15	$8,123	$16,887	$3,791	$13,096
20-407-04	Terex	Tractor/Loader	15	$53,000	$110,183	$38,867	$71,317
20-408-83	Case	Loader/Scraper	15	$26,863	$55,846	$0	$55,846
20-409-86	Ford	Backhoe	15	$27,494	$57,158	$0	$57,158
20-413-06	New Holland	Backhoe	15	$66,000	$137,209	$57,200	$80,009
20-415-96	Bobcat	Bobcat/Trailer	15	$28,999	$60,287	$5,800	$54,487
20-420-97	Kalmar	Forklift	15	$20,938	$43,529	$5,583	$37,945
20-775-97	Generac	Generator/Trailer	10	$8,500	$13,846	$0	$13,846
WWTP:							
25-225-98	Ford	F800 Flushing Truck	10	$68,458	$111,511	$0	$111,511
25-254-88	Chevrolet	Diesel Fuel Truck	10	$12,094	$19,700	$0	$19,700
25-270-04	Vactor	Jet Rodder	12	$148,588	$266,843	$99,059	$167,784
25-402-04	Kubota	Tractor	15	$19,810	$41,184	$14,527	$26,656
25-404-06	Kubota	Tractor/Loader	15	$36,344	$75,557	$31,498	$44,058
25-615-05	Craftsman	Lawn Tractor	15	$2,319	$4,821	$1,855	$2,966
25-620-99	Toro	Groundsmaster Mower	10	$39,616	$64,530	$3,962	$60,569
25-630-97	Toro	Turf Sweeper	10	$30,000	$48,867	$0	$48,867
25-755-87	Wells Cargo	Utility (TV) Trailer	20	$37,754	$100,173	$0	$100,173
Streets:							
30-230-03	International	4200 Patch Truck	15	$46,292	$96,238	$30,861	$65,376
30-410-86	John Deere	Tractor/Loader	15	$23,320	$48,481	$0	$48,481
30-501-93	Pave Mark	Thermosplatic Machine	20	$7,800	$20,696	$1,950	$18,746
30-502-93	Pave Mark	Trailer	20	$1,200	$3,184	$300	$2,884
30-503-99	Long Chih	Sign Trailer	20	$231	$613	$127	$486
30-504-02	Snowbear	Traffic Control Trailer	20	$1,123	$2,980	$786	$2,194
30-505-82	Zieman	Tilt Trailer	20	$2,550	$6,766	$0	$6,766
30-509-85	Shoreline	Barricade Trailer	20	$495	$1,313	$0	$1,313
30-512-01	Dynapac	Vibratory Roller	15	$25,000	$51,973	$13,333	$38,640
30-515-02	LaFarge	Thermoplastic Machine	15	$7,075	$14,708	$4,245	$10,463
30-520-00	Wachs Co	Transportable Vac	10	$31,676	$51,597	$6,335	$45,262
Parks:							
40-170-95	Long Chih	Equipment Trailer	20	$5,000	$13,266	$1,750	$11,516
40-180-03	Best	Trailer	20	$7,000	$18,573	$4,900	$13,673
40-200-02	Gem	Electric Car	10	$18,000	$29,320	$7,200	$22,120
40-286-08	Ford	F350 Insert Dump Truck	15	$75,000	$155,920	$75,000	$80,920
40-602-94	Ford	Trim Mower	10	$14,500	$23,619	$0	$23,619
40-626-80	Ford	Tractor	15	$7,000	$14,552	$0	$14,552
40-628-07	Toro	Turf Sweeper	10	$13,879	$22,607	$12,491	$10,116
40-635-97	Toro	Groundsmaster Mower	10	$36,000	$58,640	$0	$58,640
40-640-03	Sabre Tooth	Scag Mower	7	$16,400	$23,076	$4,686	$18,391
40-641-06	Toro	Groundsmaster Mower	10	$79,336	$129,230	$63,469	$65,761
40-645-07	Kubota	Cab & Tractor	15	$36,300	$75,465	$33,880	$41,585
40-720-03	Best	IScag Trailer	20	$5,007	$13,285	$3,755	$9,530
40-724-94	Homemade	Trim Mower Trailer	20	$5,000	$13,266	$1,500	$11,766
Facilities:							
41-401-05	Pace Journey	Sound Trailer	20	$5,204	$13,808	$4,423	$9,384
				$1,451,612	$2,816,657	$604,926	$2,211,731
Equipment Standards							
		Current Service Population		44382	44382	44382	44382
		per capita		$32.71	$63.46	$13.63	$49.83

[1] Replacement cost is calculated by compounding the Original Cost by 5% per year over the useful lifespan

[2] Existing development's share of replacement equipment is the replacement cost minus the current value of the equipment.

Sources: City of Ceres

Table 5.1c: Vehicle Inventory							
Vehicle#	Make	Description	Useful Life	Original Cost	Replacement Cost[1]	2008 Value[2]	Existing Development's Share of Replacement[3]
Info Tech:							
16-210-94	Ford	Ranger Pickup	10	$20,000	$32,578	$2,000	$30,578
18-108-00	Toyota	Camry	10	$16,828	$27,411	$3,366	$24,045
18-117-01	Ford	Crown Victoria	10	$30,700	$50,007	$9,210	$40,797
Engineering:							
19-251-01	Ford	F150 Pickup-CNG	10	$25,638	$41,762	$7,691	$34,070
19-253-01	Ford	Ranger Pickup	10	$14,200	$23,130	$4,260	$18,870
Fleet Servs:							
20-229-07	Ford	F150 Supercab	10	$40,000	$65,156	$36,000	$29,156
20-230-97	Ford	F350 Shop Truck	12	$29,382	$52,766	$2,449	$50,317
20-290-01	Ford	F250 4Dr Pickup	10	$24,956	$40,651	$7,487	$33,164
WWTP:							
25-115-02	Ford	F150 Pickup	10	$23,879	$38,896	$9,552	$29,345
25-212-05	Ford	Ranger Pickup	10	$12,010	$19,563	$8,407	$11,156
25-215-96	Ford	F250 Truck/Utility Box	10	$2,200	$3,584	$220	$3,364
25-220-03	Ford	F350 One Ton Utility	10	$33,117	$53,944	$16,559	$37,386
25-250-05	Ford	Ranger Pickup	10	$15,193	$24,748	$10,635	$14,113
25-274-06	Ford	Ranger Pickup	10	$14,741	$24,012	$11,793	$12,219
25-284-06	Chevrolet	2500 Pickup w/insert	12	$27,125	$48,713	$22,604	$26,108
Streets:							
30-206-97	Ford	F250 Pickup	12	$21,363	$38,365	$1,780	$36,585
30-207-97	Ford	F350 Truck/Paint	12	$25,117	$45,107	$2,093	$43,013
30-208-01	Dodge	2500 Ram Truck	12	$24,879	$44,679	$10,366	$34,313
30-218-05	Chevrolet	Silverado CNG	10	$24,659	$40,167	$17,261	$22,906
30-222-97	Ford	F150 Pickup	10	$15,820	$25,769	$1,582	$24,187
30-232-03	Chevrolet	3500 Silverado Truck	12	$24,300	$43,639	$14,175	$29,464
30-240-04	Chevrolet	2500 Pickup CNG	10	$18,000	$29,320	$10,800	$18,520
35-155-00	Nissan	Altima	10	$25,000	$40,722	$5,000	$35,722
35-209-01	Dodge	Dakota Pickup	10	$22,000	$35,836	$6,600	$29,236
35-238-07	Ford	F150 Supercab	10	$40,000	$65,156	$36,000	$29,156
35-245-03	GMC	2500 Sierra Pickup	10	$16,735	$27,260	$8,368	$18,892
35-249-06	Chevrolet	2500 Silverado	10	$15,316	$24,948	$12,253	$12,695
35-265-99	Ford	Ranger Pickup	7	$13,310	$18,729	$1,331	$17,398
35-278-96	Ford	Ranger Pickup	7	$14,755	$20,762	$1,476	$19,286
35-281-02	Ford	F350 One Ton Utility	15	$34,138	$70,970	$20,483	$50,488
35-285-05	Chevrolet	3500 Silverado	12	$25,372	$45,564	$19,029	$26,535
Parks:							
40-200-02	Gem	Electric Car	10	$18,000	$29,320	$7,200	$22,120
40-217-99	Ford	Ranger Pickup	7	$13,310	$18,729	$1,331	$17,398
40-219-99	Ford	Ranger Pickup	7	$13,310	$18,729	$1,331	$17,398
40-221-00	Ford	Ranger Pickup	7	$13,369	$18,812	$1,337	$17,475
40-222-05	Ford	Ranger Pickup	7	$14,403	$20,266	$8,230	$12,036
40-224-01	Ford	F150 Pickup CNG	10	$24,199	$39,418	$7,260	$32,158
40-225-01	Ford	F150 Pickup CNG	10	$24,199	$39,418	$7,260	$32,158
40-246-07	Ford	Ranger Pickup	7	$35,000	$49,249	$30,000	$19,249
40-257-07	Ford	Ranger Pickup	10	$35,000	$57,011	$31,500	$25,511
40-258-07	Ford	Ranger Pickup	7	$35,000	$49,249	$30,000	$19,249
40-282-05	Chevrolet	3500 One Ton Utility	12	$23,599	$42,380	$17,699	$24,681
40-283-06	Chevrolet	3500 One Ton Utility	12	$33,814	$60,725	$28,178	$32,547
40-287-08	Ford	F350 Utility Truck	12	$45,000	$80,814	$45,000	$35,814
Facilities:							
41-245-00	Ford	Ranger Pickup	10	$13,369	$21,777	$2,674	$19,103
41-247-01	Ford	F150 Pickup	10	$24,504	$39,914	$7,351	$32,563
41-248-01	Dodge	Ram Truck	10	$23,127	$37,671	$6,938	$30,733
41-256-96	Ford	Ranger Pickup	10	$13,530	$22,039	$1,353	$20,686
41-262-07	Ford	Cargo Van	10	$45,000	$73,300	$40,500	$32,800
41-270-04	Ford	Cargo Van CNG	10	$24,708	$40,247	$14,825	$25,422
41-272-91	GMC	Duravan	10	$15,200	$24,759	$1,520	$23,239
41-275-04	Ford	Ranger Pickup	10	$20,097	$32,736	$12,058	$20,678
Pool:							
60-164-05	Chevrolet	Malibu/City Hall	10	$15,107	$24,608	$10,575	$14,033
60-166-05	Chevrolet	Malibu/Police Dept	10	$15,107	$24,608	$10,575	$14,033
Comm Dev.							
75-155-05	Chevrolet	Malibu	10	$15,107	$24,608	$10,575	$14,033
				$1,243,792	$2,054,296	$656,098	$1,398,198
Equipment Standards		Average cost per vehicle		$22,614	$37,351		
		Current Service Population		44382	44382	44382	44382
		per capita		$28.02	$46.29	$14.78	$31.50

[1] Replacement cost is calculated by compounding the Original Cost by 5% per year over the useful lifespan

[2] 2008 value is determined by straight-line depreciation with 10% of original value as residual value after useful life period

[3] Existing development's share of replacement vehicle is the replacement cost minus the current (2008) value of the vehicle.

Sources: City of Ceres

Space Needs

Municipal office space for departmental staff needed to serve growth is based on rates of staff persons per service population and the space requirements per staff person. The rates, which vary by department and activity, used for Ceres are based on a municipal space needs study of comparable jurisdictions conducted by PMC and are shown in **Table 5.2a** - Municipal Space Needs. The municipal space needs assessment indicates that an additional 60,660 sq. ft. of office space is needed in addition to the existing 28,640 sq. ft. and 15,980 sq. ft. of corporation yard storage in addition to the 9,020 existing for a total space requirement of 114,300 square feet at build-out. The space needs correspond to an additional 117 City employees at build-out and a total staff of 208. The additional city employees and their space needs are distributed among various departments and activities as shown in Table 5.2a. The space needs assessment using the given staffing rates space per staff person results in an increased facility standard for every department except General Government. The planned facility standards for each type of municipal office space are indicated separately in **Table 5.3a**. Also in Table 5.3a, the planned standard is compared to the current standard for that type of space, indicating the amount of deficiency that existing development is responsible for in order to provide municipal facilities at the higher standard.

Table 5.2a: Municipal Space Needs

Department	Staffing Standard (per 1000)	Current Staffing[1]	Space SF/staff	Staffing at Buildout 93,427	Space Needs at Buildout SF
General Government					
City Manager	0.08	5.00	400	7	2,800
City Clerk	0.08	1.00	400	7	2,800
Finance	0.12	8.00	400	11	4,400
Administrative Services	0.04	2.00	400	4	1,600
Human Resources	0.05	4.00	400	5	2,000
IT	0.07	4.00	400	7	2,800
Elected Officials	0.04		400	4	1,600
Total General Government		24.00		45	18,000
Community Development Department					
Admin/Planning	0.15	6.00	400	14	5,600
Building Division	0.05	1.75	400	5	2,000
Engineering	0.08	3.00	400	7	2,800
Park & Recreation	0.10	4.00	400	9	3,600
Capital Improvement	0.08	4.00	400	7	2,800
Total Community Dev.		18.75		42	16,800
Public Works					
Admin.	0.06	2.00	350	6	2,100
Maintenance-Streets	0.25	8.00	400	23	9,200
Facilities Maintenance	0.20	7.00	400	19	7,600
Parks Maintenance	0.20	11.25	400	19	7,600
Sewer	0.20	8.00	400	19	7,600
Water	0.20	7.00	400	19	7,600
Maintenance-Equipment	0.18	5.00	800	16	12,800
Total Public Works		48.25		121	54,500
Total Municipal Staffing Current:		91	Build-out:	208	
Total Municipal Staffing space needs, excluding storage (square feet)					89,300
Existing Municipal Space, excluding storage (square feet)					28,640
Net additional floor area required, (square feet)					60,660

Municipal staff serve current and future residents and workers.

[1] Budgeted positions

Sources: PMC, City of Ceres Table 5.1a

Equipment and Vehicle Needs

Municipal vehicle and equipment current values and costs per capita are given in Tables 5.1 and 5.1c, respectively. Vehicle and equipment needs are calculated in Tables 5.2b and 5.2c, respectively. These tables include the vehicle and equipment needs at build-out. Vehicle needs in the future are based on the rates that vehicles are currently provided per staff. The cost for new equipment is determined by extrapolating replacement cost value of current equipment – about $2.8 million - to future service populations. Note that the resulting equipment cost of $5.9 million represents the cost of equipment for the total population, not just growth. Table 5.1b provides the calculation of equipment costs per capita showing a per capita replacement cost of $63.46, which is about $49.83 per capita more than existing worth of equipment per capita of $13.63. This is due to the fact that equipment needs are based on replacement cost (since it is assumed that equipment will be replaced at least once during the build-out period) and that the current population's investment in equipment is represented by the depreciated value of the equipment. In order to charge new development at the higher

rate of $63.46 per capita, existing development would have to contribute $49.83 per capita or about $2.2 million. Note that existing development is also contributing the existing equipment albeit at its depreciated value for a total contribution of $2.8 million, which is equal to the replacement cost of the current equipment.

Table 5.2b: Municipal Equipment Needs

	Service Population Growth (2007-Buildout)
Service population at build-out	93,427
Current Service Population	44,382
Factor: build-out service pop. to current	2.11
Replacement cost of current equipment	$2,816,657
Cost of equipment required in future (2.11 x $2,816,657)	$5,929,269
Cost of future equipment per capita[1]	$63.46
Current value of existing equipment per capita	$13.63
Increase in standard ($63.46-$13.63)[2]	$49.83
Existing development's share of new equipment	$2,211,731
Current value of existing equipment	$604,926
Total value of current equipment plus existing development's share of new equipment	$2,816,657
New development's share is equal to the cost of equipment required in the future minus existing developments share of that equipment:	$3,112,611

[1] Cost of all future equipment purchases divided by total future service population

[2] Increase in standard, which is the difference between the total cost per capita and the current value of equipment per capita is also the per capita share for replacement and new equipment that the existing service population shall pay.

Sources: Tables 2.2,and 5.1b

For vehicles, Table 5.2c shows that new development is charged at the current standard of $39.13 per capita, while existing development's share is $24.35 per capita.

Table 5.2c: Municipal Vehicle Needs

Department	Current vehicles	Current Staffing	Vehicles per Staff Standard	Staffing at Buildout	Staffing for Growth to Buildout	Additional Vehicle Needs for Growth to Buildout
General Government	4	24	0.17	45	21	4
Community Dev. office staff	3	19	0.16	42	23	4
PW Maintenance-Streets	7	8	0.88	23	15	13
PW Maintenance-Equipment	3	5	0.60	16	11	7
Facilities Maintenance	8	7	1.14	19	12	14
Parks Maintenance	13	11	1.16	19	8	9
Public Works Admin.	2	2	1.00	6	4	4
Sewer	7	8	0.88	19	11	10
Water	9	7	1.29	19	12	15
Total current vehicles:	56	Vehicles required for growth at buildout:				80
Cost of additional vehicles at buildout @ $37,500 average per vehicle:						$3,000,000
Current value of existing vehicles						$656,098
Total value, new and existing vehicles						$3,656,098
Total future service population						93,427
Per capita cost of vehicles at the Staff Standard						$39.13
Current per capita value of existing vehicles (frm Table 5.1c)						$14.78
Deficiency per capita ($39.13-$14.78)						$24.35
Current Service Population						44,382
Cost of deficiency						$1,080,706
Service Population Growth						49,045
Staff Standard						$39.13
Vehicle cost for New Development =						**$1,919,294**

Serves current and future residents and workers.

Sources: Table 5.1c

MUNICIPAL FACILITIES SERVICE POPULATION

The Municipal facilities serve both residents and workers within the City of Ceres. The service population is calculated in Table 2.2

MUNICIPAL FACILITIES FOR NEW DEVELOPMENT

Table 5.3a shows planned new office space and corporation yard facilities, and per capita costs needed for growth to build-out. Planned new space totaling 90,040 sq. ft. is comprised of new Civic Center space and larger municipal utilities and corp. yard facilities.

Table 5.3a: Planned Municipal Facilities - Space needs

Item	Floor Area SF	Existing	Required Additional	Cost per SF[1]	Estimated Cost	Planned Standard SF per capita	Current Standard SF pr capita	Increase in Standard	Existing Share per capita
Facilities	(a)	(b)		(c)		*(d)=(a)/93,427*	*(e)=(b)/44,382*	*(f) = (d)-(e)*	*(c) x (f)*
General Government	18,000	9,089	8,911	$280	$2,495,080	0.1927	0.2048	-0.012	-$3.40
Community Development	16,800	4,377	12,423	$280	$3,478,440	0.1798	0.0986	0.081	$22.74
Public Works Administration	54,500	15,174	39,326	$220	$8,651,720	0.5833	0.3419	0.241	$53.12
Corporation Yard Storage	25,000	9,020	15,980	$71	$1,134,580	0.2676	0.2032	0.064	$4.57
Total Municipal Facilities:	114,300	37,660	76,640		$15,759,820				$77.03

[1] Cost of municipal buildings includes off site acquisition & off-site improvements,

[2] Cost of equipment required in the future minus current value of existing equipment and existing development's share of future equipment

Sources: Tables 5.2 a, b & c

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User Fees

As of the writing of this PFF Report, the City of Ceres was in the process of updating its User Fees. User Fees are designed to recover a portion of the cost of services provided by the Community Development and other Departments. Direct staff costs, salaries and benefits, and indirect overhead costs are included in the cost analysis that comprises user fees. A portion of indirect overhead includes an amount charged to each department for capital facilities (vehicles and building space) as "rents and leases". The average annual rents and leases charged to the Engineering and Planning Divisions attributable to user-fee reimbursable service cost is approximately $500 and $400, respectively. For the purposes of this PFF, it is assumed that vehicles and municipal floor area will be "replaced" using a portion of the User Fee revenues in an amount equivalent to these annual amounts over a period of 30 years, or $27,000 this amount is subtracted from new development's share of the total cost of facilities in Table 5.3b.[1]

Table 5.3b combines office and corp. yard space with equipment and vehicle costs and per capita costs:

Table 5.3b: Total per Capita Costs of Planned Municipal Facilities, Vehicles and Equipment

Item	Existing Share per capita	New Development Share per capita	Existing Share	New Development Share	Total
Facilities	$77.03	$251.63	$3,418,605	$12,341,215	$15,759,820
Equipment	$49.83	$63.46	$2,211,731	$3,112,611	$5,324,343
Vehicles	$24.35	$39.13	$1,080,706	$1,919,294	$3,000,000
Replacement of vehicles and buildings from User Fee revenue (over 30 years)			$27,000	($27,000)	
Total	$151.21	$354.23	$6,738,042	$17,346,121	$24,084,163

Sources: Tables 5.2 a, b & c, 5.3a

FEE SCHEDULE

Table 5.4 shows the municipal facilities impact fee for new development based on the facilities cost per capita shown in Table 5.3 Citywide residential and nonresidential development would pay the fee based on the service population for the facilities.

[1] Based on 30% user-fee services cost share of Engineering's budget and 32% of Planning's budget.

Table 5.4: Municipal Facilities Fees - Build-out

Land Use[1]	Costs per Capita	Density[2]	Fee Residential per unit/ Non-residential per 1,000 SF
Residential			
Single Family	$354.23	3.38	$1,197.85
Multi-family	$354.23	2.92	$1,035.47
Nonresidential			
Office	$94.29	1.25	$117.86
Commercial	$94.29	0.83	$78.26
Business Park	$94.29	1.00	$94.29
Industrial	$94.29	0.59	$55.63
Warehouse	$94.29	0.50	$47.14

[1] See Chapter 2 for land use type definitions.

[2] Persons per dwelling unit for residential land uses and employee per 1000 square feet for nonresidential land uses.

Sources: Tables 1.2 and 5.3 a & b

6. WASTEWATER

EXISTING WASTEWATER FACILITIES

Ceres Public Works Department currently maintains sewer mains, pump stations and trunklines that collect and transport sewage to two wastewater treatment facilities. The Ceres Wastewater Treatment plant, which is owned and operated by the city, is located on Service Rd. east of Morgan Road and serves the entire area of the city south of Hatch Road and, in the area north of Hatch Road, easterly of Central Avenue. The area north of Hatch Road and west of Central Avenue flows to the City of Modesto's treatment plant.

This wastewater impact fee analysis pertains only to the collection, treatment and disposal facilities required for new development that would be served by the City of Ceres Wastewater Treatment Plant. Wastewater collection and treatment costs for new development in the area served by the City of Modesto Plant would have to be evaluated separately.

The Ceres Wastewater Treatment Plant (WWTP) currently treats 3.07 ADWF[1]million gallons of wastewater per day (MGD). The WWTP has a current maximum wastewater treatment capacity of 3.8 MGD and an on-site disposal capacity of approximately 2.8 MGD. In addition, the City currently has an agreement to send 1.0 MGD of treated wastewater, via a 12-mile force main, to the City of Turlock for disposal. Approximately 0.2 MGD of the 1 MGD Turlock disposal capability is currently being used. An agreement has been reached with the City Turlock for an additional 1 MGD in disposal capacity. By December of 2008 the City's total disposal capacity will be 4.8 MGD, which includes both on-site and the Turlock capacity. Also, the WWTP may be expanded to a maximum treatment capacity of 5.8 MGD with added treatment pond aeration and if all effluent is exported to Turlock as planned. See Appendix A.5 for further explanation of existing treatment and disposal capacities[1].

CURRENT WASTEWATER TREATMENT AND DISPOSAL CAPACITY FOR GROWTH

The WWTP and the disposal system currently have limited extra capacity for to serve additional service population. Individual facilities with extra capacity include: trunkline improvements, percolation ponds, land area, the treatment plant and the disposal pipeline to Turlock. The extra capacity in these facilities, which were installed and paid for by the City, represent service capacity that new development would need to provide if it didn't already exist. The current depreciated replacement value of the treatment and disposal facilities prorated to capacity available for new development is listed in **Table 6.1**. Table 6.1 also indicates the cost of the available capacity for one single family home, or one dwelling unit equivalent (DUE), at an assumed wastewater generation rate of 262 gallons per day.

[1] Current Average Dry Weather Flow, 2007 City of Ceres Wastewater Treatment Plant effluent data, as reported in Memorandum dated Sept. 16 2008 by Eco:Logic Consultants.

Table 6.1: Detail of Prorated Value of Available Capacity

Growth's Share of Phase 1 Costs	Depreciated Replacement Cost	Total capacity (MGD)	Available capacity (MGD)	Capacity in DUE's at 262 gals per DUE	Prorated value of available capacity	Cost of Available Capacity per DUE
Main Trunk - Service Rd.	$658,106	6.9	3.83	14,618	$365,297	$24.99
WWTP 1975 Facilities	$1,292,000	5.8	2.73	10,420	$608,131	$58.36
WWTP land[1]	$9,500,000	5.9	2.83	10,802	$4,556,780	$421.86
WWTP 2000 Expansion	$1,416,216	4.5	1.43	5,458	$450,042	$82.46
Export Pump Station	$1,329,709	5.9	5.67	21,641	$1,277,873	$59.05
Export Pipeline	$5,614,312	5.9	5.67	21,641	$5,395,449	$249.31
	$19,810,343				**$12,653,571**	
City of Turlock Agreements						
Initial 1 MGD	$1,396,194	1	0.77	2,939	$1,075,069	$365.80
Second 1 MGD	$2,704,253	1	1	3,817	$2,704,253	$708.51
	$23,910,790				**$3,779,322**	**$1,970.35**

[1]Land cost 190 acres at $50,000 per acre
Source: Eco:Logic Consultant's memorandum 10/28/08

WASTEWATER FACILITIES SERVICE DEMAND

Wastewater facilities serve both residential and nonresidential development. **Table 6.2** shows the current estimated average daily flow in terms of single family Dwelling Unit Equivalents (DUEs). One DUE is assumed to generate 262 gallons per day (gpd) of sewage[2]. Nonresidential sewage generation is then related to housing rates based on a DUE per 1000 square foot basis.

[2] Based on average generation rate of 78 gallons per day per dwelling unit occupant (per Eco:Logic memorandum dated 10/28/08) and assumed single family occupancy of 3.38 ppdu.

Table 6.2: Wastewater Facilities Service Demand

Land Use	2007 Residential, Units/Non-residential, SF[1]	DUE Factor Residential, per unit Non-residential, 1000 SF	DUE 2007	2007 gallons per day
Residential (in units)				
Single Family	9,300	1.00	9,300	2,436,600
Multi-family	0	0.87	-	-
Nonresidential (in sf)				-
Office	208,181	0.31	65	16,915
Commercial	2,968,943	0.21	611	160,174
Business Park	133,360	0.36	48	12,669
Industrial	4,620,863	0.36	1,676	438,982
Warehouse	-	0.19	-	-
Total			11,700	3,065,340

[1] Net of estimated dwellings units (3,350) and non-res. floor area (about 2.8 million sf) in the Modesto treatment plant service area

				Calculated DUE Factor
Residential:				
SFD (1 DUE)	262 gpd/dwelling unit	approximately 78 gpd per capit		1.00
MF	228 gpd/dwelling unit			0.87
Non-residential:				
Gallons per day per employee:				
Office	65	1.25 emp./1,000 sq. ft.	81 gpd/1,000 sf	0.31
Commercial	65	0.83 emp./1,000 sq. ft.	54 gpd/1,000 sf	0.21
Business Park & Industrial	95 gpd/1,000 sf	*(based on wastewater equalling about 87% of water consumption of 1500 gal. per day per acre and FAR of .40. Water consumption per acre from Water System Hydraulic Model Update Report West-Yost 2007)*		0.36
Warehouse	50 gpd/1,000 sf			0.19

Source: Table 1.1; Existing and Projected Land Use Analysis, PMC; Eco:Logic Consultant's memorandum 10/28/08

As discussed in the Summary to this nexus report, the new development that may be accommodated before a major expansion of wastewater treatment facilities is needed is limited by the current capacities available in the wastewater systems. Each system has a different available capacity in terms dwelling unit equivalents ranging from the export pump station and pipeline at 21,641 DUEs (essentially adequate for the PSOI build-out) to the treatment plant itself, with capacity for only about 5,458 additional units. Therefore, the capacity cost to new development is prorated on the basis of the available capacity. In other words, the cost per DUE for each system listed in Table 6.1 is determined by spreading the value of the remaining system capacity over the number of units that can be served by that remaining capacity. The City has the option to use the revenues generated by the wastewater impact fee to provide

additional capacity for future development ahead of need (as was done in the past), or offset capacity charges included on sewer service user fees.

ADDITIONAL COSTS TO NEW DEVELOPMENT

In addition to the costs shown in Table 6.1, new development will need to pay for its fair share of facility improvements identified in the Eco:Logic Technical Memo attached as Appendix A5 of the report. The costs per DUE for those improvements are summarized in **Table 6.3**. Also, as discussed in the Summary, the wastewater impact fees recommended in this section are intended to serve as interim fees until the City completes a comprehensive master plan that analyzes the wastewater treatment facility expansion requirements needed for future build-out of the PSOI, the estimated costs of the master plan are also included in Table 6.3.

Note: The wastewater impact fee calculated in this chapter does not consider costs to extend the sewer collection beyond existing mains and trunklines. Additional sewer trunklines and lift stations needed to extend the current system to new development that may be served by the existing treatment capacity would need to be constructed by individual developers as part of typical subdivision improvements costs. The wastewater master plan may address future extensions to the collection system and estimate the costs for those improvements.

WASTEWATER FACILITIES COST PER DUE

The total cost per DUE is summarized in **Table 6.3**.

Table 6.3: Wastewater Facilities Cost per DUE

	Item Cost	DUE	Facility Cost per DUE
Available Capacity Costs *(Table 6.1)*	$16,432,893	N/A see Table 6.1	$1,970.35
Additional Costs for New Development:			
~~Headworks and Pump Stations~~[1]	~~$4,222,000~~		
Report of Waste Discharge	$80,000	10,802	$7.41
Wastewater Master Plan & CEQA	$650,000	14,618	$44.47
Total cost to new development	**$17,162,893**		**$2,022.22**

[1] Deleted with 2010 PFF Revision

Sources: Tables 6.1 and Eco:Logic Memo dated 10/28/08

FEE SCHEDULE

Tables 6.4 shows the Wastewater facilities impact fee for new development based on the facilities cost per DUE shown in Table 6.3. The fee represents the amount required to fully reimburse the city for past expenditures in sewer capacity and fund needed improvements to accommodate the growth as outlined above. Citywide residential and nonresidential development would pay the fee based on the estimated cost of available capacity per DUE

Table 6.4: Wastewater Facilities Impact Fees

Land Use[1]	Cost per DUE	DUE Factor	Fee[2]
Residential			
Single Family	$2,022	1.00	$2,022.22
Multi-family	$2,022	0.87	$1,759.33
Nonresidential			
Office	$2,022	0.26	$520.70
Commercial	$2,022	0.19	$377.18
Business Park	$2,022	0.34	$681.65
Industrial	$2,022	0.34	$681.65
Warehouse	$2,022	0.19	$378.69

[1] See Chapter 2 for land use type definitions.

[2] Per dwelling unit for residential uses and per 1,000 square feet for nonresidential land uses.

Sources: Table 6.3 and "Cost of Wastewater Treatment and Disposal Capacity" memorandum dated 9/16/2008, Eco:Logic Consultants

7. PARKS AND RECREATION

EXISTING PARKS AND RECREATION FACILITIES

Existing park acreages are listed in **Table 7.1a**. The City has about 125 acres of developed parks within its City limits. In addition, there are about 46 acres of undeveloped parklands in the City.

Table 7.1b list the acreage of public school play areas within the City that are covered by a Memorandum of Understanding (MOU) with the Ceres Unified School District for shared use of City parks and school play areas. The School MOU acres are also converted to park equivalent acres at the rate of 50%, which is equal to the ratio of the average non-school daylight hours to the total number of daylight hours in a week (42/84). There are approximately 47 acres of school play areas within Ceres schools, or about 23.5 park equivalents acres. All together, the City can identify 171.4 acres of parks or park equivalents (undeveloped parklands are factored at 50%).

Park and recreation offices and shops used by park and recreation staff were already included in the Municipal Facilities category in Chapter 5. Facilities used by the public and staffed by the Park and Recreation division are included in the Community Facilities category in Chapter 8

Table 7.1a: Parks and Recreation Existing Facility Inventory

Location	Developed Park (acres)	Un-developed Parkland/Open Space (acres)
Smyrna/Costa	27.88	
Skate Park, Ball Field Complex, Play Area		
Picnic areas w/BBQ		
Sheltered picnic areas		
Horseshoe pits		
Sand volleyball courts - 2		
Restrooms		
Rose Garden		
Play equipment		
Persephone	3.14	
Picnic areas w/BBQ		
Sheltered picnic areas		
Restrooms		
Play equipment		
Roeding Heights	6.10	
Baseball diamonds, parking lot		
Gazebo		
Tennis & Basketball Courts		
Playarea		
Restrooms		
Redwood	1.13	
Play area		
2 benches		
2 picnic benches		
Whitmore	1.48	
Gazebo, dance slab		
Picnic Area		
Restrooms		
War Memorial		
Berry Grove	3.65	
Picnic and play area		
Independence	4.27	
Picnic and play area		
Don Pedro	5.00	
Picnic and play area		
Adult fitness area		
Riverview	5.60	
Picnic and play area		
Neel	7.00	
Future development		
Strawberry	4.62	
Picnic and play area		
Lions		10.00
Ceres River Bluff	50.00	26.00
5 Soccer fields and concession stand		
Sam Ryno (future development)	5.20	
North Eastgate		10.00
Total:	**125.07**	
Total:	1.86	
Total all Parks:	**125.07**	
Undeveloped Land Acres:		46.00
Park Equivalent Acres[2]:	**125.07**	23.00
Total all Park Equivalent Acres:		**148.07**

[1]The areas of TRRP and Mancini park that are credited to Ceres is proportional to the percentage of O&M cost assigned to Ceres per the JPA: 7.44%

[2] Park equivalent acres for undeveloped land is counted as 50% of developed parks

Source: City of Ceres

Table 7.1b: School Acreage Park Equivalency

Location		School Playgrounds (acres)
Elementary School MOU Acreage		
Virginia		3.24
Don Pedro		3.00
Carol Fowler		4.74
Caswell		3.97
Walter White		1.29
	Total:	16.24
Junior High MOU Acreage		
Mae Hensely		10.70
High School MOU Acreage		
Ceres		13.74
Argus		5.96
	Total:	19.70
	School Play Area (acres):	46.64
	Park Equivalent Acres[1]:	**23.32**

[1] Park equivalent acres for School MOU acreage is counted as 50% of developed parks

Source: City of Ceres

PARKS AND RECREATION SERVICE POPULATION

This nexus study report presents a park facilities analysis fee that includes workers in the service population. The premise for including workers – those who are employed, but do not necessarily live in the City of Ceres - within the service population is that the workforce does benefit from parks and recreational facilities and that non-residential development should also participate in the funding of parks for new development, although at a reduced rate to reflect lower per capita demand for park services by non-residential development. **Table 7.2a** shows the estimated service population consisting of residents and factored workers at build-out.

Table 7.2a: Park and Recreation Service Population Residents and Workers

	Residents	Workers	Factored Workers	Service Population
Existing (2007)	41,997	8,959	1,872	43,869
New Development (2007-Buildout)	44,029	18,846	3,939	47,967
Total	86,026	27,805	5,811	91,837
Weighting factor	*1.00*	*0.21*		

Sources: Tables 2.2 & 7.2b

The weighting factor in Table 7.2b is calculated in Table 7.2c:

Table 7.2b: Park Usage Factor for Employees

	Maximum Weekend Hours (a)	Maximum Mid-week Hours[1] (b)	Maximum Hours per Week (c = a + b)	Employment Status by Percentage of Population[2] (d)	Weekly Person-Hours of Park Usage (c x d)	
Resident Park User						
Employed Resident	20	0	20	44%	8.86	
Non-employed Resident	20	50	70	56%	38.99	
Weighted Hours for Residents					47.85	(a)
Employee Park User						
Employee	0	10	10		10.00	(b)
Employee Park Usage Factor					**0.21**	(b)/(a)

[1] Potential mid-week hours of use for all residents. For non-employed residents: assumes 10 hrs. of use per weekday; For workers: 2 hrs. of use per weekday.

[2] Percentage of employed residents (over 16 years of age) from 2006 American Community Survey, U.S. Census Bureau is 64%, the population over 16 in Ceres is estimated at 69%, 64% x 69% = 44%.

PARKS AND RECREATION STANDARDS AND COSTS

Park Standards

The City of Ceres is presently in the process of updating its Parks and Recreation Master Plan and specific park locations and park amenities have not yet been adopted. However, several proposed park locations are shown on the 1997 General Plan. Other park sites as well as amenities may be generally inferred from stated policies and prototype park illustrations provided in the General Plan.

1997 General Plan policy calls for achieving a park to population ratio of 4.0 acres per 1,000 (1.4 acres of neighborhood parks and 2.6 acres of community parks). Table 7.3 indicates that the standard of 4 acres per 1,000 is not met when the standard is calculated on the basis of both residential and employees, therefore the lower current standard (3.91 acres per 1,000) will be applied to residential plus employee park fee calculation. Planned neighborhood and community park locations are shown on **Exhibit 1**

Table 7.3: Parks and Recreation Current Standard - Residents and Workers

	Service Population
City Park and Park Equivalents	148.07 ac.
School MOU Park Equivalents	23.32 ac.
Total Park Acreage	171.39 ac.
Current Service Population (2007)	43,869
	3.91 acs. per 1,000

Sources: Table 2.2, 7.1a&b and 7.2a

Park Cost Estimate

A generalized cost estimate for the acquisition and development of new parks is provided in **Table 7.4.** The estimate is based on a prototypical 10-acre park and includes land acquisition. The amenities included in this typical park are similar to those found in the City's existing parks. Facilities such as a recreation center that would be expected to be located on a community park site is considered in Chapter 8 – Community Facilities. The total cost per acre for parks is about $382,000.

Dual Use of Park Facilities – Drainage Basins

It is a General Plan policy to allow the use of city parks for temporary drainage detention. Runoff may be stored on City-owned park land for up to 48 hours after a storm event. The GP stipulates that park use shall be the primary function in any dual use situation. Park improvements should also be located outside the 50-year flood level. These criteria may result in a larger overall park area and greater acquisition and possibly maintenance costs for parks impacted by dual use. On the other hand, the savings in flood control facilities to adjacent benefiting properties should be reflected in the drainage fee (see Chapter 10). This park cost analysis in this Chapter does not quantify the relative costs and/or savings involved with dual use. However, the land acquisition savings is proportional to land cost and the net reduction in overall drainage basin size. The savings in land cost are incorporated in the drainage impact fee calculated in Chapter 10. When completed, the Park and Recreation and Drainage Master Plans may help identify the specific opportunities for such dual use and allocate land and other costs to each function and form the basis of shared cost savings arrangements among private land developers and the City.

Table 7.4 Cost Estimate 8 Acre Park Prototype

Item Description	Quantity	Unit	Unit Cost 2008	Unit Cost 2010	Item Cost 2010
Mobilization	1.00	LS	$30,000	$29,873	$29,873
Clearing and Grading	348480	SF	$0.50	$0.50	$173,505
Off-site improvements (curb & gutter, sidewalks 1/2 street width)	1800	LF	$110	$109.54	$197,165
Irrigation well, pump	1	EA	$200,000	$199,157	$199,157
				$0.00	$0
Site prep, drainage, utilities, irrigation & turf, trees	6.0	AC	$150,000	$149,367	$896,204
				$398,313	$0
Practice-Fields football/soccer	2	EA	$20,000	$19,916	$39,831
				$0.00	$0
Tennis Courts (Concrete)	0	EA	$30,000	$29,873	$0
				$0.00	$0
Basketball Courts (Concrete)	2	EA	$35,000	$34,852	$69,705
Concrete Walkways (6' wide, perimeter of site)	9000	sf	$4	$3.98	$35,848
				$0.00	$0
Open Field Play Area	0	LS	$10,000	$9,958	$0
				$99,578	$0
Play Ground and Tot Lot	1	LS	$200,000	$199,157	$199,157
				$39,831	$0
Group Picnic and Barbecue Facilities	1	LS	$20,000	$19,916	$19,916
Permanent Rest Rooms (one each male and female)	1	LS	$250,000	$248,946	$248,946
Maintenance Building	0	LS	$70,000	$69,705	$0
Parking Lot (3" AC/4" AB)	0.0	AC	$115,000	$114,515	$0
Total Construction					$2,109,307
Land Acquisition	8	AC	$50,000		$400,000
Contingency @ 15%					$316,396
Engineering @ 6%					$126,558
CM & Inspection @ 5%					$105,465
Total Non-Construction					$548,420
Project Total w/Land Acquisition					$3,057,726
Cost per acre					**$382,216**

Source: PMC

PARKS AND RECREATION FOR NEW DEVELOPMENT

Tables 7.5 calculates the cost per capita for the projected service population. In addition to costs for park facilities, a Park Master Plan cost is included.

Table 7.5: Park Facility per Capita Costs - Residents and Workers

		Park Standards and Costs
Park Acquisition and Development Costs for Growth		
Proposed Standard per 1,000 population:		3.91 ac.
Service Population Growth to buildout (in thousands)		47,967
Park Acres Required for Growth		187.40
Estimated Park Acquisition and Development cost per acre		$382,216
Total Park Cost for Growth		$71,627,359
Park Master Plan		$200,000
	Total	$71,827,359
Service Population Growth to Buildout		47,967
Cost per Capita at the current standard[1]:		$1,497.42

[1] The existing standard for parks is applied to new development

Sources: Tables 7.3 and 7.4

FEE SCHEDULE

Tables 7.6 calculates the Parks and Recreation impact fee for new development based on the facilities cost per capita shown in Tables 7.5.

Table 7.6: Parks and Recreation Impact Fees - Residents and Workers

Land Use[1]	Costs per Capita	Density[2]	Fee[3]
Residential			
Single Family	$1,497.42	3.38	$5,063.64
Multi-family	$1,497.42	2.92	$4,377.21
Nonresidential			
Office[2]	$312.95	1.25	$391.19
Commercial[2]	$312.95	0.83	$259.75
Business Park[2]	$312.95	1.00	$312.95
Industrial[2]	$312.95	0.59	$184.64
Warehouse	$312.95	0.50	$156.48

[1] See Chapter 2 for land use type definitions.

[2] Persons per dwelling unit or employess per 1,000 sf.

[3] Per dwelling unit or per 1,000 sf.

Sources: Tables 1.2 & 7.5

The above non-residential fees ranging from $156 per 1,000 sf of warehouse space to $391 per 1,000 sf of office space are compared to fees charged by other cities which impose park impact fees on non-residential projects:

	Fee per 1,000 s.f.
Elk Grove CSD	
Office:	$1020
Commercial:	$710
Industrial:	$350
West Sacramento	
Office:	$1,479
Commercial:	$915
Industrial:	$634
Dublin[1]	
Office:	$3,239
Commercial:	$1,664
Industrial:	$1,229
Folsom:	
Commercial:	$355

[1] Community parks, land and improvements

DEDICATION OF PARK LAND AND PARK IMPACT FEES

The City's Parkland Dedication Ordinance (PDO) (Ceres Municipal Code Sec. 17.34) requires, as a condition of approval for the subdivision of land, the dedication of park land or payment of a fee in-lieu of dedication, pursuant to California Government Code 66477 (the "Quimby Act"). The Quimby Act allows the City to require the dedication of land for park purposes up to the rate of the existing acreage per 1,000 population, which according to this PFF nexus study is calculated to be either 3.91 or 4.08 acres per 1,000 (depending on the service population used). The City may impose the land dedication requirement at the subdivision approval stage, but in doing so must then provide a credit against the AB 1600 park impact fee to each building permit issued within that subdivision. The amount of the credit shall be calculated as each building permit's pro-rated share of the total value of land dedicated, the improvements installed, and/or in-lieu fees paid for park facilities within the subdivision.

8. COMMUNITY FACILITIES

EXISTING AND PLANNED COMMUNITY FACILITIES

The City of Ceres owns the facilities listed in **Table 8.1.** Except for the Library, which is staffed by Stanislaus County, the City of Ceres operates all the facilities listed. Table 8.1 also calculates the applicable facility standard and estimates the need for community facilities based on build-out of the proposed Sphere of Influence and General Plan.

Table 8.1: Existing Community Facilities and Current Standard

Facility	Area (SF)
Ceres Library	4,727
Community Center	26,500
Whitmore-Daniel House	1,400
Museum	1,223
American Legion Hall (including patio)	7,400
Total Existing Facilities	41,250
Current Population	41,997
Current Community Facilities Standard (sf per capita)	0.98
Population Growth (2007 - Buildout)	44,029
Facilities required for growth to buildout(total sf)	43,246

Notes:
Serves current and future residential population only.
Sources: City of Ceres

COMMUNITY FACILITIES SERVICE POPULATION

The service population for Community facilities consists of residents only as shown in **Table 8.2**

Table 8.2: Community Facilities Service Population

	Service Population
Existing (2007)	41,997
New Development (2007- Buildout)	44,029
Total (Build-out)	86,026

Source: Table 2.2

COMMUNITY FACILITIES FOR NEW DEVELOPMENT

Community facilities include all facilities, other than parks, that are open to the public for civic events, cultural activities, public meetings and athletic events. They do not include municipal facilities which are covered in Chapter 5 and are intended primarily for use by City staff. Although the City of Ceres does not currently have a Community Facilities Master Plan, the 1997 General Plan envisions cultural, recreation and sports facilities serving existing and future

residents. **Exhibit 1** indicates locations for proposed future community facilities, which may also be located on the site of community parks. **Table 8.3** lists the types of community facilities that may be funded by the Community Facilities Fee: a community center located on the west side of the City, a performing arts center, an animal shelter and an aquatics center. Table 8.3 is not exhaustive of the types of facilities eligible for funding by the fee. Nor is the City obligated to use the fee to construct the specific facilities listed in the future. Alternative uses for the fee, in addition to providing generic space for community use, include expansion and/or refurbishment of existing community facilities in order to serve projected growth.

The cumulative floor area of existing City facilities: approximately 41,250 sq. ft., such as the library and the new Community Center on 3rd and Magnolia, when divided by the service population (residential only for community facilities) results in a current standard for these facilities of 0.98 square feet per capita. At this standard, the service population growth to build-out of 44,029 would require 43,246 sq. ft. of new community facilities. The planned facilities listed in Table 8.3, 60,000 sq. ft., exceed the required floor area by 16,744 sq. ft. A portion of this floor area becomes the existing population's responsibility, since the standard will be raised to 1.18 sq. ft. per capita and the existing population will benefit from the expanded community facilities. Except for the Aquatic Center, the funding requirement is strictly a function of the size of the planned facilities and can be reduced by reducing the size of the facilities down to the level supported by the current standard (the City is responsible for the facilities above facilities required for growth at the new standard).

If the City were to decide to construct a facility for which the City currently has no comparable facility, such as an aquatics center or an animal shelter, the existing population would share the cost proportionately with new development. A 49/51 cost share split between the City and new development for such a facility is appropriate since growth represents about 51% of the total build-out population.

Table 8.3: Planned Community Facilities and per Capita Costs

Location	Estimated Area (SF)	Cost per SF[1]	Cost
Westside Community Center	30,000		
Performing Arts Center	30,000		
Total Planned New Facilities	60,000	$342	$20,520,000
Existing Community Facilities	41,250		
Total Facilities	101,250		
Build-out Service Population	86,026		
New standard (sq. ft. per capita)	1.18		
Population growth (2007-Build-out)	44,029		
Facilities required for growth at new standard (sq. ft.)	51,821	$342	$17,722,689
Current population's share (60,000 sq. ft. of planned facilities minus 51,821 sq. ft.)	8,179	$342	$2,797,311
Aquatics Center[2]		$8,000,000	
Current population's Share		41,997	$3,905,523
Population growth's share (2007 - Buildout)		44,029	$4,094,477
Animal Shelter[3]		$1,227,000	
Current population's Share		41,997	$599,010
Population growth's share (2007 - Buildout)		44,029	$627,990
Total cost for existing population			$7,301,843
Total cost for growth			$22,445,157
Per capita cost for growth			**$509.78**

Notes:

Community Facilties serve current and future residential population only. The facilities listed are intended to provide an example of the types of facilities that the City of Ceres may construct with the fee. The City is not restricted to the listed facilities, nor is it obligated to build these specific facilities with the fee revenues.

[1] Cost estimate based on low bid for the new Community Center on Magnolia ($261 per sf) plus site acquisition and improvement costs. Assuming a two acre lot for each facility at $50,000 per acre ($1.15/sq.ft.~ $3.29 per sq. ft. of floor area at FAR = .35) and improvements (street & utilities) at $150,000 for each and 25% design, construction management and contingency.

[2] Aquatics Center cost is apportioned to existing and future in proportion to their populations.

[3] Ceres share of County Animal Shelter cost is esimated at $1,227,000,based on present value of annual payments of $107,000 over 20 years at 6% interest; Ceres share of cost is then apportioned to future and existing according to their populations.

Sources: Table 8.1 and 8.2

FEE SCHEDULE

Table 8.4 show the Community facilities impact fee for new development based on the facilities cost per capita shown in Tables 8.3.

Table 8.4: Community Facilities Impact Fees

Land Use	Costs per Capita	Density[1]	Fee[2]
Residential			
Single Family	$509.78	3.38	$1,723.87
Multi-family	$509.78	2.92	$1,490.18

[1] Persons per dwelling unit.
[2] Fee per dwelling unit.

Source: Tables 1.2 and 8.3

9. TRANSPORTATION

TRAFFIC DEMAND FROM NEW DEVELOPMENT

Table 9.1 shows vehicular traffic demand by new development for build-out. Total demand for new traffic facilities is estimated for all land use types using a "dwelling unit equivalent" (DUE) factor that sets the demand from a single-family dwelling unit at 1.00 DUE. A DUE is directly related to the average peak hour trips generated by land development as reported in the Institute of Traffic Engineers (ITE) *Trip Generation, 7th Edition*. In this study a single-family residence generates 1.1 vehicle trips per peak hour. A multi-family unit generates .62 peak hour trips and a DUE of .62. DUE factors for all other land uses are calculated relative to the traffic capacity demand from a single-family dwelling unit. Footnote No. 3 of Table 9.1 lists the peak hour trips for 1,000 square foot units of non-residential land uses. The non-residential DUE factor is also adjusted by trip length and trip diversion as shown in footnote No. 3. Total DUE's from new development at build-out is estimated at 56,136, or about 59% of the DUE's from both existing and new development.

Land Use Assumptions

The number of dwelling units and the square feet of non-residential development assumed for build-out were calculated from an analysis of developable land within the Phase 1 and 2 Growth Areas as shown on the 1997 Ceres General Plan Figure 2 – "*Planning Area and Urban Growth Area*" and the proposed Sphere of Influence area as shown on Exhibit 1. The land use analysis is contained in Appendix A.1. An estimated 4,880 acres of vacant and underutilized land are within the combined Phase 1 and 2 Growth Areas and the proposed SOI Table 2.1 in Chapter 2 the land use acreages.

Non-Residential Development Assumptions

Existing and growth of non-residential floor area and the vehicles trips generated by non-residential growth are analyzed for only the general categories of office, commercial, industrial and warehouse. The City of Ceres applies the transportation fee to about 120 specific non-residential uses each with a unique trip rate as shown in **Appendix Table A.4**. In order to calculate an average cost per trip based on a credible growth projection, the land use analysis could only be based on the General Plan land use categories (it is not within the scope of this PFF study to forecast the floor area of 120 distinct uses).

Table 9.1: Trip Generation by New Development - Buildout

Land Use[1]	Existing Dwelling Units or SF	Growth 2007 to Build-out Units or SF	Total (units or sf)	DUE Factor[2]	Adjusted Existing DUE	Adjusted new DUE's
Residential (in units)						
Single Family	10,956	10,009	20,965	1.00	10,956	10,009
Multi-family	1,693	3,484	5,177	0.62	1,049	2,160
Nonresidential (in sf) [3]					-	
Office	208,181	865,137	1,073,318	1.91	398	1,652
Commercial	5,848,125	3,368,343	9,216,468	2.98	17,409	10,027
General Light Industrial	3,766,119	13,382,234	17,148,352	1.26	4,745	16,862
General Heavy Industrial	2,510,746	8,921,489	11,432,235	1.46	3,666	13,025
Business Park	133,360	1,314,575	1,447,934	1.27	169	1,670
Warehouse	-	1,045,440	1,045,440	0.70	-	732
				Total	38,393	56,136
		Percent of total peak-hour trips at build-out			41%	59%

[1] See Chapter 2 for land use type definitions. Growth measured in dwelling units for residential uses and 1,000 square feet for nonresidential uses.

[2] DUE means "dwelling unit equivalent", or traffic generation by land use per unit compared to a single family dwelling unit (1.1 peak hour trips/dwelling unit x .90 primary trip factor and a trip length factor of 1 for an adjusted peak hour rate of .91). Multi-family generates .62 peak hour trips per unit. After adjusting for the primary trips and dividing by the adjusted single family peak hour trips the multi-family DUE is: .62 x .9/.91 = .62 EDU). DUE Factor for non-residential is per 1000 sf. adjusted by factors in note 3

[3]Peak hour trip rates per Institute of Traffic Engineering (ITE):

The Dwelling Unit Equivalent factors given for Office and Commercial are the average DUEs for these types shown on the ITE peak hour trip table (see Table A.4 in the Appendix)

General Light Industrial 0.98 ph trips/1000 sf, .88 primary trip factor, 1.48 trip length factor

General Heavy Industrial 0.98 ph trips/1000 sf, .92 primary trip factor, 1.48 trip length factor

Business Park 1.29 ph trips/1,000 sf, .79 primary trip factor, 1.14 trip length factor

Warehouse .47 ph trips/1,000 sf. .92 primary trip factor, 1.48 trip length factor

Sources: Table A.4; PMC; City of Ceres

TRAFFIC FACILITIES STANDARDS

Level of Service

The City's traffic facility standards are based on the level of service (LOS) approach which is outlined in the Circulation Element of the 1997 Ceres General Plan.

TRANSPORTATION IMPROVEMENTS FOR NEW DEVELOPMENT

Planned Projects

Roadway improvements on circulation element streets that are needed to maintain the Level of Service standard through build-out are listed in **Table 9.2a**. Table 9.2a is a summary of roadway

costs by segment; a detailed line item estimate is provided in **Appendix A.3**. All roadways listed are of the classification arterial or above and have at least four travel lanes plus medians and turn pockets. The minimum LOS for these roadways is D. The cost estimate in Appendix A.3 for each street considers the level of existing improvements within the right-of-way and whether there is adjacent developable land that would potentially participate in the street improvements as a condition of land use approval. Typically, a fronting property would be required to improve 20 feet of the adjacent roadway along with the pavement, curb, gutter and sidewalk at the developer's expense in additional to payment of the transportation impact fee. Therefore, the improvement cost estimates shown on Table 9.2a for street segments through undeveloped land includes only the interior lanes, medians, turn pockets, traffic signals, entry monuments and interchange or overpass modifications where the street crosses Highway 99. These "non-frontage costs" are the obligation of all new development (regardless of whether it has frontage) to be met through payment of the transportation impact fee and are in addition to frontage improvement costs for those properties that abut the roadway.

Roadway Cost Allocation between Existing and New Development

Where there is existing development abutting a segment of planned roadway improvement, the cost estimate includes the entire cost, including right-of-way, if necessary, to complete the full-width improvements called for in the Circulation Element. In this case, there is an allocation of cost between existing and new development that is necessary to account for the costs of existing roadway deficiencies that cannot be passed entirely onto new development. The cost allocation on any individual segment would depend on whether that roadway segment is over or under capacity. If the roadway is currently over-capacity then a deficiency exists and existing development would pay a portion of the costs of the improvement based on the ratio of existing to new peak-hour trips. If the roadway is under capacity then there is no deficiency under current operating conditions and existing development would not be required to contribute any share of the cost to improve the roadway to full Circulation Element standards. Furthermore, a roadway that is under-capacity represents an investment in roadway improvements that may be recouped by existing development via an impact fee since excess capacity is available to accommodate new trips.

In the absence of a traffic impact analysis that provides a comparison of existing vs. new trips on individual roadways to determine which roadways are over or under capacity and thus how to allocate costs, this study relies on a simplified system-wide allocation of cost for improvements within developed areas of the city based on the proportion of total peak-hour trips at build-out generated by existing and new development. Table 9.1 summarizes the total peak-hour trips and the percentages of trips and thus the cost allocation for roadway segments within developed areas: 41% from existing development and 59% from new development. At first glance this approach may seem to favor new development in the cost allocation since it assumes that every segment of roadway in the developed area, or partially developed area, is deficient and therefore existing development would shoulder a portion of the cost of improving every segment. This simplified approach, while conservative in that it probably does favor new development somewhat compared to the percentage allocation that a traffic impact analysis would indicate, places a road improvement cost burden on new development that is proportional to its expected impact on the entire road system.[1]

[1] The simplified method is inherently conservative since most roadway sections listed for improvement pass through developed areas and therefore existing development is assigned a

The actual ratio of existing to new trips will vary according to the location of road segment relative to trip producers (residential development) major attractors (employment areas and freeway on-ramps). Some roadways currently have a relatively low v/c ratio at peak periods while a few segments are known to operate at LOS E or lower. The premise of the allocation approach used in this study is that the average of all actual existing-to-new trip ratios on roadways within the developed areas will tend towards the system-wide average ratio of 41% existing trips to 59% new trips Furthermore, this study reduces the city's (existing development's) share if the lands abutting the roadway segment are only partially developed. The city's share is reduced to 20% of the improvement cost for roadways where one side of the road is largely undeveloped. The roadway improvements and the percentage allocation are shown on **Exhibit 2**.

In addition to roadway improvements, other transportation improvements called for in the Circulation Element are included in the transportation impact fee. **Table 9.2b** lists these circulation system improvements.

2010 PFF Revisions

Table 9.2a shows two roadway projects interlined out: Faith Home Road river crossing and the Mitchell Road freeway overpass modifications. The total of Table 9.2a does not include these two improvements.

share of the improvement cost even though it is likely that many of these roadways have existing capacity that could accommodate new trips without exceeding level of service standards.

Table 9.2a: Planned Roadway Improvements

Street	FROM	TO	Total Project Cost (A)	Funding from Other Sources (A) - (C)	Funded by Traffic Impact Fee[1] (C)	Other Funding Sources
CROWS' LANDING ROAD	WHITMORE	SERVICE	$0	-	-	
	SERVICE	LATERAL 2	$511,564	-	$511,564	
	LATERAL 2	GRAYSON	$1,043,723	-	$1,043,723	
Signal Mods./Additions	New Industrial St.		$213,155	-	$213,155	
MORGAN ROAD	SEVENTH	WHITMORE	$365,840	$74,631	$291,209	See note 2
	WHITMORE	SERVICE	$266,834	$108,374	$158,460	41% by Ceres
	SERVICE	GRAYSON	$130,555	$13,256	$117,299	10.15% by Ceres
Signal Mods./Additions	Whitmore, Hackett & Service		$647,296	$262,897	$384,399	41% by Ceres
CENTRAL AVENUE	HATCH	WHITMORE	$2,591,953	$1,052,713	$1,539,240	41% by Ceres
	FREEWAY	SERVICE	$2,373,295	$963,906	$1,409,389	41% by Ceres
	SERVICE	GRAYSON	$899,010	$0	$899,010	
Signal Mods./Additions	Service, Redwood & Grayson		$767,359	$0	$767,359	
MITCHELL ROAD	RIVER	HATCH	$1,548,000	$628,715	$919,285	41% by Ceres
	HATCH	WHITMORE	$3,056,055	$1,241,206	$1,814,848	41% by Ceres
	WHITMORE	SERVICE	$1,811,273	$367,821	$1,443,452	20.31% by Ceres
	SERVICE	FREEWAY	$338,431	$0	$338,431	
	FREEWAY	GRAYSON	$1,486,088	$0	$1,486,088	
	~~FREEWAY OVERPASS MODIFICATION~~[4]		~~$38,063,439~~	~~$7,729,668~~	~~$30,333,771~~	~~20.31% by Ceres~~
FAITH HOME	~~RIVER CROSSING~~[4]		~~$7,068,924~~	~~$0~~	~~$7,068,924~~	
	RIVER	HATCH	$2,299,564	$0	$2,299,564	
	HATCH	WHITMORE	$3,016,239	$612,518	$2,403,722	20.31% by Ceres
	WHITMORE	SERVICE	$4,489,883	$0	$4,489,883	
	SERVICE	REDWOOD	$2,644,829	$0	$2,644,829	
	REDWOOD	GRAYSON	$3,073,774	$0	$3,073,774	
HATCH ROAD	FREEWAY OVERPASS		$3,806,344	$772,967	$3,033,377	20.31% by Ceres
	HERNDON	MITCHELL	$12,581,204	$5,109,813	$7,471,391	41% by Ceres
	MITCHELL	FAITH HOME	$4,784,998	$971,705	$3,813,292	20.31% by Ceres
WHITMORE AVENUE	USTICK	CROWS LANDING	$173,316	$35,357	$137,960	See note 2
	CROWS LANDING	MORGAN	$60,775	$6,199	$54,576	See note 3
	MORGAN	CENTRAL	$552,653	$112,229	$440,424	20.31% by Ceres
	CENTRAL	MITCHELL	$455,758	$185,105	$270,653	41% by Ceres
	MITCHELL	FAITH HOME	$872,027	$177,085	$694,942	20.31% by Ceres
SERVICE ROAD	USTICK	CROWS LANDING	$1,842,367	$0	$1,842,367	
	CROWS LANDING	MORGAN	$3,740,606	$379,809	$3,360,797	10.15% by Ceres
	MORGAN	CENTRAL	$4,265,641	$866,238	$3,399,403	20.31% by Ceres
	FREEWAY OVERPASS EXPANSION		$108,000,000	$21,931,916	$86,068,084	20.31% by Ceres
	CENTRAL	MITCHELL	$26,152,877	$5,310,951	$20,841,926	20.31% by Ceres
	MITCHELL	FAITH HOME	$4,779,406	-	$4,779,406	
GRAYSON	USTICK	CROWS LANDIING	$204,890	-	$204,890	
	CROWS LANDING	MORGAN	$631,254	-	$631,254	
	MORGAN	CENTRAL	$462,714	-	$462,714	
		Total Traffic Improvements:	**$206,941,549**	**$41,185,410**	**$165,756,138**	

[1] Portion of project cost funded by impact fee = project cost - cost funded by City of Ceres or others sources (City of Modesto share or intercity fees, general funds or traffic impact fees on deposit). In general, improvements funded entirely by the TIF are not currently adjacent to developed lands, improvements with "41% funding by Ceres" are within areas that are essentially built-out, 20.31% funding by Ceres indicates that roughly 50% of the adjacent property is developed and a 10.22% Ceres share indicates roughly 25% of the adjacent property is developed.

[2] 79.6% of the cost is new development's due to 50% partial development and 10.2% - half the remainder - is Modesto's cost, resulting in net cost to Ceres of 10.2%.

[3] 89.8% of the cost is new development's due to 25% partial development and 5.1% - half the remainder - is Modesto's cost, resulting in net cost to Ceres of 5.1%.

[4] Project deleted with 2010 PFF Revision

Sources: City of Ceres Road Projects List, October 2005

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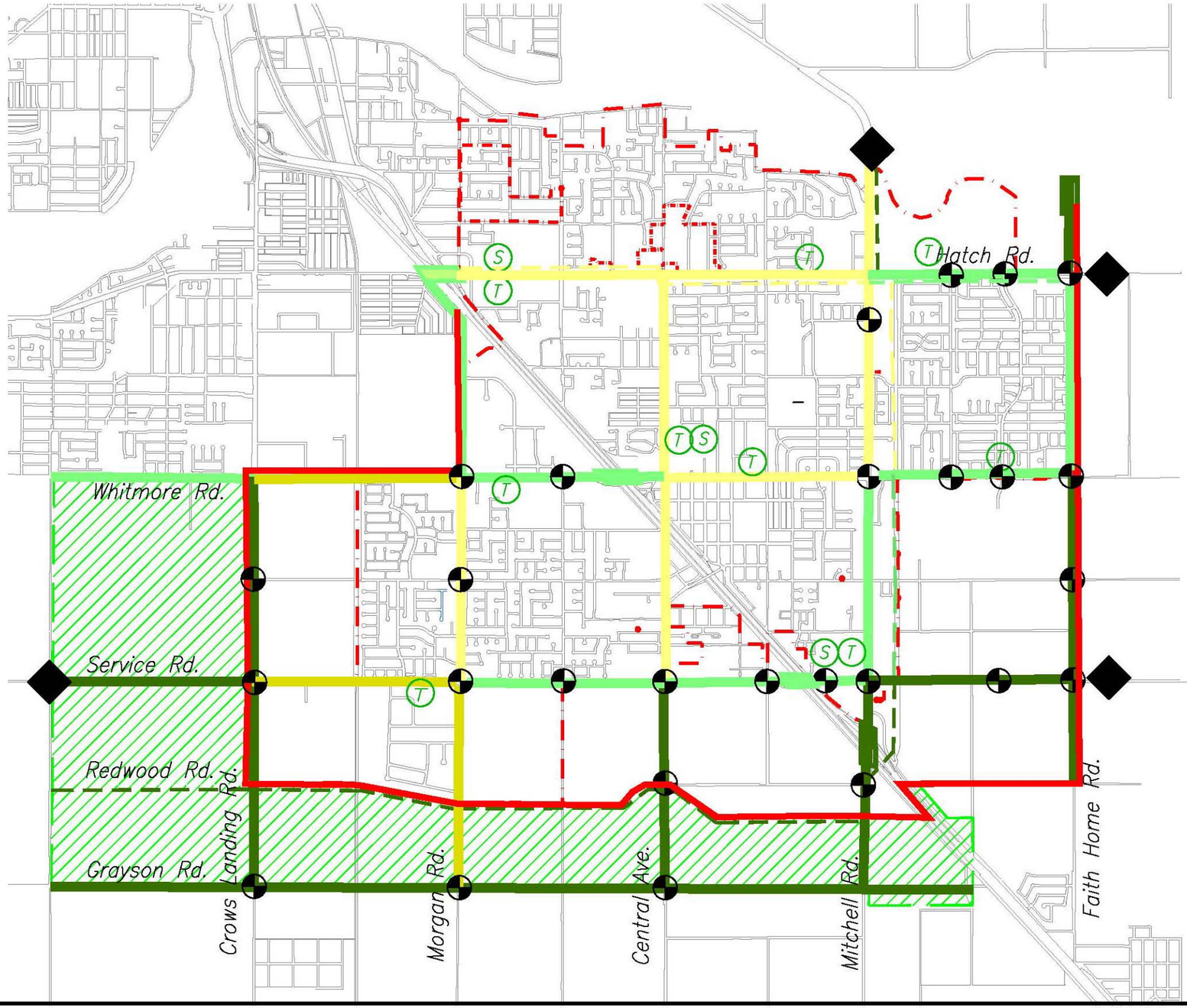

PLANNED BRIDGE or OVER/UNDERPASS EXPANSION

ROADWAY ENTRY FEATURE

PLANNED TRAFFIC SIGNALS

(S) PLANNED BUS SHELTERS

(T) PLANNED BUS TURNOUTS

Transit improvements are funded 41% by City and 59% by TIF

PLANNED ROAD IMPROVEMENTS TIF FUNDING SHARE:

100% Funded by Traffic Impact Fee

89.8% Funded by Traffic Impact Fee

79.6% Funded by Traffic Impact Fee

59% Funded by Traffic Impact Fee

PLANNED CLASS I BIKEWAYS

100% Funded by Traffic Impact Fee

78% Funded by Traffic Impact Fee

56% Funded by Traffic Impact Fee

CURRENT SPHERE OF INFLUENCE

CITY LIMITS

PROPOSED SPHERE OF INFLUENCE

0 3,000 6,000

FEET

Exhibit 2

Transportation

PMC®

Table 9.2b: Transportation Facilities

Facilites	Length (miles)	Cost per mile	Total Project Cost (A)	Funding from Other Sources (A) - (C)	Funded by Traffic Impact Fee[1] (C)	Other Funding Sources
Class I Bikeways						
Hatch Rd.- Morgan to Mitchell	2.8	$500,000	$1,375,000	$558,452	$816,548	41% Ceres
Hatch Rd.- Mitchell to Faith Home	0.3	$500,000	$125,000	$50,768	$74,232	41% Ceres
TID Lateral No.2 - Ustick to Mitchell	4.1	$500,000	$2,050,000	$0	$2,050,000	
Ceres Main Canal - TID Lateral to Service	0.7	$500,000	$350,000	$0	$350,000	
Ceres Main Canal - Service to Whitmore	1.1	$500,000	$550,000	$111,690	$438,310	20% Ceres
Ceres Main Canal - Whitmore to Hatch	1.0	$500,000	$500,000	$203,073	$296,927	41% Ceres
Ceres Main Canal - Hatch to Tuolomne River	0.6	$500,000	$300,000	$0	$300,000	
Bus turnouts (9 @ $40,000 each)	n/a	n/a	$360,000	$146,213	$213,787	41% Ceres
Bus shelters (3 @ $30,000	n/a	n/a	$90,000	$36,553	$53,447	41% Ceres
Total Transportation Facilities			**$5,700,000**	**$1,106,749**	**$4,593,251**	

[1] Portion of project cost funded by impact fee = project cost - cost funded by City of Ceres or others

Sources: City of Ceres

TRANSPORTATION FACILITY IMPACT COSTS PER DUE

The total cost per DUE for the projects shown in Table 9.2 is shown in **Table 9.3**.

Table 9.3: Transportation Impact Costs per Trip - Buildout

Roadway improvements, (Table 9.2a)	$165,756,138
Transportation improvements (Table 9.2b)	$4,593,251
Total cost new development's share	$170,349,389
Total new DUE's (2009 -Buildout Table 9.1)	56,136
Cost per DUE [1]	$3,034.56

[1] Cost per new single family dwelling unit equivalents.

Sources: Tables 9.1, 9.2a&b

TRANSPORTATION STANDARDS AND UNIT COSTS

New development can be required to provide its proportionate share of traffic improvements that enhance and maintain LOS. **Table 9.4** shows the allocation of citywide traffic system costs.

Table 9.4: Transportation Facilities Costs

DUE Growth, 2007- Build-out	56,136
Total Facilities Cost per DUE Peak Hr. Trip[1]	$3,034.56
Total Facilities To Accommodate Growth	**$170,349,389**
Required funds to serve existing population	**$ 42,292,160**
Total Facilities Cost Existing and Growth	**$212,641,549**

[1] Cost per DUE for new DUE's only (2007-buildout) for only those facilities needed to accommodate growth

Sources: Tables 9.2a&b

FEE SCHEDULE

Table 9.5 shows the Traffic facilities impact fee for new development based on the facilities cost per DUE shown in Table 9.3. The fee represents the amount required to fully fund all facilities needed to accommodate growth based on the level of service approach. Citywide residential and nonresidential developments within the City's planning areas would pay the fee based on the service population (DUEs) for the improvements identified.

Table 9.5: Transportation Impact Fee

Land Use[1]	Cost per DUE	DUE per Unit[2]	Fee[3]
Residential			
Single Family	$3,034.56	1.00	$3,034.56
Multi-family	$3,034.56	0.62	$1,881.43
Nonresidential			
Office	$3,034.56	1.91	$5,796.01
Commercial	$3,034.56	2.98	$9,033.48
General Light Industrial	$3,034.56	1.26	$3,823.55
General Heavy Industrial	$3,034.56	1.46	$4,430.46
Business Park	$3,034.56	1.27	$3,853.89
Warehouse	$3,034.56	0.70	$2,124.19

[1] See Chapter 2 for land use type definitions.

[2] DUE means "dwelling unit equivalent", or the impact by land use per unit compared to a single family dwelling unit.

[3] Fee per dwelling unit for residential land uses and per 1,000 square feet for nonresidential uses.

Sources: Table 9.1 and 9.3

The fees presented in Table 9.5 represent the major land-use classifications of the General Plan. The land use development projection analysis, from which the estimate of development is derived, considers land-use classifications only to the level of detail represented in Table 5. The costs of roadway improvements required for growth are distributed among these classifications on the basis of peak-hour trip factors embodied in the DUE factors. In reality, there are many more land uses that are characterized by type of use, both residential and non-residential, upon which the transportation fee will be levied than are represented by Table 9.5. The peak-hour trip rates per unit of these various types of development vary considerably and the resultant fee for these different uses will also vary. A fee schedule representing typical land-use/development types is provided in Table A.4 in the Appendix. The fee rates in Table A.4 are based on the Institute of Transportation Engineers peak-trip rates (adjusted for diverted trips and trip length) times the transportation facility cost per DUE shown in Table 9.3. It should be noted that, since the total roadway costs are distributed among the Table 9.5 major use classifications using the DUE factor to weight the costs per unit and also since the fees are calibrated to the land-use projection of Table 9.1, it is unlikely that the Table A.4 fee schedule will result in the same overall fee revenue that would accrue by charging fees according to Table 9.5. Whether, the fee revenue is higher or lower cannot be estimated without a detailed zoning and market analysis that would provide a projection of the individual square footages of the specific uses listed in Table A.4.

10. DRAINAGE

PLANNED DRAINAGE IMPROVEMENTS FOR NEW DEVELOPMENT

Drainage facilities serve both residential and nonresidential development. **Table 10.1** lists the planned drainage improvements for build-out. Four separate drainage areas are defined, each with its own set of required improvements. Drainage Areas A and D drain to an adjacent Turlock Irrigation District canal, while areas C and D drain to the Tuolumne River. The drainage concept plan is shown on **Exhibit 3**. The drainage areas consist of a number of sub-basins each draining to an internal detention basin/pump station system. Except for Areas C and D, each detention basin is connected via a force main to a gravity drain that flows to the nearest irrigation canal where a lift station discharges the runoff to a canal. This conceptual plan assumes a continuation of the current drainage discharge practice employed throughout the majority of Ceres. In Areas C and D gravity lines also connect the sub-basins to outfalls located on the Tuolumne River. In Area C, a cost of $1.5 million is included for storm water treatment facilities and permitting expenses for the river outfall. One-third of the cost of the storm water treatment is allocated to new development on the basis of the undeveloped acreage in Area C. A cost of $100,000 for outfall treatment, which is borne entirely by new development, is included for Area D.

Dual Use Drainage Basins

As described in Park and Recreation Chapter 7 it is the City's policy to allow dual use of drainage basins within park sites. Where such dual use occurs the primary function is park use. Also, the maximum pool level of a detention basin should not encroach on park capital improvements and the water level must be capable of complete drawdown within 48 hours after a storm event per applicable City standards, unless modified by agreement with City. It is anticipated that a net reduction in land requirements for drainage detention will be achieved with dual use and thus a savings would therefore accrue to developers of dual use facilities. Exhibit 3 indicates possible dual use opportunities in eight sub-basin areas: 45 and 47 in Area A; 38, 50 and 51 in Area B and 1A&B, 4A and 4B in Area C. This study incorporates the potential savings through dual use by assuming a 50% reduction in land cost for these eight basins. The 50% reduction is justified by the fact that park utilization of detention areas is diminished. Therefore, additional park area must be acquired for park sites where dual use basins are located adding to park acquisition costs. Basin site acquisition cost is given as $10,000 per acre-foot of detention required (assuming $50,000 per acre land cost and 5-foot maximum pool depth). Therefore, in dual use basins the land acquisition cost is reduced to $5,000 per acre-foot of detention.

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T:_CS\Work\Ceres_City of\Impact Fee Study - 27-0039\Figures\ Exhibit 3 - Drainage.ai, December 2007

AREA D

AREA A

AREA B

AREA C

DRAINAGE BASINS

DRAINAGE FEE AREAS

PLANNED STORM DRAINS

PLANNED DETENTION BASIN & PUMP STATION

PLANNED DUAL USE DETENTION BASIN AT PARK SITE

PLANNED LIFT STATION

PLANNED STORM WATER QUALITY FACILITY

CURRENT SPHERE OF INFLUENCE

PROPOSED SPHERE OF INFLUENCE

PHASE 2 GROWTH AREA

CITY LIMITS

0 2 4

MILES

Exhibit 3

Drainage

PMC®

Table 10.1: Planned Drainage Improvements

Drainage Basins	Required 50-yr. Detention Capacity Acre Ft.	Required Discharge Acre-Ft.	Detention Basin/Pump Station[1]	Length of Force mains[2] LF	Length Gravity Drainpipe[3], LF	Lift Stations EA[4]	Total Cost	Total Drainage Area Cost
Area A				5,000	23,000	6	$3,860,000	
39A	-	-	-					
39B	-	-	-					
40	6.1	4.8	$149,389					
41	5.6	4.4	$137,743					
42	20.5	16.2	$484,513					
43	Future P&G site will dispose of drainage on-site							
44	11.4	9	$272,744					
45*	13.5	10.7	$254,210					
46	13.3	10.5	$316,951					
47*	18.8	14.9	$351,065					
48	27.5	21.7	$647,317					
49A[5]	13.8	10.9	$328,260					
53	2.6	2	$67,863					
Total			$3,010,055				$3,010,055	$6,870,055
Area B				3,000	13,500	3	$2,085,000	
36	6.5	5.1	$158,657					
37	15.8	12.5	$375,185					
38*	14.1	11.1	$264,986					
40B	Ceres Wastewater Treatment Plant -							
49B[5]	5.9	4.7	$144,969					
50*	22.9	18.1	$425,867					
51*	18.6	14.7	$347,306					
52	2.6	2	$67,863					
Total			$1,784,832				$1,784,832	$3,869,832
Area C				3,400	20,000	4	$2,902,000	
1A&1B*	13.3	10.5	$250,451					
1C	6.7	5.3	$163,415					
4A*	17.2	13.6	$321,745					
4B*	16.4	13	$307,211					
4C	18.5	14.6	$437,927					
7	-	-	-					
10	-	-	-					
11	-	-	-					
12	10.3	8.2	$247,321					
55	13	10.3	$310,063					
56	6.7	5.4	$163,665					
57	13.4	10.6	$319,331					
58	-	-	-					
59	-	-	-					
Storm Water Quality Treatment & Discharge Permit[6]							$495,050	
Total			$2,521,130				$2,521,130	$5,918,180
Area D				0	4,350	1	$654,500	
18	3	5	$83,880					
20	4	6.5	$108,923					
Storm Water Quality Treatment & Discharge Permit, undeveloped portion							$100,000	
Total			$192,803				$192,803	$947,303
							Total	**$17,605,370**

Detention Basin and Pump Station Cost Factors

Item	Unit	Unit Cost
TIE TO EXIST.	EA	$1,500
MANHOLES	EA	$3,000
CATCH BASIN	EA	$1,000
S D INLET/OUTLET STRUCTURE	EA	$2,000
Fixed Cost total per basin		$7,500
BASIN EXCAVATION	Cubic yards of detention	$7
BASIN SITE ACQUISITION	Acre-feet of detention[1]	$10,000
LIFT STATION	Acre-feet of discharge	$2,500

* Potential dual-use sub-basin, 50% reduction in land cost

[1] Assumes land cost of $50,000 per acre and 5 ft. basin depth

[1] Detention Basin and pump station combination, typically one per 160 acre drainage area, sized to detain a 50-yr. storm and dispose of stormwater from a 10-yr. storm within 48 hrs.

[2] 12" Force mains between basin pumps and gravity drains 500 ft/basin@ $30 per lf

[3] Min. 36" gravity area drains between force mains and canals @ $70 per lf

[4] Lift stations at the discharge points to the TID canals. Cost includes pump, wet well, SCADA system, telemetry and connection to the planned fiber $350,000 each

[5] Basin 49 required detention volume is prorated between Areas A and B based on acreage

[6] Item includes design and construction of treatment facility and permitting of discharge to Tuolumne River, $1,500,000 prorated to undeveloped portion of the basin: approximately 1,000 acres

Sources: City of Ceres Storm Drain Study & Master Plan, 1995

DRAINAGE DEMAND BY NEW DEVELOPMENT

Table 10.2 shows the impact of new development in terms of the change in impervious acreage due to additional housing and non-residential construction at build-out. The land use acres assumed for build-out impervious area drainage are the same as those used in the wastewater and transportation sections. The acres were divided into the drainage areas using the digital drainage map and the 1997 General Plan Land Use Diagram provided by the city of Ceres. . Impervious factors correspond to generalized runoff coefficients for the given land uses.

Table 10.2: Drainage Impacts of New Development

Land Use[1]	Growth 2007-Buildout[1]	Impervious Factor[2]	Impervious Area Growth (acres) 2007-2030
Area A			
Residential (in acres)			
Single Family	800	0.60	480
Multi-family	170	0.80	136
Nonresidential (in acres)			
Commercial/Office	65	0.90	59
Industrial	890	0.90	801
Warehouse	60	0.90	54
Total	1,985		1,530
Area B			
Residential (in acres)			
Single Family	580	0.60	348
Multi-family	70	0.80	56
Nonresidential (in acres)			
Commercial/Office	253	0.90	228
	375		338
Industrial/Business Park			
Total	1,278		969
Area C			
Residential (in acres)			
Single Family	1,315	0.60	789
Multi-family	50	0.80	40
Nonresidential (in acres)			
Commercial/Office	110	0.90	99
Industrial/Business Park	40	0.90	36
Total	1,515		964
Area D			
Residential (in acres)			
Single Family	100	0.60	60
Total	100		60

[1] See Chapter 2 for land use type definitions. Growth in acreage is based on forecasted dwelling units and non-residential development at assumed average units per acre and floor area ratios as follows:

SF density = 3.6 units/acre
MF density = 12 units/acre
FAR:
Commercial/Office = 0.25
Industrial = 0.40

[2] Impervious factor is related to typical C coefficients for the given land uses

Sources: PMC; City of Ceres

Acreage check	This table	Projected Land Use Table
Single Family	**2,795**	2795
Multi-family	**290**	290
Commercial	**428**	428
Industrial/BP	**1,305**	1305
Warehouse	**60**	60

DRAINAGE FACILITY IMPACT COSTS PER DUE

The total cost per DUE for the projects shown in Table 10.2 is shown in **Table 10.3**.

Table 10.3: Drainage Improvements Costs per DUE

Area A Drainage improvements	$6,870,055
2007 - Buildout Impervious Growth	1,530 ac.
Cost per Impervious Acre	$4,491.70
Area B Drainage improvements	$3,869,832
2007 - Buildout Impervious Growth	969 ac.
Cost per Impervious Acre	$3,992.81
Area C Drainage improvements	$5,918,180
2007 - 2030 Impervious Growth	964 ac.
Cost per Impervious Acre	$6,139.19
Area D Drainage improvements	$947,303
2007 - 2030 Impervious Growth	60 ac.
Cost per Impervious Acre	$15,788.39

Sources: Tables 10.1 and 10.2

FEE SCHEDULE

Table 10.4 shows the Drainage facilities impact fee for new development based on the facilities cost per DUE shown in Table 10.1.

Table 10.4: Drainage Impact Fee

Land Use[1]	Cost per Impervious Acre	Acres per per Unit[2]	Impervious Factor	Fee[3]
Area A				
Residential				
Single Family @ 4.5 units/ac.	$4,491.70	0.220	0.60	$592.90
Multi-family @ 11 units/ac.	$4,491.70	0.090	0.80	$323.40
Nonresidential				
Commercial	$4,491.70	0.0918	0.90	$371.10
Industrial/BP	$4,491.70	0.0574	0.90	$232.04
Warehouse	$4,491.70	0.0574	0.90	$232.04
Area B				
Residential				
Single Family @ 5 units/ac.	$3,992.81	0.200	0.60	$479.14
Multi-family @ 11 units/ac.	$3,992.81	0.090	0.80	$287.48
Nonresidential				
Commercial	$3,992.81	0.0918	0.90	$329.89
Industrial/BP/Warehouse	$3,992.81	0.0574	0.90	$206.27
Area C				
Residential				
Single Family @ 2.5 units/ac.	$6,139.19	0.400	0.60	$1,473.41
Multi-family @ 15 units/acre	$6,139.19	0.067	0.80	$329.06
Nonresidential				
Commercial	$6,139.19	0.0918	0.90	$507.22
Industrial/BP/Warehouse	$6,139.19	0.0574	0.90	$317.15
Area D				
Residential				
Single Family @ 1.5 units/ac.	$15,788.39	0.670	0.60	$6,346.93
Multi-family @ 8 units/ac.	$15,788.39	0.12	0.80	$1,515.69
Nonresidential				
Commercial	$15,788.39	0.0918	0.90	$1,304.44
Industrial/BP/Warehouse	$15,788.39	0.0574	0.90	$815.63

[1] See Chapter 2 for land use type definitions.

[2] Residential acres per unit based on an assumed average density (units/ac) for each drainage area. Acres per non-residential unit (1,000 sf of net floor area) is based on FAR's of .25 for commercial and .4 for industrial and warehouse land.

[3] Fee per dwelling unit for residential land uses and per 1,000 square feet for nonresidential uses.

Sources: Table 10.3

11. WATER

EXISTING WATER SUPPLY AND DISTRIBUTION SYSTEM

Ceres Public Works Division currently maintains water wells, storage tanks, pump stations and water mains serving the entire incorporated area.

Water Supply

Ceres presently obtains all of its domestic water from groundwater aquifers, the City's only source of water.

Ceres currently relies on eight active wells located within the City to supply the City's potable and fire service water needs. The City's wells have a total production capacity of about 11,500 gallons per minute (gpm). In 2007, the City reported a total of 10,823 acre-feet of water produced from its active wells. The City uses well-head treatment to remove excess contaminants before distribution.

The City's well system currently has limited pumping capacity to serve new development, particularly during the summer months, when water demands peak. The City is negotiating an agreement to obtain surface water supplies from the Turlock Irrigation District (TID). The agreement is projected to provide 10 MGD (approximately 11,200 acre feet per year) of treated surface water to the City. Upon execution of the agreement, the City will benefit from a conjunctive well and surface water supply. The planned water supply and treatment costs presented in the following section assume that the TID agreement is not executed and that water supply to serve new development for will necessarily depend on the City's ability to add well pumping capacity.

PLANNED WATER SUPPLY AND DISTRIBUTION SYSTEM

The long-term supply of water from well development is uncertain. Furthermore, it is realistic to assume that future development of the entire Proposed Sphere of Influence cannot depend on well supply. Therefore this water impact fee analysis will address two components of the potable and fire service water system separately. The first component consists of water supply and treatment. The second component is the water storage, pumping and distribution system. The capital costs of water supply and treatment will be calculated based on the development of a single well and associated treatment systems. On the other hand, water storage and distribution will be based on the cost to construct the entire network required to serve build-out of the PSOI. In this approach two different service populations are considered. One is the population served by a single well – represented by 823 dwelling units - for which a capital cost per dwelling unit equivalent will be calculated. The second population pertains to the build-out development served by completion of the full water distribution network; a similar capital cost per dwelling unit will be calculated for these costs as well.

The planned water system improvements and costs are listed in Table 11.1. Note that these costs assume non-conjunctive supply, that is, no surface water supply from TID. It is anticipated that the TID agreement will involve substantially higher costs for water supply and transmission. It is assumed that the storage, pumping and distribution network described in Table 11.1 and the costs therefore, while preliminary, are applicable to the ultimate conjunctive well and surface supply system and that the impact fees associated with those components will carry over to the ultimate water system. The cost estimates for these improvements were provided by West-Yost

Engineers in a memorandum attached as Appendix A-6. The costs presented for the distribution system are preliminary and will be revised upon completion of the City's water master plan.

Table 11.1: Planned Water Facilities

Item	Cost	Quantity	Subtotal
WELLS & TREATMENT			
WELLS	$995,783	1	$995,783
TREATMENT	$796,626	1	$796,626
		SUBTOTAL CONSTRUCTION	$1,792,409
		20% CONTINGENCY	$358,482
25% ENG. CONSTRUCTION MANAGEMENT & INSPECTION			$448,102
		Sub-total wells and treatment	**$2,598,993**

PIPELINES

Item	From	To	Length (ft)	Unit Cost (2010 Costs)	Total Cost 2010
14 " WHITMORE	FAITH HOME	CENTRAL	10600	$84	$886,645
14 " SERVICE	FAITH HOME	MITCHELL	5300	$84	$443,322
12 " SERVICE	MORGAN	CROWS LANDING	5300	$72	$379,991
16 " MITCHELL	HATCH	SERVICE	10600	$96	$1,013,308
12 " CENTRAL	HATCH	SERVICE	10600	$72	$759,981
16 " CENTRAL	FREEWAY CROSSING		400	$697	$278,819
14 " MORGAN	HATCH	WHITMORE	5300	$84	$443,322
12 " MORGAN	WHITMORE	SERVICE	5300	$72	$379,991
12 " PIPES	MISC. LOCATIONS		79500	$72	$5,699,860
16 " HATCH	FAITH HOME	FREEWAY	15840	$96	$1,514,227
14 " FAITH HOME	HATCH	WHITMORE	5300	$84	$443,322
14 " FAITH HOME	WHITMORE	REDWOOD	8000	$84	$669,166
				Sub-total Pipelines	**$12,911,955**

STORAGE AND PUMP STATIONS

6 MG STEEL STORAGE TANK	$5,974,696	2010 Dollars
18 MGD BOOSTER PUMP STATION	$4,481,022	2010 Dollars
SUBTOTAL CONSTRUCTION (2010 Dollars)	$10,455,718	
20% CONTINGENCY	$2,091,144	
25% ENG. CONSTRUCTION MANAGEMENT & INSPECTION	$2,613,929	
Sub-total storage and pump stations		**$15,160,791**
Total Pipeline and Storage Facilities		**$28,072,746**

Source: Technical Memorandum dated 9/12/2008 "Review and Update of Water Connection Fee", West-Yost Associates. Storage and pumping capacity are increased in this table by 50% above West-Yost's assumption to accommodate additional water demand indicated by build-out projection.

Water Master Plan

Long-term planning of the City's water system infrastructure is necessary. City staff is aware of the need to complete a Water Master Plan. The Water Master Plan will specifically determine the major infrastructure and facilities upgrades required to serve the build-out service population. A cost for a water master plan is added in Table 11.3. The impact fees recommended in this section are intended to serve as interim fees until the City is able to complete a comprehensive water master plan that analyzes the water treatment and distribution requirements needed for projected future development.

WATER FACILITIES SERVICE DEMAND

Water facilities serve both residential and nonresidential development. **Table 11.2** shows the estimated service demand to build-out in terms of demand per acre. The total growth in water demand to build-out is approximately 10.7 MGD. The Land Use Summary of Table 2.1 applies to the water demand analysis. Note: the service demand shown in Table 11.2 applies to the water storage and distribution costs only, well development and treatment costs are calculated separately and apply to only the first 823 DUE's.

Table 11.2: Water Facilities Service Demand

Land Use	Growth 2007-Buildout Residential, Units/ Non-residential, SF	Water Use Demand (DUE) Factor	Dwelling Unit Equivalent Water Use (DUE)	Acres per dwelling Unit or 1,000 sf conversion factor[1]	Projected Demand Area 2007 to Buildout (Acres)	Water Demand per Acre per Day	Total Water Demand from Growth at Buildout (MGD)
Residential (in units)							
Single Family	10,009	1	10,009	0.28	2,802	2,500	7.01
Multi-family	3,484	0.43	1,493	0.083	289	4,500	1.30
Nonresidential (in sf)							-
Office	865,137	0.114	99	0.108	93	890	0.08
Commercial	3,368,343	0.114	385	0.108	364	890	0.32
Business Park	1,314,575	0.150	197	0.061	80	1,500	0.12
Industrial	22,303,723	0.150	3,346	0.061	1,361	1,500	2.04
Warehouse	1,045,440	0.150	157	0.061	64	1,500	0.10
Total			15,685				10.97

[1] Conversion factor uses average General Plan densities and FAR's to convert dwelling units and floor area to acres: 3.6 single fam/ac; 12 mf/ac commercial/office FAR: .21; industrial/business/warehouse park FAR: .38 (conv. factor =1000/43560/FAR)

Residential:

SFD	700 gpd/du	approximately 207 gpd/capita
MF	300 gpd/du	approximately 103 gpd/capita

Non-residential:

Commercial/Office	80 gpd/1,000 sf
BP/Industrial/Warehouse	105 gpd/1,000 sf

WASTEWATER FACILITIES COST PER MGD

The cost of providing water service capacity for growth based on the cost of development of a single well is given in **Table 11.3** in terms of cost per dwelling unit equivalent (DUE). While growth in the City of Ceres is not necessarily limited to that which can be supported by a single well – additional wells may be developed if production proves to be adequate for any given development – at some point in the near future well supply alone will not be sufficient to meet the demands of growth. The interim cost per dwelling unit is applicable to new development served by existing or new wells, in so far as they can be successfully developed.

Table 11.3: Water Facilities Cost per MGD

		Water Facilities Total Cost and Cost per MGD
Water Storage and Dsitribution Costs		$28,072,746
Water Master Plan		$600,000
Total		$28,672,746
2007 - Buildout Water Demand (DUE)		15,685
Water storage and distribution cost per DUE for new development	=(a)	$1,828
Well development and treatment costs		$2,598,993
		823
Well development & treatment cost per DUE (limited to 823 units)	=(b)	$3,157.95
Total cost per DUE for new development	=(a)+(b)	$4,985.98
Total cost		**$31,271,739**

Sources: Tables 11.1 and 11.3

FEE SCHEDULE

Table 11.4 shows the water facilities impact fee for new development based on the facilities cost per DUE shown in Table 11.3. The fee represents the amount required to fully fund all facilities needed to accommodate the limited growth that may be served by a single well. Citywide residential and nonresidential development would pay the fee based on the estimated daily demand per acre.

Table 11.4: Water Facilities Impact Fees

Land Use[1]	Water Demand Factor	Water Facilities Fee, per Unit or 1,000 Sq. Ft.
Residential		
Single Family	1.00	$4,985.98
Multi-family	0.43	$2,136.85
Nonresidential		
Office	0.114	$569.83
Commercial	0.114	$569.83
Business Park	0.150	$747.90
Industrial	0.150	$747.90
Warehouse	0.150	$747.90

[1] See Chapter 2 for land use type definitions.

[2] Per dwelling unit for residential uses and per 1,000 square feet for nonresidential land uses.

Sources: Tables 11.2 &11.3

12. INFORMATION TECHNOLOGY

EXISTING AND PLANNED INFORMATION SYSTEMS

Existing information technology systems and equipment are listed in **Table 12.1**. The equipment acquired and maintained by the Information Technology Division is used by every department and is essential to their work. IT services include remote monitoring of parks, city buildings, water wells and lift stations; traffic signal coordination; communications between mobile units and dispatch and all data processing and desktop computing services. The IT Division's capability will soon extend to Geographic Information Systems which represents a major use of future impact fee revenues and will provide services that are directly useful to residents and businesses. IT facilities will serve current and future populations, residents and workers.

Table 12.1: Existing Information Technology Systems

System	2007 value
GPS 5800 base station	$6,600
GPS 8500 base station	$6,600
GPS 8500 base station	$5,000
GPS 8500 base station	$5,300
City Hall Monitoring System	$13,500
AWS Weathernet Station	$4,600
HP Plotters	$8,000
Document Imaging Systems	$46,800
ID System-IVIS 2000 w/camera	$4,500
Directlink Communication system	$4,400
Design permit tracker	$1,500
SCDA system	$101,500
Nikon NPL 352 pulse laser station	$6,500
Visual Presentation system - Council Chambers	$35,200
Voice logger	$13,600
Total	**$263,600**

Notes:

Facility will serve current and future populations, residents and workers.

Sources: City of Ceres

Table 12.2 lists planned information facilities and costs required for build-out. This list includes systems needed to extend service to both existing and new city facilities. Costs are net of annual maintenance and include purchase of software and training. The IT system features a backbone fiber optic cable and connections to city facilities as illustrated on **Exhibit 1**.

Table 12.2: Planned Information Technology

System Location/Item	Cost to Buildout (2008 Dollars)	Cost (2010 Dollars)
Civic Center / City Hall		
Telecommunications Equipment	$ 253,427	$ 252,358
Data Center	$ 1,234,715	$ 1,229,508
Security cameras	$ 35,000	$ 34,852
Network connectivity	$ 2,000	$ 1,992
DPS Building / Fire Station 1 / Community Center		$ -
Security Cameras & monitoring System	$ 75,000	$ 74,684
Telecommunications Equipment	$ 262,500	$ 261,393
Fire Station 2		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Telecommunications Equipment	$ 52,500	$ 52,279
Fire Station 3		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Telecommunications Equipment	$ 57,500	$ 57,258
Fire Station 4		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Telecommunications Equipment	$ 60,000	$ 59,747
Fire Station 5		$ -
Telecommunications Equipment	$ 68,500	$ 68,211
Computer/Data Equipment & Software	$ 37,415	$ 37,257
Security Cameras & monitoring System	$ 25,000	$ 24,895
Fire Station 6		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Telecommunications Equipment	$ 68,500	$ 68,211
Computer/Data Equipment & Software	$ 37,415	$ 37,257
Public Safety Substation		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Telecommunications Equipment	$ 71,500	$ 71,198
Computer/Data Equipment & Software	$ 30,190	$ 30,063
Community Facility Near Ustick Road		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Telecommunications Equipment	$ 63,500	$ 63,232
Computer/Data Equipment & Software	$ 13,890	$ 13,831
Community Park #1		$ -
Security Cameras & monitoring System	$ 30,000	$ 29,873
Telecommunications Equipment	$ 9,000	$ 8,962
Computer/Data Equipment & Software	$ 7,740	$ 7,707
Community Park #2		$ -
Security Cameras & monitoring System	$ 30,000	$ 29,873
Telecommunications Equipment	$ 9,000	$ 8,962
Computer/Data Equipment & Software	$ 7,740	$ 7,707
Neighborhood Parks		$ -
Security Cameras & monitoring System	$ 400,000	$ 398,313
Computer/Data Equipment & Software	$ 123,840	$ 123,318
GIS System		$ -
Computer/Data Equipment & Software	$ 103,350	$ 102,914
Fiber Optic Cable Installation	$ 1,275,000	$ 1,269,623
Off-site Data Center (replication)		$ -
Security Cameras & monitoring System	$ 25,000	$ 24,895
Data Center	$ 385,035	$ 383,411
Network connectivity	$ 2,000	$ 1,992
Total Information facilities for buildout	**$ 5,006,257**	**$ 4,985,144**

Source: City of Ceres

IT FACILITIES SERVICE POPULATION

The Information Technology serves both residents and workers within the City. The estimated service population at build-out is calculated in **Table 2.2b**.

Per Capita Standards and Unit Costs

To ensure equity between the level of existing facilities and the facilities that new development should be responsible for, a per capita facility standard is used. The standard, is calculated in **Table 12.3**, is based on the master plan approach because the initial capital cost and future expansion of the system will provide a standard, benefiting both existing and future development. As such, this study identifies a portion of the cost to be funded by the City and not by impact fees. Use of this standard in calculating the impact fee ensures that new development pays for the same level of facilities as existing development.

Table 12.3: Information System Standards and per Capita Costs

Existing IT equipment (at current book value)	$263,600
2007 Service Population	44,382
2007 Current Standard per Capita	$5.94
Planned equipment at buildout (2010 dollars)	$4,985,144
Existing plus planned IT equipment	$5,248,744
Service Population to Buildout	93,427
Rate of existing and planned equipment per capita for buildout service pop (planned standard)	$56.18
Increase in Equipment Standard per Capita ($56.18 - $5.94)[1]:	$50.24
Growth will pay at planned standard per capita	$56.18
Service Population Growth (2007 - Buildout)	49,045
IT Equipment Cost for Growth	**$2,755,365**
Cost of increased IT equipment standard to existing population (cost of planned equipment minus cost for growth)[1]	$2,229,779

[1] An increase in the equipment standard indicates that a current deficiency exists and that the City will need to make up the difference with other funding sources.

Sources: Tables 12.1 and 12.2

FEE SCHEDULE

Table 12.4 shows the Information Technology impact fee for new development based on the facilities cost per capita shown in Table 12.3. Both residential and nonresidential development in the City would pay the fee based on the service population for the facilities.

Table 12.4: Information Technology Impact Fees

Land Use[1]	Costs per Capita	Density[2]	Fee[3]
Residential			
Single Family	$56.18	3.38	$189.98
Multi-family	$56.18	2.92	$164.22
Nonresidential			
Commercial/Office	$28.09	1.25	$35.11
Industrial/Business Park	$28.09	0.59	$16.52
Warehouse	$28.09	0.50	$14.05

[1] See Chapter 2 for land use type definitions.

[2] Persons per dwelling unit for residential land uses and employee per 1000 square feet for nonresidential land uses.

[3] Per dwelling unit for residential uses and per 1,000 square feet for nonresidential land uses.

Sources: Table 12.3

Table 12.5 summarizes the allocation of IT costs between existing population and new development. By using the same cost per capita for both groups the proportionate benefit is maintained.

Table 12.5: Information Technology Cost Allocation

Service Population Growth, 2007-Buildout	49,045
Total Facilities Cost per Capita	$56.18
Total Facilities To Accommodate Growth	**$2,755,365**
Required funds to serve existing population	$2,229,779
Total Program Cost in 2010 dollars	**$4,985,144**

Sources: Tables 12.2 and 12.4.

13. ADMINISTRATION

This chapter discusses the need for an administration component to be included in the impact fee program.

COST TO IMPLEMENT

As with most programs, there is a cost to administer, oversee and update the Impact Fee program. It is recommended that a cost be added to the overall impact fee to cover the costs related to implementing, administering, overseeing and updating the fee program, including the annual reporting requirements. An administrative cost of 2% of the total fee has been added and is shown in **Table 13.1.**

Table 13.1: Total Impact Fee revenues with Administration Costs

Facility Category	Revenues from Impact Fees	General Fund/Other Sources[1]	Program Total
Police[2]	$6,089,185	$495,000	$6,584,185
Fire Protection	$12,857,876	$969,124	$13,827,000
Municipal Facilities & Equipment	$17,346,121	$6,738,042	$24,084,163
Wastewater	$17,162,893	$0	$17,162,893
Parks and Recreation	$71,627,359	$0	$71,627,359
Community Facilities	$22,445,157	$7,301,843	$29,747,000
Transportation	$170,349,389	$42,292,160	$212,641,549
Drainage	$17,605,370	$1,004,950	$18,610,320
Water	$31,271,739	$0	$31,271,739
Information Technology	$2,755,365	$2,229,779	$4,985,144
Subtotal	$369,510,453	$61,030,899	$430,541,351
Percentage to the Program	86%	14%	
Administration 2%	$7,390,209		
Total (to nearest $1,000)	**$376,900,662**	**$61,031,000**	**$437,931,662**

[1] Funds identified under General Fund/Other Sources is a City obligation to the program.

[2] Other funds for Police Facilities are programmed Measure H funds for equipment

14. IMPLEMENTATION

This chapter identifies tasks that the City should complete when implementing the fee program.

IMPACT FEE PROGRAM ADOPTION PROCESS

Impact fee program adoption procedures are found in the California Government Code § 66000 *et seq*. Adoption of an impact fee program requires the City Council to follow certain procedures including holding a noticed public hearing. Fourteen day mailed public notice is required for those registering for such notification. Data, such as this impact fee report, and referenced material must be made available at least 10 days prior to the public hearing. The City's legal counsel should inform the City of any other procedural requirements as well as advice regarding adoption of an enabling ordinance and/or a resolution. After adoption, there is a mandatory 60-day waiting period before the fees go into effect, unless an Urgency Ordinance, valid for 30 days is adopted making certain findings regarding the urgency being claimed. The ordinance must be re-adopted at the end of the first period (and possibly at the end of the second period depending on City Council meeting dates) to cover the next 30 days and therefore the entire 60-day waiting period. Fees adopted by urgency ordinance go into effect immediately. This procedure must also be followed for fee increases.

PROGRAMMING REVENUES AND PROJECTS WITH THE CIP

The City should update its Capital Improvement Plan (CIP) to identify specific projects and program fee revenues to those projects. Use of the CIP in this manner documents a reasonable relationship between new development and the use of fee revenues.

For the established planning period of the CIP, the City should allocate all existing fund balances and projected fee revenue to facilities projects. The City can hold funds in a project account for longer than the established period if necessary to collect sufficient funds to complete a project.

FUNDS NEEDED TO COMPLEMENT IMPACT FEE PROGRAM

In adopting the fees as presented in this report, additional funds will need to be identified to fund the share of costs not related to new development. **Table 13.1** identifies the facilities studied in this report and the funding sources for the facilities. The "Funds Needed" column identifies the additional funding that the City needs to obtain for the facilities shown to cover the City's share related to existing development.

INFLATION ADJUSTMENT

For the majority of the projects, the costs in this PFF 2010 Fee Revision Report are shown in 2010 dollars based on actual construction costs. To ensure that the fee program stays current with costs, the City should identify appropriate inflation indexes in the fee ordinance and include an automatic annual inflation adjustment in the fee ordinance for those facilities that have not been completed. The recommended inflation index is the Engineering News Record Construction Cost Index – San Francisco Bay Area index which was used in this report to update cost estimates that were done in the past. In addition, for those facilities for which the City is recouping funds for building excess capacity into the facilities, no annual adjustment factor is recommended. For these projects, the annual adjustment factor is not necessary because the facilities have been constructed and the costs determined.

A construction cost index can be based on the City's recent capital project experience or taken from any reputable source, such as the *Engineering News Record*.

COMBINING FEES

Each facility category has been presented separately for the purpose of analysis and reporting. However, fees may be combined into two or more fee categories at the City's discretion, to facilitate administration.

COMPLIANCE REQUIREMENTS

The California Mitigation Fee Act (Government Code § 66000 *et seq*) mandates procedures for administration of impact fee programs, including collection, accounting, refunds, updates and reporting. The City should comply with the annual and five-year reporting requirements. For facilities to be funded with a combination of impact fees and other revenues, the City must identify the source and amount of the other revenues. The City must also identify when the other revenues are anticipated to be available to fund the project. The City's compliance obligations vis-à-vis the Act include but are not limited to the following specific requirements:

Collection of fees. Subdivision 66007 (a) provides that a local agency shall not require payment of fees by developers of residential projects prior to the date of final inspection, or issuance of a certificate of occupancy, whichever come first. Notwithstanding the Subdivision (b), the local agency may require the payment of those fees or charges at an earlier time if: (A) the local agency determines that the fees or charges will be collected for public improvements or facilities for which an account has been established and funds appropriated and for which the local agency has adopted a proposed construction schedule or plan prior to final inspection or issuance of the certificate of occupancy or (B) the fees or charges are to reimburse the local agency for expenditures previously made. "Appropriated," as used in this subdivision, means authorization by the governing body of the local agency for which the fee is collected to make expenditures and incur obligations for specific purposes.

Fee exemptions, reductions and waivers. In the event that a development project is found to have no impact on facilities for which fees are charged, such project must be exempted from the fees. If a project has characteristics that indicate its impacts on a particular public facility or infrastructure system will be significantly and permanently smaller than the average impact used to calculate impact fees in this study, the fees could be reduced accordingly.

In some cases, the city may desire to voluntarily waive or reduce impact fees that would otherwise apply to a project to promote goals such as affordable housing or economic development. Such a waiver or reduction may not result in increased costs to other development projects, and are allowable only if the City offsets the lost revenue from other fund sources.

Credit for improvements by developers. If the City requires a developer, as a condition of approval, to construct facilities or improvements, or provide a funding mechanism such as an assessment or special tax district that would fund improvements for which impact fees have been, or otherwise will be charged, the impact fee imposed on that development project for that type of facility must be adjusted to reflect a credit for the cost of facilities or improvements constructed by the developer or financed by a special tax or assessment. If the adjustment or a reimbursement for fees already charged would exceed the amount of the fee to be paid by the development for that type of facility, the City may seek to negotiate a reimbursement agreement with the developer.

Earmarking of fee revenue. Section 66006 mandates that the city shall: "deposit …. fees for the improvement in a separate capital facilities account or fund in a manner to avoid any commingling of the fees with other revenues and funds of the City, except for temporary investments"... Fees must be expended solely for the purpose for which they were collected. Interest earned on the fee revenues must also be placed in the capital account and used for the same purpose. The Mitigation Impact Fee Act is not clear as to whether depositing fees "for the improvements" refers to a specific capital improvement or a class of improvements (e.g. park facilities). Recommended practice is for the City is to maintain separate funds or accounts for impact fee revenues by facility category, but not necessarily for individual projects.

Reporting. Section 66006 requires that once each year, within 180 days of the close of the fiscal year, the local agency must make available to the public the following information for each account established to receive impact fee revenues:

6) The amount of the fee;

7) The beginning and ending balance of the account or fund;

8) The amount of the fees collected and interest earned;

9) Identification of each public improvement on which fee revenues were expended and the amount of the expenditures on each improvement, including the percentage of the cost of the public improvement that was funded with fee revenues;

10) Identification of the approximate date by which the construction of a public improvement will commence, if the City determines sufficient funds have been collected financing of an incomplete public improvement;

11) A description of each inter-fund transfer or loan made from the account or fund, including interest rates, repayment dates, and a description of the improvements on which the transfer or loan will be expended;

12) The amount of any refunds or allocations made pursuant to Section 66001, paragraphs (e) and (f).

The above information must be reviewed by the City Council at its next regularly scheduled public meeting, but not less than 15 days after the statements are made public.

Findings and refunds. Section 66001 requires that, for the fifth fiscal year following the first deposit of any impact fee revenue into an account or fund as required by Section 66006, and every five years thereafter, the local agency shall make all of the following findings for any fee revenues that remain unexpended, whether committed or uncommitted:

1) Identify the purpose to which the fee will be put;

2) Demonstrate the reasonable relationship between the fee and the purpose for which it is charged;

3) Identify all sources and amounts of funding anticipated to complete financing of incomplete improvements for which the impact fees are to be used;

4) Designate the approximate dates on which the funding necessary to complete financing of those improvements will be deposited in to the appropriate account of fund.

Annual update of Capital Improvement Program. Section 66002 provides that if a local agency adopts a CIP to identify the use of impact fees, that program must be adopted and annually updated by a resolution of the governing body at a noticed public hearing. The alternative is to identify improvements in other public documents.

Table A.1 - Land Use Analysis

Land Use	FAR or du's per acre	Phase 1 Acres Developed in 1997	Phase 1 Acres vacant or underutilized 1997	Phase 2 Acres (east of Faith Home only)	Proposed SOI Acres	1997 Acres	Acres developed 1997-2007	Developed acres 2007	Acres in Phase 1 available in 2007	Acres developed between 2007 & buildout
Residential reserve	0.5	0	0		847	0	0	0		847
Residential Ag	0.5	0	0	122		0	0	0		122
VL Density Residential	4	142	373	561		142	217	359	156	717
L Dens. Residential	6	1271	1169		277	1271	336	1607	833	1110
Total SF Residential		1413	1542	683	1124	1413	554	1967	988	2795
Med. Dens Residential	9.5	339	215		5	339	11	350	204	209
Hi Dens. Residential	18.5	134	92			134	11	145	81	81
Total MF Residential		473	307		5	473	22	495	285	290
Total Residential		**1886**	**1849**	**683**	**1129**	**1886**	**576**	**2462**	**1273**	**3085**
Office	0.35	6.1	25.3		39	6.1	8	14	18	57
Neigh. Comm.	0.25	15	37.4			15	16	31	22	22
Community Comm.	0.25	131.9	121		10	131.9	51	182	70	80
Highway Comm.	0.25	34	48			34	20	54	28	28
Regional Comm.	0.25	15.6	95.4			15.6	40	55	56	56
Downtown Comm.	0.75	20	2.6			20	0	20	2	2
Service commercial	0.25	118.4	43.3			118.4	18	137	25	25
commercial recreation	0.02	64	13.2		154	64.1	13	77	0	154
Total Commercial		**405**	**386.2**		**164**	**405.1**	**165**	**570**	**221**	**424**
Business Park	0.3	2	109.3			1.5	9	10	101	101
Light Industrial	0.4	60	184.1		272	59.7	11	71	173	445
General Industrial	0.4	269	217.5			268.9	13	282	205	205
Industrial reserve	0.4	0			555	0	0	0	0	555
Warehousing	0.4	0	0		60	0	0	0		60
Total Industrial		330	510.9		827	330	33	363	478	1305
Total all non--public Land Use		**2621**	**2746.1**		**2159**				**1972**	**4874**

Table A.2 Population, Housing and Land Use Summary							
		Population			Housing		
		2007	Build-out		2007	Build-out	
DOF Table E-4 Estimate (2007)		41,997	86,026				
Single family @ 3.38pphh		37,049	70,894		10,956	20,965	
Multi-family @ 2.92pphh		4,948	15,132		1,693	5,177	
	Land Use						
	Business Park				Office		
	1997	2007	Build-out		1997	2007	Build-out
Gross Employment Area - square feet	19,602	133,360	1,447,934		93,001	208,181	1,073,318
vacancy rates: 0% comm; 0% BP&Ind	0	0	0	0%	0	0	0
Net Employment Area	19,602	133,360	1,447,934		93,001	208,181	1,073,318
Workers at assumed area/worker rate	20	133	1,448		116	260	1,342
employment area/worker square feet	1,000		448		800		542
	Industrial				Commercial		
	1997	2007	Build-out		1997	2007	Build-out
Gross Employment Area - square feet	5,745,128	6,276,864	28,580,587		4,138,505	5,848,125	9,216,468
vacancy rates: 0% comm; 0% BP&Ind	0	0	0	0%	0	0	0
Net Employment Area	5,745,128	6,276,864	28,580,587		4,138,505	5,848,125	9,216,468
Workers at assumed area/worker rate	3,379	3,692	16,812		3,449	4,873	7,680
employment area/worker square feet	1,700				1,200		
	Warehousing				Total Non-residential		
	1997	2007	Build-out		2007	Build-out	Growth
Gross Employment Area - square feet	0	0	1045440				
vacancy rates: 0% comm; 0% BP&Ind	0	0	0	0%			
Net Employment Area	0	0	1,045,440		12,466,530	41,363,748	28,897,218
Workers at assumed area/worker rate	0	0	523				
employment area/worker square feet	2000						
	Workers						
	1997	2007[1]	Build-out	Change: 2007-Build-out			
	6,964	8,959	27,805	18,846			

Table A.3 - Roadway Improvements Costs

					WORK DESCRIPTION	-	COST/UNIT 2005	COST/UNIT 2010			
CITY OF CERES											
PUBLIC FACILITIES PLAN - NEW GENERAL PLAN											
STREETS/INTERSECTION/INTERCHANGE IMPROVEMENTS					CURB AND GUTTER	LF	$26.12	$28.41			
MARCH 1, 1997					SIDEWALK	SF	$4.24	$4.61			
					18.5 FT. OF PAVEMENT	SF	$1.96	$2.13			
					REMAINING PAVEMENT	SF	$1.96	$2.13			
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	$3.44	Note: change in land value made by Council in		
					MEDIAN	LF	n/a	$500.00			
NO.	STREET/INTERSECTION	FROM	TO	DESCRIPTION OF IMPROVEMENTS	WORK DESCRIPTION	-	2005 COST/UNIT	UNITS	CURRENT COST/UNIT	CURRENT COSTS	PROJECT COSTS IN STUDY AREA
1	CROWS' LANDING ROAD	WHITMORE	SERVICE	WIDEN TO 4 LANES SOUTH	CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
				OF WHITMORE AVENUE TO	SIDEWALK	SF	$4.24	0	$4.61	$0	
				GRAYSON	18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$0
		SERVICE	LATERAL 2		CURB AND GUTTER	LF	$26.12	2,100	$28.41	$59,653	
					SIDEWALK	SF	$4.24	10,500	$4.61	$48,417	
					18.5 FT. OF PAVEMENT	SF	$1.96	38,850	$2.13	$82,811	
					REMAINING PAVEMENT	SF	$1.96	34,320	$2.13	$73,155	
					CANAL CROSSING	LS	$1,000.00	110	$1,306.12	$143,673	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	5,400	$3.44	$18,595	$511,564
		LATERAL 2	GRAYSON		CURB AND GUTTER	LF	$26.12	1,840	$28.41	$52,267	
					SIDEWALK	SF	$4.24	8,280	$4.61	$38,180	
					18.5 FT. OF PAVEMENT	SF	$1.96	34,040	$2.13	$72,558	
					REMAINING PAVEMENT	SF	$1.96	34,320	$2.13	$73,155	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	184,000	$3.44	$633,609	$1,043,723
				SIGNAL MODIFICATIONS/ADDITIONS							
				CROWS LANDING/SERVICE			0	0			
				CROWS LANDING/NEW IND. ST.			$196,000	1	$213,155	$213,155	
											$213,155
2	MORGAN ROAD	SEVENTH	WHITMORE	WIDEN TO 4 LANES BETWEEN	CURB AND GUTTER	LF	$26.12	1,500	$28.41	$42,609	
				(1) SERVICE ROAD AND WHITMORE	SIDEWALK	SF	$4.24	7,500	$4.61	$34,583	
				(2) WHITMORE AND HATCH	18.5 FT. OF PAVEMENT	SF	$1.96	27,750	$2.13	$59,151	
					REMAINING PAVEMENT	SF	$1.96	18,480	$2.13	$39,391	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	37,500	$3.44	$129,132	$365,840
		WHITMORE	SERVICE		CURB AND GUTTER	LF	$26.12	1,750	$28.41	$49,711	
					SIDEWALK	SF	$4.24	7,650	$4.61	$35,275	
					18.5 FT. OF PAVEMENT	SF	$1.96	31,450	$2.13	$67,037	
					REMAINING PAVEMENT	SF	$1.96	17,490	$2.13	$37,281	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	9,600	$3.44	$33,058	$266,834
		SERVICE	GRAYSON		CURB AND GUTTER	LF	$26.12	200	$28.41	$5,681	
					SIDEWALK	SF	$4.24	900	$4.61	$4,150	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
					CANAL CROSSING	LF	$1,300.00	70	$1,414	$98,965	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$130,555
				SIGNAL MODIFICATIONS/ADDITIONS							
				MORGAN/WHITMORE (MOD.)			104000		$113,103	$113,103	$135,723
				MORGAN/HACKETT			196000		$213,155	$213,155	$255,786
				MORGAN/SERVICE			196000		$213,155	$213,155	$255,786

NO.	STREET/INTERSECTION	FROM	TO	DESCRIPTION OF IMPROVEMENTS	WORK DESCRIPTION	-	2005		CURRENT	CURRENT	TOTAL COST
							COST/UNIT	UNITS	COST/UNIT	COSTS (2010)	
3	CENTRAL AVENUE	HATCH	WHITMORE	WIDEN TO 4 LANES BETWEEN	CURB AND GUTTER	LF	$26.12	7,300	$28.41	$207,365	
				HATCH ROAD AND WHITMORE AVEN	SIDEWALK	SF	$4.24	54,875	$4.61	$253,035	
					18.5 FT. OF PAVEMENT	SF	$1.96	135,050	$2.13	$287,866	
				REQUIRES ACQUISITION OF 2 HOUSES	REMAINING PAVEMENT	SF	$1.96	8,580	$2.13	$18,289	
					ROW - FULL TAKES	EA	$170,000.00	5	$184,880	$924,398	
				FOR ROW AND 5 TO REPLACE PARK	RIGHT-OF-WAY ACQUISITION	SF	$6.68	136,200	$3.44	$469,008	$2,591,953
		-	SERVICE	ALSO 4 LANES BETWEEN INDUSTRIAL	CURB AND GUTTER	LF	$26.12	1,630	$28.41	$46,302	
				WAY AND GRAYSON ROAD	SIDEWALK	SF	$4.24	7,335	$4.61	$33,823	
					18.5 FT. OF PAVEMENT	SF	$1.96	30,155	$2.13	$64,277	
				REQUIRES ACQUISITION OF 9 HOUSES	REMAINING PAVEMENT	SF	$1.96	14,058	$2.13	$29,965	
					ROW - FULL TAKES	EA	$170,000.00	9	$184,880	$1,663,916	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	40,500	$3.44	$139,463	$2,373,295
		SERVICE	GRAYSON		CURB AND GUTTER	LF	$26.12	2,225	$28.41	$63,204	
					SIDEWALK	SF	$4.24	10,013	$4.61	$46,169	
					18.5 FT. OF PAVEMENT	SF	$1.96	41,163	$2.13	$87,740	
					REMAINING PAVEMENT	SF	$1.96	69,696	$2.13	$148,561	
					CANAL CROSSING WIDENING	LF	$1,700.00	120	$1,849	$221,855	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	52,750	$3.44	$181,646	$899,010
				SIGNAL MODIFICATIONS/ADDITIONS							
				CENTRAL/SERVICE			$196,000.00		$213,155	$213,155	$255,786
				CENTRAL/REDWOOD			$196,000.00		$213,155	$213,155	$255,786
				CENTRAL / GRAYSON			$196,000.00		$213,155	$213,155	$255,786
4	MITCHELL ROAD	RIVER	HATCH		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
		Entry Feature								$40,000	
					SIDEWALK	SF	$4.24	0	$4.61	$0	
					MEDIAN	LF	n/a	2,500	$500.00	$1,250,000	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
					TRAFFIC SIGNAL	EA	$196,000.00	0	$213,155	$0	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$1,548,000
		HATCH	WHITMORE		CURB AND GUTTER	LF	$26.12	2,150	$28.41	$61,073	
					SIDEWALK	SF	$4.24	10,750	$4.61	$49,569	
					MEDIAN	LF	n/a	4,400	$500.00	$2,200,000	
					REMAINING PAVEMENT	SF	$1.96	10,750	$2.13	$22,914	
				MITCHELL/ROSEWOOD	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$3,056,055
		WHITMORE	SERVICE		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
					SIDEWALK	SF	$4.24	0	$4.61	$0	
					MEDIAN	LF	n/a	2,640	$500.00	$1,320,000	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
					CANAL CROSSING WIDENING	EA	$170,000.00	0	$184,880	$0	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	55,000	$3.44	$189,394	$1,811,273
		SERVICE	FREEWAY		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
					SIDEWALK	SF	$4.24	0	$4.61	$0	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
				MITCHELL/S. OF SERVICE	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	20,000	$3.44	$68,871	$338,431
				~~FREEWAY OVERPASS MODIFICATION~~	~~MODIFICATION~~	~~EA~~	~~$35,000,000~~	~~1~~	~~$38,063,439~~	~~$38,063,439~~	
		FREEWAY	GRAYSON	NEW ROAD, 4 LANES	CURB AND GUTTER	LF	$26.12	2,300	$28.41	$65,334	
					SIDEWALK	SF	$4.24	10,350	$4.61	$47,725	
					18.5 FT. OF PAVEMENT	SF	$1.96	42,550	$2.13	$90,698	
					REMAINING PAVEMENT	SF	$1.96	82,800	$2.13	$176,493	
				REDWOOD & MITCHELL	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					CANAL CROSSING	LF	$1,300.00	100	$1,697.95	$169,795	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	138,000	$3.44	$475,207	$1,486,088

NO.	STREET/INTERSECTION	FROM	TO	DESCRIPTION OF IMPROVEMENTS	WORK DESCRIPTION	-	2005 COST/UNIT	UNITS	CURRENT COST/UNIT	CURRENT COSTS (2010)	TOTAL COST
5	FAITH HOME	~~RIVER CROSSING~~			~~BRIDGE (CITY'S SHARE)~~	~~EA~~	~~$6,500,000.00~~	~~1~~	~~$7,068,924~~	~~$7,068,924~~	
		RIVER	HATCH		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
					SIDEWALK	SF	$4.24	0	$4.61	$0	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	86,000	$2.13	$183,314	
				FAITH HOME/HATCH	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					MEDIAN	LF	n/a	2,400	$500.00	$1,200,000	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	92,880	$3.44	$319,835	$2,299,564
		HATCH	WHITMORE		CURB AND GUTTER	LF	$26.12	2,180	$28.41	$61,926	
					SIDEWALK	SF	$4.24	9,810	$4.61	$45,235	
					18.5 FT. OF PAVEMENT	SF	$1.96	40,330	$2.13	$85,966	
					REMAINING PAVEMENT	SF	$1.96	221,760	$2.13	$472,693	
					CANAL CROSSING	LF	$1,700.00	130	$1,849	$240,343	
				FAITH HOME/WHITMORE	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					MEDIAN	LF	n/a	2,400	$500.00	$1,200,000	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	56,400	$3.44	$194,215	$3,016,239
		WHITMORE	SERVICE		CURB AND GUTTER	LF	$26.12	1,060	$28.41	$30,111	
					SIDEWALK	SF	$4.24	4,770	$4.61	$21,995	
					18.5 FT. OF PAVEMENT	SF	$1.96	19,610	$2.13	$41,800	
					REMAINING PAVEMENT	SF	$1.96	221,760	$2.13	$472,693	
				FAITH HOME/ROEDING	TRAFFIC SIGNAL	EA	$196,000.00	2	$213,155	$426,311	
				FAITH HOME/SERVICE	MEDIAN	LF	n/a	5,280	$500.00	$2,640,000	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	31,555	$3.44	$108,660	$4,489,883
		SERVICE	REDWOOD		CURB AND GUTTER	LF	$26.12	500	$28.41	$14,203	
					SIDEWALK	SF	$4.24	2,250	$4.61	$10,375	
					18.5 FT. OF PAVEMENT	SF	$1.96	9,250	$2.13	$19,717	
					REMAINING PAVEMENT	SF	$1.96	217,300	$2.13	$463,186	
					CANAL CROSSING	EA	$1,700.00	130	$1,849	$240,343	
				FAITH HOME/REDWOOD	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					MEDIAN	LF	n/a	2,400	$500.00	$1,200,000	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	12,500	$3.44	$43,044	$2,644,829
		REDWOOD	S. SPHERE LIMITS		CURB AND GUTTER	LF	$26.12	4,140	$28.41	$117,602	
					SIDEWALK	SF	$4.24	18,630	$4.61	$85,905	
					18.5 FT. OF PAVEMENT	SF	$1.96	76,590	$2.13	$163,256	
					REMAINING PAVEMENT	SF	$1.96	196,800	$2.13	$419,490	
					CANAL CROSSING	LF	$1,700.00	130	$1,849	$240,343	
					TRAFFIC SIGNAL	EA	$196,000.00	0	$213,155	$0	
					MEDIAN	LF	n/a	2,400	$500.00	$1,200,000	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	97,250	$3.44	$334,883	$3,073,774

NO.	STREET/INTERSECTION	FROM	TO	DESCRIPTION OF IMPROVEMENTS	WORK DESCRIPTION	-	2005		CURRENT	CURRENT	TOTAL COST
							COST/UNIT	UNITS	COST/UNIT	COSTS (2010)	
6	HATCH ROAD	FREEWAY OVERPASS			MODIFY	EA	$3,500,000	1	$3,806,344	$3,806,344	$3,806,344
		Entry Feature								$40,000	
		HERNDON	MITCHELL		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
					SIDEWALK	SF	$4.24	0	$4.61	$0	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					MEDIAN	LF	n/a	20,800	$500.00	$10,400,000	
					REMAINING PAVEMENT	SF	$1.96	83,200	$2.13	$44,336	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$12,581,204
		MITCHELL	FAITH HOME		CURB AND GUTTER	LF	$26.12	4,780	$28.41	$135,782	
					SIDEWALK	SF	$4.24	21,510	$4.61	$99,185	
					18.5 FT. OF PAVEMENT	SF	$1.96	57,360	$2.13	$122,266	
					REMAINING PAVEMENT	SF	$1.96	177,840	$2.13	$379,075	
					CANAL CROSSING	EA	$1,700.00	100	$1,849	$184,880	
					MEDIAN	LF	n/a	5,280	$500.00	$2,640,000	
				HATCH/BOOTHE	TRAFFIC SIGNAL	EA	$196,000.00	2	$213,155	$426,311	
				HATCH/NEW ROAD	RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$4,784,998
7	WHITMORE AVENUE	USTICK	CROWS LANDING								
				WIDEN TO 4 LANES	CURB AND GUTTER	LF	$26.12	330	$28.41	$9,374	
					SIDEWALK	SF	$4.24	2,925	$4.61	$13,488	
					18.5 FT. OF PAVEMENT	SF	$1.96	12,025	$2.13	$25,632	
					REMAINING PAVEMENT	SF	$1.96	31,680	$2.13	$67,528	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	8,250	$3.44	$28,409	$173,316
		CROWS LANDING			CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
			MORGAN		SIDEWALK	SF	$4.24	0	$4.61	$0	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	23,760	$2.13	$50,646	
					RAILROAD CROSSING	EA	$457,000.00	0	$497,000	$0	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$60,775
		MORGAN	CENTRAL		CURB AND GUTTER	LF	$26.12	1,170	$28.41	$33,235	
					SIDEWALK	SF	$4.24	5,265	$4.61	$24,278	
					18.5 FT. OF PAVEMENT	SF	$1.96	21,645	$2.13	$46,137	
					REMAINING PAVEMENT	SF	$1.96	20,988	$2.13	$44,737	
					OVERPASS EXPANSION	EA	$0	1	$0	$0	
				WHITMORE/BLAKER	TRAFFIC SIGNAL	EA	$196,000.00	1	$213,155	$213,155	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	28,750	$3.44	$99,001	$552,653
		CENTRAL	MITCHELL		CURB AND GUTTER	LF	$26.12	6,030	$28.41	$171,289	
					SIDEWALK	SF	$4.24	27,135	$4.61	$125,123	
					18.5 FT. OF PAVEMENT	SF	$1.96	39,120	$2.13	$83,386	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$455,758
		MITCHELL	FAITH HOME		CURB AND GUTTER	LF	$26.12	776	$28.41	$22,043	
					SIDEWALK	SF	$4.24	3,492	$4.61	$16,102	
					18.5 FT. OF PAVEMENT	SF	$1.96	14,356	$2.13	$30,601	
					REMAINING PAVEMENT	SF	$1.96	51,480	$2.13	$109,732	
				WHITMORE/BOOTHE	TRAFFIC SIGNAL	EA	$196,000.00	2	$213,155	$426,311	
				WHITMORE / NEW STREET	RIGHT-OF-WAY ACQUISITION	SF	$5.25	35,400	$3.44	$121,901	$872,027

NO.	STREET/INTERSECTION	FROM	TO	DESCRIPTION OF IMPROVEMENTS	WORK DESCRIPTION	-	2005		CURRENT	CURRENT	TOTAL COST
							COST/UNIT	UNITS	COST/UNIT	COSTS (2010)	
9	GRAYSON	USTICK	CROWS LANDIING		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
				NONE NEEDED	SIDEWALK	SF	$4.24	0	$4.61	$0	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	0	$2.13	$0	
					CANAL CROSSING	EA	$157,000.00	0	$170,742	$0	
				GRAYSON & CROWS LANDING	TRAFFIC SIGNAL	EA	$157,000.00	1	$170,742	$170,742	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	0	$3.44	$0	$204,890
		CROWS LANDI	MORGAN	2 TO 4 LANES	CURB AND GUTTER	LF	$26.12	280	$28.41	$7,954	
					SIDEWALK	SF	$4.24	1,260	$4.61	$5,810	
					18.5 FT. OF PAVEMENT	SF	$1.96	5,180	$2.13	$11,041	
					REMAINING PAVEMENT	SF	$1.96	137,280	$2.13	$292,620	
					CANAL CROSSING	EA	$157,000.00	0	$170,742	$0	
				GRAYSON & MORGAN	TRAFFIC SIGNAL	EA	$157,000.00	1	$170,742	$170,742	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	11,000	$3.44	$37,879	$631,254
		MORGAN	CENTRAL		CURB AND GUTTER	LF	$26.12	0	$28.41	$0	
					SIDEWALK	SF	$4.24	0	$4.61	$0	
					18.5 FT. OF PAVEMENT	SF	$1.96	0	$2.13	$0	
					REMAINING PAVEMENT	SF	$1.96	137,280	$2.13	$292,620	
					CANAL CROSSING	EA	$1,700.00	0	$1,849	$0	
					TRAFFIC SIGNAL	EA	$157,000.00	0	$170,742	$0	
					RIGHT-OF-WAY ACQUISITION	SF	$6.68	27,000	$3.44	$92,975	$462,714
		CENTRAL	MITCHELL	NEW ROAD, 4 LANES	CURB AND GUTTER	LF	$26.12	5,300	$28.41	$150,553	
					SIDEWALK	SF	$4.24	23,850	$4.61	$109,975	
					18.5 FT. OF PAVEMENT	SF	$1.96	98,050	$2.13	$208,999	
					REMAINING PAVEMENT	SF	$1.96	265,000	$2.13	$564,861	
					CANAL CROSSING	EA	$1,700.00	140	$1,849	$258,831	

TABLE A.4: TRANSPORTATION FEE SCHEDULE - ITE[1]								
Development Type		Peak Hour Trips[2]	Primary Trip Factor[3]	Trip Length Factor[3]	Adjusted Trips	DUE	Adjusted Unit Fee	Trip Length
RESIDENTIAL PER UNIT UNLESS OTHERWISE NOTED)								
Single Family 1 and 2 units		1.01	0.90	1.00	0.91	1.00	$3,035	7.9
Multi-Family 3 or 4 units		0.62	0.90	1.00	0.56	0.62	$1,881	7.9
Apartment 5 or more units		0.58	0.90	1.00	0.52	0.57	$1,730	7.9
Townhouse		0.72	0.90	1.00	0.65	0.71	$2,155	7.9
Residential Condo.		0.52	0.90	1.00	0.47	0.52	$1,578	7.9
Mobile Home Park		0.59	0.90	1.00	0.53	0.58	$1,760	7.9
Retirement Community		0.27	0.90	1.00	0.24	0.26	$789	7.9
Senior Housing		0.28	0.90	1.00	0.25	0.27	$819	7.9
Congregate Care Facility		0.17	0.90	1.00	0.15	0.16	$486	7.9
Assisted Living (beds)		0.22	0.90	1.00	0.20	0.22	$668	7.9
Nursing Home/Continuing Care Facility 24 hours		0.29	0.90	1.00	0.26	0.29	$880	7.9
LODGING PER ROOM								
Hotel		0.59	0.58	0.96	0.33	0.36	$1,092	7.6
All Suites Hotel		0.40	0.58	0.96	0.22	0.24	$728	7.6
Business Hotel		0.62	0.58	0.96	0.35	0.38	$1,153	7.6
Motel		0.47	0.58	0.96	0.26	0.29	$880	7.6
OFFICE FEE								
General Office Building		1.49	0.77	1.11	1.27	1.40	$4,248	8.8
Single Tenant Office Building		1.73	0.82	1.11	1.57	1.73	$5,250	8.8
Multi-Tenant Office Building		1.80	0.80	1.11	1.60	1.76	$5,341	9.8
Medical/Dental		3.72	0.60	1.11	2.48	2.73	$8,284	8.8
Office Park		1.50	0.82	1.11	1.37	1.51	$4,582	8.8
Average Office		2.19			1.73	1.91		
Average Commercial		13.94			2.76	2.98		
Fees based on total cost for transportation improvements of:			$3,034.56	per DUE				

[1] Peak hour trips from the *Institute of Transportation Engineers, Trip Generation, 7th Ed. 2003.*

[2] Average rates (for all leasable areas) for one hour period between 4 and 6 p.m.

[3] Primary trip factor (percentage of total peak-hour trips generated by the use that are un-linked or non-diverted) and trip length factor (relative to single family homes) are from the San Diego Association of Governments *Brief Guide to Vehicular Traffic*

TABLE A.4: TRANSPORTATION FEE SCHEDULE - ITE[1]		Peak Hour	Primary Trip	Trip Length	Adjusted		Adjusted	Trip
Development Type		Trips[2]	Factor[3]	Factor[3]	Trips	DUE	Unit Fee	Length
COMMERCIAL/1,000 SQ. FT. (UON)								
Building Material and Lumber		4.49	0.45	0.54	1.09	1.20	$3,641	4.3
Free-Standing Discount Superstore		3.87	0.45	0.54	0.94	1.03	$3,126	4.3
Specialty Retail		2.71	0.45	0.54	0.66	0.73	$2,215	4.3
Free-Standing Discount Store		5.06	0.45	0.54	1.23	1.35	$4,097	4.3
Hardware/Paint Store		4.84	0.45	0.54	1.18	1.30	$3,945	4.3
Nursery (Garden Center)		3.80	0.45	0.54	0.92	1.01	$3,065	4.3
Nursery (Wholesale)		5.17	0.45	0.54	1.26	1.38	$4,188	4.3
Shopping Center (less than 50,000 sq. ft.); X =	25	9.71	0.45	0.54	2.36	2.59	$7,860	4.3
Shopping Center (50,000 to 99,999 sq. ft.); X =	75	6.61	0.45	0.61	1.81	1.99	$6,039	4.8
Shopping Center (100,000 to 199,999 sq. ft.); X =	150	5.19	0.50	0.67	1.74	1.91	$5,796	5.3
Shopping Center (200,000 to 299,999 sq. ft.); X =	250	4.34	0.55	0.73	1.74	1.91	$5,796	5.8
Shopping Center (300,000 sq. ft.and above); X =	500	3.40	0.60	0.80	1.63	1.79	$5,432	6.3
Tire Store		4.12	0.21	0.54	0.47	0.52	$1,578	4.3
Tire Store (w/service bays)		3.79	0.21	0.54	0.43	0.47	$1,426	4.3
Supermarket		2.11	0.45	0.54	0.51	0.56	$1,699	4.3
Convenience Market (24 hrs.)		52.41	0.45	0.54	12.74	14.00	$42,484	4.3
Convenience Market (15-16 hrs.)		34.57	0.45	0.54	8.40	9.23	$28,009	4.3
Convenience Market w/gasoline pumps		60.61	0.45	0.54	14.73	16.19	$49,130	4.3
Discount Supermarket		8.90	0.45	0.54	2.16	2.37	$7,192	4.3
Home Improvement Superstore		2.45	0.45	0.54	0.60	0.66	$2,003	4.3
Electronics Superstore		4.50	0.45	0.54	1.09	1.20	$3,641	4.3
Toy/Children's Superstore		4.99	0.45	0.54	1.21	1.33	$4,036	4.3
Baby Superstore		1.82	0.45	0.54	0.44	0.48	$1,457	4.3
Pet Supply Superstore		4.96	0.45	0.54	1.21	1.33	$4,036	4.3
Office Supply Superstore		3.40	0.45	0.54	0.83	0.91	$2,761	4.3
Book Superstore		19.53	0.45	0.54	4.75	5.22	$15,840	4.3
Discount Home Furnishings		4.01	0.45	0.54	0.97	1.07	$3,247	4.3
Apparel Store		3.83	0.45	0.54	0.93	1.02	$3,095	4.3
Arts and Crafts Store		6.21	0.45	0.54	1.51	1.66	$5,037	4.3
Pharmacy/Drugstore w/o drive-through		8.42	0.45	0.54	2.05	2.25	$6,828	4.3
Pharmacy/Drugstore with drive-through		8.62	0.45	0.54	2.09	2.30	$6,979	4.3
Furniture Store		0.46	0.45	0.54	0.11	0.12	$364	4.3
Video Arcade		10.64	0.45	0.54	2.59	2.85	$8,649	4.3
Video Rental Store		13.60	0.45	0.54	3.30	3.63	$11,015	4.3
Walk-in Bank (only)		33.15	0.35	0.43	4.99	5.48	$16,629	3.4
Drive-in Bank (only)		45.74	0.35	0.43	6.88	7.56	$22,941	3.4
Drive-in Bank (w/drive up lanes)		51.08	0.35	0.43	7.69	8.45	$25,642	3.4
High-End Restaurant		7.49	0.51	0.59	2.25	2.47	$7,495	4.7
High-Turnover Sit-down Restaurant		10.92	0.51	0.59	3.29	3.62	$10,985	4.7
Fast Food w/o drive-through		26.15	0.51	0.59	7.87	8.65	$26,249	4.7
Fast Food with drive-through		34.64	0.51	0.59	10.42	11.45	$34,746	4.7
Drinking Place (only)		11.34	0.51	0.59	3.41	3.75	$11,380	4.7
Quick Lubrication Vehicle Stop		5.19	0.21	0.35	0.38	0.42	$1,275	2.8
Automobile Care Center		3.38	0.21	0.35	0.25	0.27	$819	2.8
New/Used Car Sales		2.64	0.21	0.35	0.19	0.21	$637	2.8
Automobile Parts and Service Center		4.46	0.21	0.35	0.33	0.36	$1,092	2.8
Gasoline/Service Station (fuel position)		13.86	0.21	0.35	1.02	1.12	$3,399	2.8
Service Staion w/convenience market		96.37	0.21	0.35	7.08	7.78	$23,609	2.8
Service Station w/con. Market & Carwash (fuel position)		13.33	0.21	0.35	0.98	1.08	$3,277	2.8
Automated Car Wash		14.12	0.21	0.35	1.04	1.14	$3,459	2.8
Self-Service Car Wash (wash stall)		5.54	0.21	0.35	0.41	0.45	$1,366	2.8
Average Commercial		13.94			2.76	2.98		
Fees based on total cost for transportation improvements of:			$3,034.56	per DUE				

[1] Peak hour trips from the *Institute of Transportation Engineers, Trip Generation, 7th Ed. 2003.*

[2] Average rates (for all leasable areas) for one hour period between 4 and 6 p.m. except "Shopping Center" (ITE 820) which uses the fitted curve equation with X = mid-range of given size ranges, i.e. peak hour trip rate per 1,000 sq. ft. is calculated as: t = EXP(.66(LN(X)+3.4)/X

[3] Primary trip factor (percentage of total peak-hour trips generated by the use that are un-linked or non-diverted) and trip length factor (relative to single family homes) are from the San Diego Association of Governments *Brief Guide to Vehicular Traffic*

TABLE A.4: TRANSPORTATION FEE SCHEDULE - ITE[1] (continued)

Development Type	Peak Hour Trips[2]	Primary Trip Factor[3]	Trip Length Factor[3]	Adjusted Trips	DUE	Adjusted Unit Fee	Trip Length
INDUSTRIAL USES (1,000 SF UNLESS OTHERWISE NOTED)							
Business Park	1.29	0.79	1.14	1.16	1.27	$3,854	9
General Light Industrial	0.98	0.79	1.48	1.15	1.26	$3,824	11.7
General Heavy Industrial	0.98	0.92	1.48	1.33	1.46	$4,430	11.7
Industrial Park	0.86	0.92	1.48	1.17	1.29	$3,915	11.7
Manufacturing	0.74	0.92	1.48	1.01	1.11	$3,368	11.7
Distribution/Warehouse	0.47	0.92	1.48	0.64	0.70	$2,124	11.7
Mini-Warehouse	0.26	0.92	1.48	0.35	0.38	$1,153	11.7
Truck Terminal	0.82	0.90	1.48	1.09	1.20	$3,641	11.7
RECREATIONAL USES							
Golf Course (acre)	0.30	0.52	0.80	0.12	0.13	$394	6.3
Golf Course (hole)	2.74	0.52	0.80	1.14	1.25	$3,793	6.3
Miniature Golf (hole)	0.33	0.52	0.80	0.14	0.15	$455	6.3
Golf Driving Range (tees)	1.25	0.52	0.80	0.52	0.57	$1,730	6.3
Batting Cage (cages)	0.15	0.52	0.80	0.06	0.07	$212	6.3
Multipurpose Recreation Facility (acre)	5.77	0.52	0.80	2.40	2.64	$8,011	6.3
Bowling Alley (1,000 sf)	3.54	0.52	0.80	1.47	1.62	$4,916	6.3
Live Theatre	0.02	0.52	0.80	0.01	0.01	$30	6.3
Movie Theater with Matinee (1,000 sf)	3.80	0.52	0.80	1.58	1.74	$5,280	6.3
Movie Theater with Matinee (seat)	0.07	0.52	0.80	0.03	0.03	$91	6.3
Multiplex Movie Theater (1,000 sf)	5.22	0.52	0.80	2.17	2.38	$7,222	6.3
Multiplex Movie Theater (seat)	0.29	0.52	0.80	0.12	0.13	$394	6.3
Arena (acre)	3.50	0.52	0.80	1.46	1.60	$4,855	6.3
Ice Rink (1,000 sf)	2.36	0.52	0.80	0.98	1.08	$3,277	6.3
Amusement Park (acre)	3.95	0.52	0.80	1.64	1.80	$5,462	6.3
Soccer Complex (fields)	20.67	0.52	0.80	8.60	9.45	$28,677	6.3
Tennis Court (private)	3.88	0.52	0.80	1.61	1.77	$8,078	6.3
Health Club	4.05	0.52	0.80	1.68	1.85	$5,614	6.3
Recreational Community Center	1.64	0.52	0.80	0.68	0.75	$2,276	6.3
PUBLIC/QUASI-INSTITUTIONAL USES (1,000 UNLESS OTHERWISE NOTED)							
Elementary School	3.13	0.57	0.43	0.77	0.85	$2,579	3.4
Middle School	1.19	0.63	0.63	0.47	0.52	$1,578	5
High School	0.97	0.75	0.61	0.44	0.48	$1,457	4.8
Private School (K-8)	0.61	0.57	0.43	0.15	0.16	$486	3.4
Private School (K-12)	0.55	0.63	0.63	0.22	0.24	$728	5
University/College (student)	0.21	0.91	1.14	0.22	0.24	$728	9
Church	0.66	0.64	0.65	0.27	0.30	$910	5.1
Church w/daycare	1.40	0.40	0.51	0.29	0.32	$971	4
Church w/classrooms	3.80	0.40	0.51	0.78	0.86	$2,610	4
Synagogue	1.69	0.64	0.65	0.70	0.77	$2,337	5.1
Day Care Center (student)	0.82	0.28	0.47	0.11	0.12	$364	3.7
Cemetery (acre)	0.84	0.21	0.63	0.11	0.12	$364	5
Library	7.09	0.44	0.49	1.53	1.68	$5,098	3.9
Lodge/Fraternity Organization (members)	0.03	0.50	0.51	0.01	0.01	$30	4
Hospital	1.18	0.73	1.05	0.90	0.99	$3,004	8.3
State Motor Vehicles Dept.	17.09	0.50	0.76	6.49	7.13	$21,636	6
Fees based on total cost for transportation improvements of:		$3,034.56	per DUE				

[1] Peak hour trips from the Institute of Transportation Engineers, Trip Generation, 7th Ed. 2003. Average rates for one hour between 4 and 6 p.m.

[2] Average rates for one hour between 4 and 6 p.m.

[3] Primary trip factor (percentage of total peak-hour trips generated by the use that are un-linked or non-diverted) and trip length factor (relative to single family homes) are from the San Diego Association of Governments *Brief Guide to Vehicular Traffic*

Appendix A.5 – Wastewater Cost of Capacity Memo, Eco:Logic

ECO:LOGIC
ENGINEERS · CONSULTANTS

Memorandum

To: Michael Brinton, P.E., City of Ceres

From: Neal Colwell, P.E.

CC: Phil Scott, City of Ceres

Steve Tarantino, P.E., EKI

Dino Serafini, P.E., PMC

Date: October 28, 2008

RE: Cost of Wastewater Treatment and Disposal Capacity

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1. SUMMARY

Two separate wastewater collection systems provide service in the City of Ceres as shown on the attached Figure 1. In the northern portion of the City, wastewater is collected in the North Ceres Sewer Service Area (NCSSA) and conveyed to the City of Modesto Water Quality Control Facility (WQCF) for treatment and disposal. Wastewater from the remainder of the City (Main City) is conveyed to the City of Ceres Wastewater Treatment Plant (WWTP) located on Service Road. This analysis is focused on the cost of facilities to provide wastewater collection, treatment, and disposal service to the Main City Ceres.

Existing wastewater treatment and disposal facilities for the Main City are estimated to have residual capacity for average dry weather period flows up to 3.4 million gallons per day (Mgal/d) with capacity expandable to 4.5 Mgal/d by adding additional pond aeration or other minor modifications. Currently the system's primary limit is treatment capacity as long as disposal to Turlock is maximized. Current average influent flows are approximately 3.07 Mgal/d for an estimated 11,700 dwelling unit equivalents (DUEs); therefore there is currently residual capacity for about 5,500 DUEs at the City WWTP. With minor improvements, available treatment and disposal capacity at the City WWTP could be increased to accommodate approximately 6,700 future DUEs.

The average cost of existing available capacity for the Main City is approximately $3,600 per DUE. This cost is based on buying in to existing facilities at the estimated replacement cost depreciated according to remaining useful life. This cost also includes the cost per DUE for currently planned City WWTP improvements such as master planning, CEQA, and the Headworks and Influent Pump Station project.

2. PURPOSE AND BACKGROUND

ECO:LOGIC Engineering is reviewing the available capacity in the City of Ceres' existing wastewater collection system and wastewater treatment and disposal facilities (including effluent disposal to the City of Turlock). The purpose of this memorandum is to summarize the preliminary results of ECO:LOGIC's review of existing available capacity in the City's wastewater system, in particular capacity that could be made available to expand service in the Main City. Based on this existing available capacity and current cost or value of existing facilities, an estimate of the cost of service for future users has been calculated. This estimated cost of service may be used by the City as an alternate means of documenting wastewater facilities cost for adopting an interim sewer connection fee for new developing in the Main City. Since wastewater treatment and disposal service in the NCSSA is provided by the City of Modesto, the cost of capacity is driven by the pass-through cost per DUE from the City of Modesto.

In this analysis, the wastewater collection system capacity is being assessed through the development of a sewer system model. As our analysis of the sewer system is not complete, this memorandum summarizes the results of our current treatment and disposal analysis and uses anecdotal evidence of the sewer system existing available capacity based on experience with sanitary sewer overflows and manhole surcharging. Existing residual capacity in the sewer system has not been identified for most of the system and this analysis focuses on capacity gained by the new sewer trunk line in Service Road once it is available for use through completion of the new headworks project.

3. SEWER SYSTEM

The City of Ceres (City) sewer system consists of two primary service areas, with wastewater generated in these areas going either to the City of Modesto or to the City's Wastewater Treatment Plant (WWTP), Figure 1. The sewer system discharging to the City of Modesto is conveyed to the Modesto Water Quality Control Facility for treatment and disposal. The remaining sewer system (Main City system) is conveyed to the City of Ceres WWTP for treatment and on-site disposal or conveyance to the City of Turlock Wastewater Treatment Plant for disposal.

Currently, the City's sanitary sewer system has exhibited limited capacity bottlenecks. However, recent sanitary sewer overflows did occur in December 2007 and January 2008 exacerbated by the bottleneck in the existing 21-in sewer in Service Road that discharges to the City's influent pump station at the WWTP. This trunk sewer is known to be hydraulically limited and, upon the last video inspection, the City found that the pipe material was significantly corroded at risk of collapse.

The City was aware of the hydraulic limitations and condition of the 21-in sewer and, in 2005, the Service Road Main Trunk Sewer was constructed at a cost of approximately $609,000. This trunk sewer consists of 36-in and 42-in vitrified clay sewer pipe and is intended to replace the

existing 21-in diameter reinforced concrete trunk once the new headworks and influent pump station at the WWTP are operational. The new trunk has been designed to accommodate the ultimate peak flow 17.3 million gallons per day (Mgal/d) (based on the 1983 Sewer System Study). This peak flow corresponds to approximately 6.9 Mgal/d on an average dry weather flow (ADWF) basis. Once the new trunk sewer is put into service, existing flows will be transferred to the new sewer so that the old 21-in sewer can be abandoned in place.

There are no known capacity limitations in the sewer system discharging to Modesto.

4. PER CAPITA FLOWS AND LOADS

In order to estimate average wastewater generation rates in Ceres, the ADWF for 2007 was compared to existing wastewater customer data and flow per dwelling unit equivalent (DUE) was estimated. Each residential unit for Single Family, Duplex, Triplex, and Fourplex account was considered to be one DUE. The relative flow from nonresidential accounts was estimated based on an analysis of April 2008 metered potable water records for nonresidential accounts in North Ceres. It was assumed that these nonresidential accounts were a representative average of nonresidential accounts in Main City Ceres. For the nonresidential accounts evaluated, wastewater was assumed to be 85 percent of the potable water consumption. Iterative estimates of the average flow per DUE were used to calculate the total flow for existing DUEs and compared to the 2007 ADWF until the two converged. A nonresidential DUE factor was used to account for flow from the 542 nonresidential accounts that discharge to the Ceres WWTP and is an average across all nonresidential groups. The results of this analysis are presented in Table 1.

Table 1
Ceres WWTP Average Daily Flow Per DUE and Per Capita

Parameter [a]	Value	Basis
Average Persons per Household/DUE	3.32	Census data
Average Dry Weather Flow, ADWF (Mgal/d)	3.07	2007 City of Ceres WWTP influent data
Nonresidential Accounts	542	Existing customers excluding N. Ceres
Nonresidential DUE Factor	4.47	Estimated from analysis of April 2008 N. Ceres non-residential accounts.
Estimated Nonresidential DUE's	2,421	
Residential DUE's	9,306	Existing customers excluding N. Ceres
Total DUE's	11,727	
ADWF per DUE (gal/d)	262	
ADWF per Capita (gpcpd)	79	

[a] DUE = dwelling unit equivalent; Mgal/d = million gallons per day; gal/d = gallons per day; gpcpd = gallons per capita per day

The estimated ADWF per DUE of 262 gal/d and ADWF per capita of 79 gpcpd are similar to flows observed in other small cities within the Central Valley. However, the per capita flow is much less than 117 gpcpd reported for the City of Modesto.

5. TREATMENT PONDS

The capacity of the existing treatment ponds was modeled for peak month flow, average winter wastewater temperatures, and calculated site-specific pond treatment kinetics. The City's current wastewater permit does not contain effluent limits for 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS). However, the majority of modern permits for aerated pond plants that discharge to percolation ponds limit effluent BOD_5 and TSS to 40 milligram per liter (mg/L) each on a monthly average basis, with a not to exceed value of 80 mg/L. Applying this limit (with a 10 mg/L allowance for BOD_5 of algal origins) and calculating capacity based on BOD_5 reduction, the existing treatment ponds have a maximum ADWF capacity of approximately 3.4 Mgal/d, if all effluent were to be disposed of on-site. To increase total wastewater capacity of the facility, some treated wastewater will need to be diverted from reactor 3 and exported to Turlock. By diverting flow from the second to last reactor, additional treatment capacity for on-site disposal is gained. In the future, it is assumed that this diversion would occur in the center point of reactor three to maximize the treatment effectiveness of existing structures. The remainder of the flow will continue through the treatment ponds and be disposed of onsite. The existing agreement with Turlock limits the BOD and TSS of the treated wastewater to 100 mg/L each. Therefore, these limits were applied to the effluent at its extraction point at the center of reactor three. The modeled treatment capacity flows and BOD_5 are presented in Table 2.

Table 2
Ceres WWTP
Capacity of Treatment Ponds with Partial Export to Turlock

Constituent [a]	ADWF (Mgal/d)	Peak Month Flow (Mgal/d)	BOD_5 (mg/L)	BOD_5 Load (lbs/d)	BOD_5 Reduction (%)
Influent	4.5	4.7	337	13,160	NA
Export to Turlock	2.0	2.1	94	1,600	72
Effluent to p/e ponds [b]	2.5	2.6	30	650	91

[a] Mgal/d = million gallons per day; mg/L = milligrams per liter; lbs/day = pounds per day
[b] p/e = percolation/evaporation

The overall treatment capacity of the WWTP is increased to 4.5 Mgal/d ADWF based on meeting BOD_5 limits on effluent exported to Turlock and anticipated regulatory limits for onsite disposal of 40 mg/L BOD_5. The treatment capacity could be increased up to 5.8 Mgal/d ADWF if all effluent from the treatment ponds was exported to Turlock at a limit of 100 mg/L BOD_5 and TSS, if additional aeration is provided, as discussed below.

The treatment capacity was modeled during summer temperature conditions to assess aeration requirements. At a flow of 4.5 Mgal/d, approximately 25 horsepower (Hp) of additional aeration would be required in the first reactor, and 30 Hp each in the second and third reactors. At a flow of 5.8 Mgal/d, an additional 250 Hp of aeration would be needed, with 100 Hp in the first reactor, 65 Hp in the second reactor, 40 Hp in the third reactor, and 45 Hp in the fourth reactor. At these aeration rates, the mixing of the treatment ponds would be approaching the mixing energy of

activated sludge processes and, therefore, reaction rates and the effectiveness of surface aeration to meet oxygen requirements would have to be evaluated. Additionally, recirculation of pond effluent may reduce aeration requirements and facilitate mixing.

6. ON-SITE EFFLUENT DISPOSAL

Disposal pond flow meter and pond elevation records from 2001 through 2005 were reviewed to estimate disposal capacity of the on-site percolation disposal ponds. Two separate water years were selected for the evaluation (2001/2002 and 2004/2005) based on high recorded groundwater and average to above average rainfall conditions. Water balance models were prepared for these water years and used to extrapolate disposal capacity during the 1-in-100 year precipitation season design conditions. The 2004/2005 water year indicted greater precipitation and only slightly lower groundwater elevations than 2001/2002. However, the City started discharging approximately 1 Mgal/day to Turlock prior to 2004. Therefore, the 2001/2002 water year was used in the evaluation, since approximately 350 Mgal more effluent was disposed of on-site than in 2004/2005. The water balance and disposal capacity of the onsite disposal ponds is summarized in Table 3.

Table 3
Ceres WWTP
Summary of Disposal Pond 1 Water Balance –
1-in-100 Precipitation Year

Parameter [a]	Value
ADWF (Mgal/d)	2.8
Storage Required at ADWF (Mgal)	97
Total Storage Available (Mgal)	146
Inflow	
Annual Wastewater Flow (Mgal)	1,038
Annual Precipitation Collected (Mgal)	80
Total Inflow (Mgal)	1,118
Outflow	
Annual Percolation Potential (Mgal)	966
Annual Evaporation Potential (Mgal)	152
Total Disposal Potential (Mgal)	1,118

[a] ADWF = average dry weather flow; Mgal = million gallons; Mgal/d = million gallons per day

The disposal capacity of the on-site disposal ponds is approximately 2.8 Mgal/d ADWF, including treatment pond disposal potential. At this ADWF, the disposal ponds provide an excess of 49 Mgal of storage capacity during winter design conditions, which could be used for emergency conditions if some failure of the export pump and pipeline system were to occur.

7. ALLOCATION OF COST FOR EXISTING AND PLANNED CAPACITY

Existing wastewater treatment and disposal facilities provide for or allow expansion of wastewater capacity as described above. Other existing facilities will continue to provide for wastewater treatment and disposal capacity as follows:

- The approximately 190 acre site for the wastewater treatment plant facilities,
- Existing raw sewage conveyance facilities, aerated pond basins, electrical facilities and aeration equipment,
- Existing capacity purchased from the City of Turlock, and
- Facilities planning and permitting.

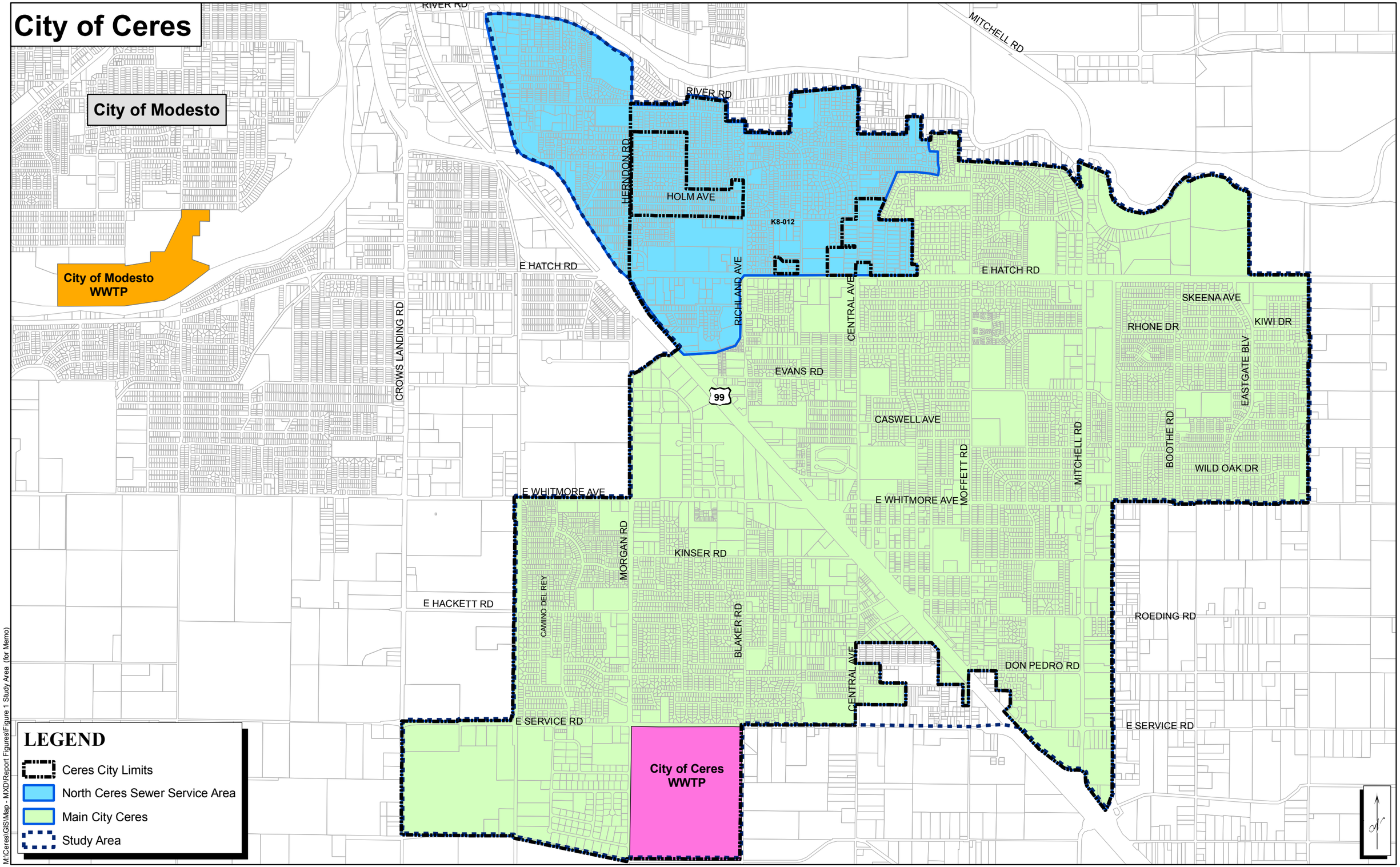
The average cost per DUE for existing available capacity and for future capacity planned in upcoming capital improvement projects is provided in Table 4. Appendix A contains a detailed cost of capacity calculation for existing facilities and planned improvements. The cost of capacity in existing facilities is based on the depreciated replacement cost estimated from the original facility cost adjusted to a mid-2008 ENR CCI of 8560 and represents the cost to buy-in to existing facilities that will benefit future users. Based on this analysis, the current cost of existing available capacity with planned expansion is approximately $3,600 per DUE. The City may use this cost as the basis of an interim capacity charge that would be updated upon the completion of a wastewater system master plan.

Table 4
Main City of Ceres Wastewater System – Capacity Cost Allocation

Facility or Capital Component	Residual Capacity (DUEs)	Cost per DUE[a]
Existing Collection Treatment and Disposal		
Main Trunk Sewer (Service Road)	14,618	$25
WWTP (1975 Facilities)	10,420	$58
WWTP (Land)	10,802	$1,687
WWTP (2000 Expansion)	5,458	$82
Export Pump Station (to Turlock)	21,641	$59
Export Pipeline (to Turlock)	21,641	$249
Turlock Capacity (to 1.0 Mgal/d)	2,939	$366
Turlock Capacity (to 2.0 Mgal/d)	3,817	$709
	Subtotal	$3,236
Future Facilities and Planning		
Wastewater Master Plan and CEQA		$31
Storm Master Plan (WW Share)		$14
Headworks and Influent Pump Station		$285
Report of Waste Discharge		$7
	Subtotal	$337
	Total	$3,572

[a] DUE = Dwelling Unit Equivalent at 262 gallons per DUE per day.

City of Ceres



M:\Ceres\GIS\Map - MXD\Report Figures\Figure 1 Study Area (for Memo)

ECO:LOGIC Engineering - **DRAFT**
City of Ceres Wastewater Collection System Capacity Assessment

Figure 1
City of Ceres Existing Sanitary Sewer Service Areas

APPENDIX A

City of Ceres Wastewater System - Capacity Cost Allocation Detail

Cost of Capacity in Existing Facilities

Collection Treatment and Disposal:	Current Estimated Replacement Cost[a]	Useful Life (years)	Remaining Life (years)	Depreciated Replacement Cost[b]	Total Capacity[c] (Mgal/d)	Residual Capacity (Mgal/d)	Resid. DUE Capacity @ 262 gpd [d]	Cost per Future DUE
Main Trunk Sewer (Service Road)	$700,113	50	47	$658,106	6.9	3.8	14,618	$25
Wastewater Treatment Plant - 1975 Facilities	$3,800,000	50	17	$1,292,000	5.8	2.7	10,420	$58
Wastewater Treatment Plant - Land[e]	$38,000,000	n/a	n/a	n/a	5.9	2.8	10,802	$1,687
Wastewater Treatment Plant - 2000 Expansion	$1,931,203	30	22	$1,416,216	4.5	1.4	5,458	$82
Export Pump Station	$1,595,650	30	25	$1,329,709	5.9	5.7	21,641	$59
Export Pipeline	$6,238,124	50	45	$5,614,312	5.9	5.7	21,641	$249
Turlock Capacity to 1 Mgal/d	$1,396,194	n/a	n/a	n/a	1.0	0.8	2,939	$366
Turlock Capacity to 2 Mgal/d	$2,704,253	n/a	n/a	n/a	1.0	1.0	3,817	$709
Subtotal	$56,365,537							
							Total Buy-in Cost per DUE	$3,235

Cost of Planned Facilities Improvements/Expansion

	Capital Improvement Costs	Useful Life (years)	Remaining Life (years)	Depreciated Replacement Cost[b]	Total Capacity[c] (Mgal/d)	Future Capacity (Mgal/d)	Fut. DUE Capacity @ 262 gpd [d]	Cost per Future DUE
Planning:								
Wastewater Master Plan & CEQA	$450,000	n/a	n/a	n/a	6.9	3.8	14,618	$31
Storm Master Plan (WW Share)	$200,000	n/a	n/a	n/a	6.9	3.8	14,618	$14
Subtotal	$650,000						0	
Treatment and disposal:								
Headworks and Influent Pump Station	$4,240,000	40	40	$4,240,000	6.9	3.9	14,885	$285
Report of Waste Discharge	$80,000	n/a	n/a	n/a	5.9	2.8	10,802	$7
Subtotal	$4,320,000							
							Total Expansion Cost per DUE	$337
							Total Cost of Capacity per DUE	**$3,572**

(a) Estimated current value or replacement cost of facilities adjusted by ENR Construction Cost Index from time of construction to mid 2008 level at 8560.
(b) Straight line depreciation based on remaining life and useful life.
(c) Approximate average dry weather flow capacity.
(d) Available capacity in system up to projected build-out limits.
(e) Based on estimated land value of $200,000 per acre.

Appendix A.6 – Water Connection Fee Memo, West-Yost

PRELIMINARY DRAFT

TECHNICAL MEMORANDUM

DATE: September 12, 2008 Project No.: 341-00-08-01.04

TO: Michael Brinton, Interim City Engineer

FROM: Steven R. Dalrymple, RCE# 21188

SUBJECT: Review and Update of Estimated Water Connection Fee

As a result of our assignment to review the draft Public Facilities Fee (PFF) study prepared by PMC dated March 2008, we identified a number of issues we feel should be addressed in establishing a recommended impact fee for new connections to the water system. The items of concern include the use of very low costs associated with the construction of pipelines, storage tanks and booster pump stations, and wells and treatment facilities. Also, the impact fee should be based on the demand placed on the system by a customer. This criterion would change the basis of the impact for a new well and treatment facility to the maximum day demand as compared to the average day demand. In addition, we are proposing a revised method for calculating the impact fee to be based on the costs for new water facilities to serve the next few years of development and not the buildout development of the General Plan land use as originally presented in PMC's draft report.

UPDATED FACILITY COST ESTIMATES

We have updated the cost estimates for the water system facilities to serve new connections for determining the connection fee to be charged by the City of Ceres (City). Below are a series of tables that estimate the cost for construction of pipelines, water storage and pumping facilities, and wells and treatment facilities. The total project cost estimates are based on the planning level construction cost estimate and includes the other costs associated with the construction of the facility to arrive at an estimate of the funding needed to implement the project. Added to the estimated construction cost is a 20 percent contingency for unknown cost factors for difficulty in construction and bidding climate at the time of construction and the other costs associated with the planning, design, permitting, inspection and financing of the project at 25 percent of the estimated construction cost with contingency included.

Table 1 summarizes the estimated construction and project unit costs (i.e. cost per foot of installed pipeline) for transmission and distribution pipelines to move water from supply facilities (wells, storage tanks, surface water turnouts, etc.) to local neighborhoods. The construction costs were based on recent waterline construction in Ceres for the 2008 Water Project. The construction costs include the costs for the pipe, valves, hydrants, other appurtenances, traffic control, and paving. The low bid cost for the 2008 Water Project was about $6.00 per inch diameter per foot of installed pipeline. This unit cost was used to develop the per foot construction costs by pipe diameter shown in Table 1. The other project costs were added to the construction cost to bring the project funding unit cost for pipelines to $9.00 per inch diameter per foot. This compares to the unit costs used in the PMC report which were less than $4 per inch diameter per foot.

Table 1. Estimated Pipeline Construction and Project Costs for Planning Purposes*

Pipe Size in Inches	Construction Unit Cost in dollars/foot of length**	Project Cost in dollars/foot of length
8	48	72
10	60	90
12	72	108
14	84	126
16	96	144
18	108	162
24	144	216
30	180	270

Notes:
*Construction cost only. Need to add other project costs such as engineering, environmental, permitting, financing CM, R/W, etc. which will add another 50% to get to the project cost estimate.
**Includes valves, connections, hydrants, paving, and other appurtenances based on the 2008 Water Project cost.

Table 2 presents the updated preliminary construction and project cost estimate for a 4 MG storage tank and 12 mgd booster pump station. This facility will be needed to provide stored water to meet peak hour demands and fire flows. These cost estimates are based on WYA estimating experience and a recent project for the City of Modesto. Again the costs presented in Table 2 include the construction cost estimate of $7,000,000 with a total project funding requirement of $10,500,000 with the other project costs included. This compares to an estimated cost of $9,690,141 used in the PMC draft report.

Table 2. Estimated Construction Costs for Storage Tanks and Booster Pump Stations

Item	Cost, dollars
4 MG Steel Storage Tank	4,000,000
12 mgd Booster Pump Station	3,000,000
Construction Cost Estimate	7,000,000
+20% Contingency	1,400,000
+25% Eng, CM, Inspection, Environ, etc.	2,100,000
Total Project Cost to be Funded	10,500,000

The anticipated storage and pump station facility includes:

- Above Grade Steel Storage Tank - 150 feet in diameter and 32 feet tall
- 3 operating pumps and one spare
- Backup power
- CMU building
- Rechlorination capability

Table 3 presents the updated costs for the construction of a new well and assumed treatment facility to remove Arsenic, Iron, Manganese and Uranium. The costs are based on recent well and treatment construction costs in the City. It is assumed that each well will produce about 800 gpm when it is constructed. The estimated construction cost for a new well and treatment facility is $1,800,000, and a total project cost is $2,700,000. This compares to a cost of $1,200,000 per well and treatment facility used in the PMC draft report.

ESTIMATED WATER FACILITIES CONNECTION FEE

These updated costs were then used to determine the potential connection fee for a new residential customer. The basis for determining this estimate was to identify the cost of the portion of the water supply facilities and distribution pipelines needed to serve the new connection. For this exercise it was assumed that the maximum day supply requirement per connection is based on the water production records and the number of connections. The maximum day demand in recent years was about 16.6 million gallons and the current number of connections is 11,636. The average water production requirement per day per connection is about 1,400 gallons. The number of connections that can be served by a new well and treatment facility, assuming a production capacity of 800 gpm, is about 823. Using the project cost of $2,700,000 for a new well and treatment facility, the cost per connection for the water supply from a well and treatment facility would be $3,281.

Table 3. Estimated Construction Costs for Wells and Treatment Facility

Item	Cost Per Facility, dollars
Well	1,000,000
Treatment	800,000
Total Construction Cost Estimate	1,800,000
+20% Contingency	360,000
+25% Eng, CM, Inspection, Environ, etc.	540,000
Total Project Cost to be Funded	2,700,000
Assumptions	
Well criteria:	Typical municipal well construction and materials 200 to 250 feet deep Average production is 800 gpm, 75 hP motor Chlorination facilities Backup power
Treatment Criteria:	Remove Fe, Mn, Nitrates, Uranium Pressure filter with chemical feed system

The need for a storage facility and booster pump station is to have sufficient supply available to meet the demands during the maximum day that are in excess of the average demand during the 24 hour period. These higher demands typically occur during about a 6 hour period on hot afternoons and evenings. These demands include the peak hour demand, which based on other valley communities, is about 1.75 times the maximum day demand rate. The volume of water pumped from the storage tank to meet the demands in excess of the average maximum day demand is estimated to be about 325 gallons. Based on a cost of $10,500,000 for a new 4 MG storage tank and booster pump station, the cost of this facility per connection would be about $853.

The pipelines to serve new development were identified in the PMC draft report based on the City of Ceres Water Projects Analysis dated October 2005. The pipelines to serve the City's buildout area are listed in Table 4 below. The pipeline locations, sizes and lengths are tabulated along with the updated unit construction costs based on $6 per inch diameter per foot of length. The estimated cost of these pipelines were summed and then the additional project costs added to arrive at a total funding requirement for pipelines to serve new connections, excluding within tract distribution pipelines, is estimated to be about $19,500,000. Based on the preliminary water rate study tables, it is estimated that these pipelines would serve about 11,000 new customers. The cost of these pipelines to serve a new connection would be about $1,773.

PRELIMINARY DRAFT

Table 4. Pipeline Costs Based On Estimated Size and Reach

	From	To	Length (ft)	Unit Cost (dollars/ft)*	Construction Cost, dollars
14" Whitmore	Faith Home	Central	10,600	84	890,400
14" Service	Faith Home	Mitchell	5,300	84	445,200
12" Service	Morgan	Crows Landing	5,300	72	381,600
16" Mitchell	Hatch	Service	10,600	96	1,017,600
12" Central	Hatch	Service	10,600	72	763,200
16" Central	Freeway Crossing		400	700	280,000
14" Morgan	Hatch	Whitmore	5,300	84	445,200
12" Morgan	Whitmore	Service	5,300	72	381,600
12" Pipe	Misc. Locations		79,500	72	5,724,000
16" Hatch	Faith Home	Freeway	15,840	96	1,520,640
14" Faith Home	Hatch	Whitmore	5,300	84	445,200
14" Faith Home	Whitmore	Redwood	8,000	84	672,000
Total Pipeline Construction Costs					12,966,640
+20% contingency					2,593,328
+25% Eng, CM, Inspection, Environ, etc.					3,889,992
Total Project Cost to be Funded					19,449,960

* Based on $6/diameter inch/foot of length - includes valves, fittings, hydrants, paving, etc.

Combining the cost of constructing these primary water supply and distribution facilities to serve a new connection would then be as summarized in Table 5 below. The total would be about $5,900 per new single family connection. This estimated connection fee is substantially higher than the fee calculated in the PMC draft report because of the need to provide sufficient funding for the construction of new facilities assumed not to be constructed by development and the need to provide facilities with adequate capacity to meet the supply requirement during a maximum day demand.

PRELIMINARY DRAFT

33212Table 5. Estimated Water Facilities Connection Fee?

Item	Cost Per Connection, dollars
Well & Treatment	3,281
Storage & Pumpstation	853
Pipelines	1,773
Total Connection Fee	5,907

It is recommended that the information contained in this memorandum be reviewed carefully by the City and the impact fee consultant, PMC, and we work together to arrive at a consistent approach to establish the new connection fee for new development in Ceres.