



# Gateway of the Americas Benefit Analysis Report Update

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# **FINAL REPORT**

February 27, 2007

SD-I50-100-01 (16707.00)

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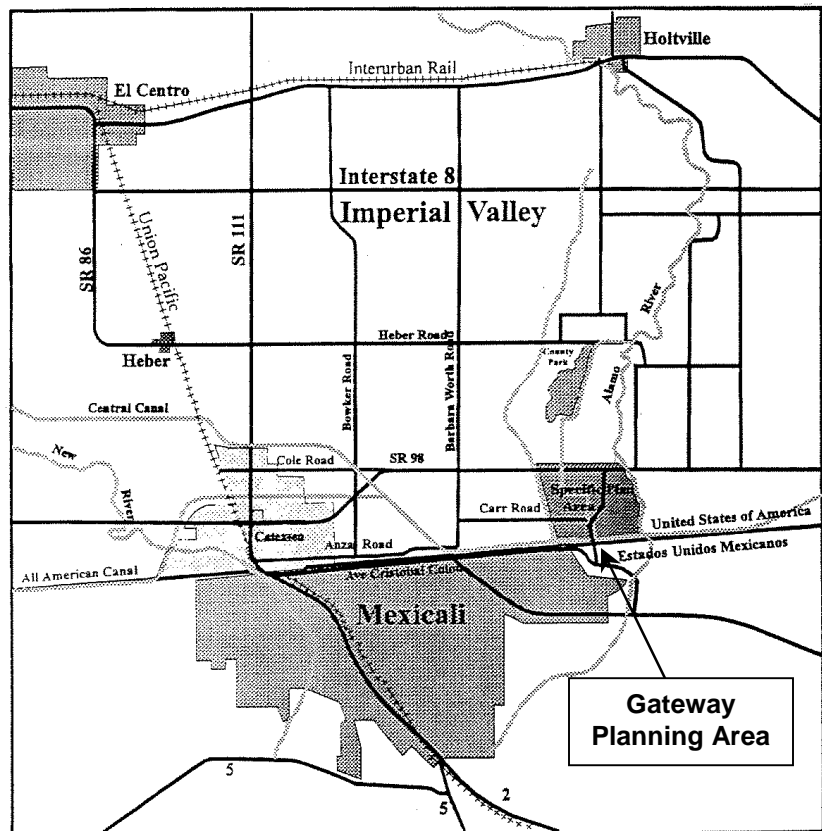
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# Introduction

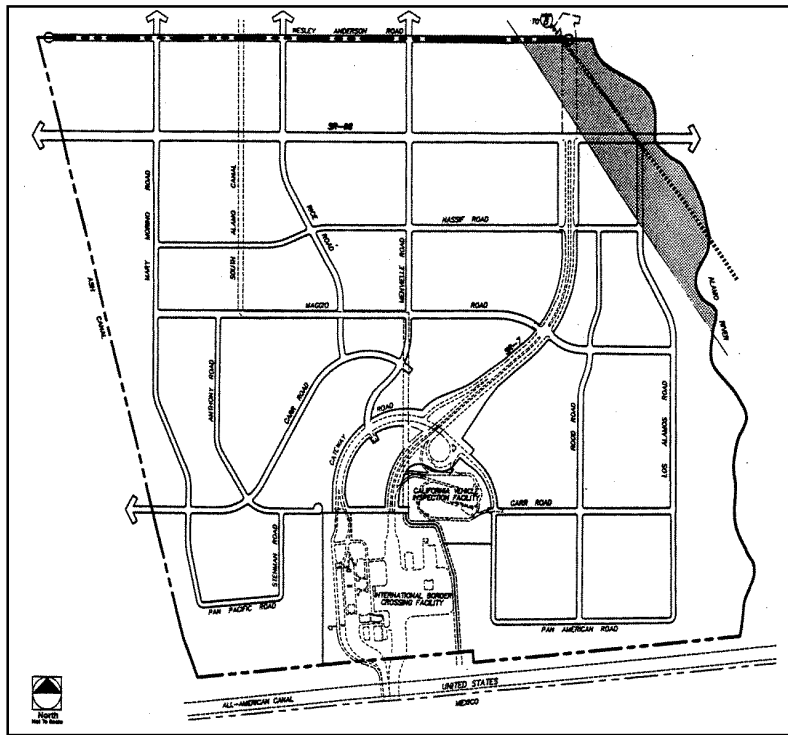
## Gateway Planning Area

The Gateway of the Americas (Gateway) planning area comprises approximately 1,775 gross acres of land in Imperial County, California, adjacent to the International Border with Mexico and about 6 miles east of the City of Calexico (see **Figure 1**). The Gateway planning area is roughly bounded by the International Border to the south, the Alamo River to the east, the Ash Canal to the west, and on the north by a line approximately one-quarter mile north of and parallel to State Route 98 (SR-98) as generally depicted in **Figure 2**. On August 26, 1997, the Imperial County Board of Supervisors adopted the *Gateway Specific Plan* (No. 97-0001), providing a guide for future development within the planning area.



SOURCE: *Gateway of the Americas Specific Plan* (August 1997).

**FIGURE 1: Vicinity Map**



SOURCE: Gateway of the Americas Specific Plan (August 1997).

## FIGURE 2: Project Boundary Map

The Gateway planning area is proposed as a master-planned commercial and industrial complex designed to capitalize on the economic benefits of the adjacent International Port-of-Entry. The planned development consists of facilities for manufacturing, wholesaling, distribution, and assembly, plus related supporting transportation infrastructure and support services such as retail. Of the 1,775 gross acres within the planning area, there are considered to be 1,420.6 net developable acres. Public road rights-of-way and easements, the International Port-of-Entry, and the California State Inspection Facility occupy the remaining 354.4 acres.

The Gateway County Service Area (CSA) was established on January 6, 1998 to construct, operate, and maintain various facilities in the Gateway planning area. The purpose of the CSA is to provide and finance expanded municipal services within the Gateway planning area that may not be provided to the same extent on a countywide basis. At the time the CSA was created, a benefit fee was established to provide funds for certain backbone infrastructure within the planning area.

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## Benefit Analysis Report

A report entitled *Benefit Analysis Report, Backbone Infrastructure Facilities* (Dick Jacobs Associates, August 1998), was prepared as an independent analysis of the shared infrastructure facilities within the Gateway planning area. The intent of the *Benefit Analysis Report* was

to identify and present an equitable method for allocating the costs of the shared infrastructure facilities in relation to the benefits received. The *Benefit Analysis Report* estimated costs for backbone water, wastewater, roadway and drainage facilities, and established benefit fee amounts to be collected. The Benefit Fee established within the *Benefit Analysis Report* was \$37,243 per acre for commercial land and \$14,695 per acre for industrial land, since updated periodically by the County considering inflation and other factors.

This *Benefit Analysis Report Update* has been prepared to estimate and apportion the costs of remaining unfunded backbone infrastructure improvements. This update identifies costs for expansion of the water treatment plant and expansion of the wastewater treatment plant to required build-out capacities. Additionally, this update revises the costs for roadway improvements related to SR-98 widening as presented in the initial *Benefit Analysis Report*. The initial backbone infrastructure facilities (i.e., water distribution facilities, wastewater collection conveyance facilities, initial water treatment plant, initial wastewater treatment plant, drainage facilities, and roadways other than SR-98) have been constructed and/or funded and are not a part of this *Benefit Analysis Report Update*.

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## Development Phasing

The *Gateway Specific Plan* identifies the following four expected development phases (i.e., Phase 1, Phase 2, Phase 3, and Phase 4). Each Phase includes a mix of industrial and commercial/retail land uses. The *Gateway Specific Plan* indicates market conditions will drive the project's development schedule, although the duration estimated for complete build-out is 30 years. Currently, a portion of those parcels identified within Phase 1 has been developed, and no other Phases have been developed.

The majority of the initial backbone infrastructure facilities have been constructed. Initial backbone infrastructure consists of arterial roads, a water transmission system, a wastewater conveyance system, start-up water treatment plant, and start-up wastewater treatment plant. The initial backbone infrastructure yet to be constructed is some drainage improvements at Maggio Road and Menvielle Road.

Within Phase 1, an area to be known as Subphase 1A has been previously identified. This area included the legal lots within the initial Final Maps first recorded on the property and an additional 25 acres

noted as the first phase of one of the initial four major land owners. This Subphase 1A has provided the funding for the initial infrastructure. Specific lots within Subphase 1A are listed in **Appendix A**.

As Phase 1 is built-out and other Phases begin to develop, the need for additional infrastructure will increase. Water treatment plant expansion, wastewater treatment plant expansion, and SR-98 improvements will be needed to provide basic services and to adequately mitigate for cumulative impacts. Improvements to these facilities would be phased due to the relatively long 30-year duration to build-out. Detailed planning is recommended to determine timelines for actual phasing of additional infrastructure needs. This *Benefit Analysis Report Update* is not intended to provide such information.

**Water Treatment Plant.** Phasing for the water treatment plant expansion may consist of multiple package water treatment systems brought on-line intermittently over the duration of the phased land use development. Plant expansion is expected to occur at the existing treatment plant site, with additional settling ponds, storage tanks, and pumping capacities being brought on-line with package water treatment systems. Raw water supply from the Alamo Canal is expected to be adequate.

**Wastewater Treatment Plant.** Phasing for the wastewater treatment plant expansion may consist of up to four phases to reach the ultimate desired treatment capacity. Additional phasing information can be found in **Appendix B** of this report.

**SR-98.** Phasing for improvements for SR-98 may consist of two phases. The first phase would improve the existing 2-lane highway by constructing two new lanes with a median from Ash Canal to SR-7. The resulting 4-lane highway would be designed to full Caltrans standards with eastbound traffic separated from westbound traffic by a 18-foot wide median. Intersections with major roads would be signalized and direct access to the highway would be limited. The second phase of improvements to SR-98 have not been considered within this *Benefit Analysis Report Update*. **Appendix C** shows typical cross-sections for existing and 4-lane configurations of SR-98.

# Benefit Fees

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## Overview

A benefit fee (also known as an “impact fee”) is a commonly used and accepted means of mitigating the impacts created by current and future growth. Public agencies regularly levy benefit fees on new development to fund a variety of public facilities, including roads, sewer and water facilities, libraries, parks, and schools. The rationale supporting development of a benefit fee program is that future development is required by law to mitigate their cumulative effects on the County’s public infrastructure. Without a fee, future development would cause a continued decrease in system capacities, level-of-service, and overall network capacity. A benefit fee program is a suitable mechanism for identifying needed facilities to mitigate these cumulative impacts, and allocating the associated costs in an equitable fashion.

This report proposes a benefit fee to be assessed on all remaining development Phases within the *Gateway Specific Plan* area (i.e., the planning area excluding Subphase 1A). The primary purpose of the fee is twofold: (1) to fund the construction of remaining unfunded backbone infrastructure facilities needed to reduce, or mitigate, projected cumulative impacts resulting from future development; and (2) to allocate the costs of these facilities equitably among properties developing as part of the remainder of Phase 1, Phase 2, Phase 3, and Phase 4.

The remaining unfunded backbone infrastructure facilities to be funded with the fee are water treatment plant expansion, wastewater treatment plant expansion, and widening SR-98 to four lanes. Subphase 1A within Phase 1 is not expected to contribute funding toward completion of the remaining unfunded backbone infrastructure facilities due to their funding of the initial backbone infrastructure facilities.

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## California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. To that end, local agencies generally require that a project’s potential direct and cumulative impacts, and corresponding mitigation measures, be identified as part of the required environmental review process.



### **Cumulative Impacts**

Cumulative impacts are those impacts caused collectively by all development within the community. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time (CEQA Guidelines §15355). The CEQA Guidelines recognize that “the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis” (CEQA Guidelines §15130(c)).

Recognizing that an individual development project is not wholly responsible for cumulative impacts, each development project will be required to contribute to the mitigation in proportion to the project’s estimated use of the identified infrastructure. Additional facilities and infrastructure necessary to mitigate the direct impacts of a given development project are not within the scope of this fee program.

### **Environmental Studies and Review**

The facilities identified in this report are intended to provide increased capacity to mitigate the cumulative impacts of future development. No facilities will actually be constructed until necessary environmental review has been conducted. Further studies, including environmental review, may show superior alternative projects that also meet the increased capacity need.

### **Exemption from CEQA Requirements**

The fees collected will be used on capital projects for infrastructure necessary to maintain service within existing service areas. The County has determined that the act of adopting the proposed fee program and establishing the proposed rates is statutorily exempt from the requirements of CEQA under §15273(a)(4) of the CEQA Guidelines.

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## Statutory Framework

Development and implementation of benefit fees must conform to the statutory requirements of California Government Code §66000 et seq. (commonly referred to as the “Mitigation Fee Act”). Prior to establishing, increasing or imposing a benefit fee, the Mitigation Fee Act requires the local agency to make the following findings:

- ◆ Identify the purpose of the fee (§66001(a)(1)).
- ◆ Identify the use for the fee and the facilities to be built (§66001(a)(2)).
- ◆ Determine a reasonable relationship between the fee’s use and the type of development project on which the fee is imposed (§66001(a)(3)).
- ◆ Determine a reasonable relationship between the need for the public facility and the type of development project (§66001(a)(4)).
- ◆ Determine a reasonable relationship between the amount of the fee and the cost of the facility attributable to development (§66001(b)).

For purposes of this fee program, a statement of requisite findings is presented in the “Program Implementation” section of this report.

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## Fee Development Process

The remainder of this report summarizes the process by which the proposed fee was developed, as presented in the following sections:

- ◆ Development Forecast
- ◆ Identified Facilities
- ◆ Facility Costs
- ◆ Cost Apportionment
- ◆ Funding Considerations
- ◆ Program Implementation

# Development Forecast

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## Growth Impacts

The fundamental concept supporting implementation of the proposed benefit fee is that the remainder of Phase 1, Phase 2, Phase 3, and Phase 4 development within the Gateway planning area will generate the need for additional backbone infrastructure facilities. An evaluation of projected growth within the planning area is an important component to the development of the benefit fee. Information about future growth potential serves several functions, including:

- ◆ Facilitates the identification of infrastructure necessary to serve future growth.
- ◆ Provides a fundamental basis for apportioning costs of necessary infrastructure to future development.

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## Planned Development

The *Gateway Specific Plan* identifies five land use types. **Table 1** summarizes the projected land use types at build-out within the Gateway planning area.

**TABLE 1: Projected Land Use at Build-Out**

LAND USE	GROSS AREA	% OF TOTAL
Commercial/Retail	284.1 acres	16.0%
Industrial	1,136.5 acres	64.0%
Rights-of-Way & Easements	241.4 acres	13.6%
Port-of-Entry	87.0 acres	4.9%
State Inspection Facility	26.0 acres	1.5%
<b>TOTAL</b>	<b>1,775 acres</b>	<b>100%</b>

SOURCE: *Gateway of the Americas Specific Plan* (August 1997).

Of the 1,775 gross acres within the Gateway planning area, there are considered to be 1420.6 net developable acres (including easements and right-of-way for local circulation). Public road right-of-way and easements, the International Port-of-Entry, and the California State Inspection Facility occupy the remaining 354.4 acres.

For planning purposes, the *Gateway Specific Plan* assumes that complete implementation of the project will developed in four phases over a period of approximately thirty (30) years. **Table 2** summarizes

the phasing assumptions presented within the *Gateway Specific Plan* in terms of net developable acres.

**TABLE 2: Development Phasing**

<b>PHASE</b>	<b>DEVELOPMENT AREA (acres)</b>		
	<b>Commercial</b>	<b>Industrial</b>	<b>Total</b>
Subphase 1A	40.9	163.6	204.5
Remainder Phase 1	140.9	114.5	255.4
Phase 2	40.4	302.4	342.8
Phase 3	32.6	278.2	310.8
Phase 4	29.3	277.8	307.1
<b>TOTAL</b>	284.1	1,136.5	1,420.6

SOURCE: *Gateway of the Americas Specific Plan* (August 1997), with Subphase 1A areas per County Tract Maps (1999 and 2000).

# Identified Facilities

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## Water Treatment Plant

The existing water treatment plant is located adjacent to the Alamo Canal within the Gateway planning area. In its current configuration, the water treatment plant has a treatment capacity of 140,000 gallons per day (gpd), and a pumping capacity of 600 gallons per minute (gpm). Per the *Gateway Specific Plan*, the average day water demand for the project at build-out is 3.6 million gallons per day (mgd). **Table 3** summarizes the existing water treatment capacity and the additional water treatment capacity and pumping capacity needed at ultimate build-out of the Gateway planning area.

**TABLE 3: Water Treatment Plant Facilities**

FACILITY	CAPACITY		
	Existing	Ultimate	Needed
Treatment	0.14 mgd	3.60 mgd	3.46 mgd
Pumping	600 gpm	8,000 gpm	7,400 gpm

SOURCES: Existing capacities from Richard Pata Engineering. Ultimate capacities from *Gateway of the Americas Specific Plan* (August 1997).

It is expected that the water treatment plant will be expanded utilizing a phased approach as discussed in the “Development Phasing” section of this report.

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## Wastewater Treatment Plant

The existing wastewater treatment plant is located adjacent to the Alamo River within the Gateway planning area. In its current configuration, the wastewater treatment plant has a peak treatment capacity of 31,500 gpd, and two 12-foot deep, 1.13 million gallon lined and aerated facultative ponds. The report *Designer’s Statement Sewer Pump Stations & Sewer Treatment Plant, Gateway of the Americas* (GS Lyon Consultants, Inc., May 1998) estimates wastewater generation rates used to forecast future wastewater treatment demand. **Table 4** summarizes the wastewater generation rates estimated for the Gateway planning area.

**TABLE 4: Wastewater Generation Rates**

LAND USE	DENSITY (population/acre)	WASTEWATER RATE	
		(gpd/capita)	(gpd/acre)
Commercial	40	40	1,600
Industrial	20	40	800

SOURCE: *Designer's Statement Sewer Pump Stations & Sewer Treatment Plant, Gateway of the Americas* (GS Lyon Consultants, Inc., May 1998).

Utilizing the identified generation rates, the required wastewater treatment plant capacity for the Gateway planning area was calculated to be 1.36 mgd, as shown in **Table 5**.

**TABLE 5: Wastewater Treatment Plant  
Required Ultimate Capacity**

LAND USE	AREA (acres)	WASTEWATER RATE (gpd/acre)	ULTIMATE CAPACITY (gpd)
Commercial	284.1	1,600	454,560
Industrial	1136.5	800	909,200
<b>TOTAL</b>	1420.6	--	1,363,760

SOURCE: *Gateway of the Americas Specific Plan* (August 1997).

**Table 6** summarizes the additional wastewater treatment capacity needed at ultimate build-out of the Gateway planning area.

**TABLE 6: Wastewater Treatment Plant Facilities**

FACILITY	CAPACITY		
	Existing	Ultimate	Needed
Treatment Plant	0.032 mgd	1.36 mgd	1.289 mgd

## State Route 98

The report *Traffic Analysis for the Gateway of the Americas* (Willdan Associates, April 1997) estimates that a total of 179,193 average daily trips (ADT) will be generated by the Gateway project at build-out. The report provides projected build-out traffic volumes during AM and PM

peak hours for turning movements at key intersections along SR-98 (assuming SR-7 has been constructed).

The *Gateway Specific Plan* classifies SR-98 as a 6-lane prime arterial across the entire frontage of the Gateway planning area. An exhibit within the *Gateway Specific Plan* (Exhibit No. III-5) indicates a 6-lane prime arterial should include a median to be used for left-turn lanes at intersections. Improvements to SR-98 may occur in the following two phases: (1) widen the road to a 4-lane road with median, and (2) widen the 4-lane road to its ultimate 6-lane width. Each phase would be of construction meeting Caltrans' full design standards.

According to discussions between Imperial County and Caltrans, Caltrans may fund the second phase of improvements to SR-98 (i.e., widening from 4-lanes to 6-lanes). Funding of the first phase of improvements (i.e., widening from 2-lanes to 4-lanes) will be the obligation of the Gateway developers.

The Subphase 1A developers, as part of the initial backbone infrastructure facilities, funded a significant amount of road improvements. It is expected that properties developing as part of the remainder of Phase 1, Phase 2, Phase 3, and Phase 4 will be responsible for the funding the improvement of SR-98 from a 2-lane to a 4-lane facility.

# Facility Costs

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## Cost Assumptions

Planning-level cost estimates were developed for the various facilities to be funded by the benefit fees. The cost estimates were developed by itemizing costs for major individual project components and adding contingencies appropriate for the planning-level nature of the estimate. The facility estimates are provided in November 2006 dollars and are indexed to an *Engineering News Record* “Los Angeles Construction Cost Index” (LACCI) value of 8893.07.

### Water Treatment Plant Expansion

The water treatment plant expansion cost estimate is based on the following assumptions:

1. Water Treatment Plant is sized for the built-out maximum day demand (3.6 mgd).
2. The Water Treatment Plant will be built 3-phases, 1.2 mgd each.
3. The on-site storage will provide 1 day max-day storage (3.6 MG) + fire storage (4 hr @ 4,000 gpm = 0.96 MG) =  $3.6 + 0.96 = 4.56$  MG (say 4.6 MG).
4. The existing water storage is 1.5 MG, additional storage required is 3.1 MG (4.6-1.5).
5. The existing raw-water pond capacity is 1.8 MG, the required raw water storage is 9 MG (5 days @ average day of 1.8 MG), 4 additional ponds same capacity will be required. Ponds will be open earth pond with plastic liner.
6. The existing pump station capacity is 1,800 gpm. Pump station is sized for peak hour conditions (two times max day), additional pumping capacity required is  $2,500 \times 2 \text{ gpm} - 1,800 \text{ gpm} = 3,200$  gpm (4.6 mgd). Pump station will be located outside, no enclosure is required, controls inside, variable speed pumps.
7. The existing fire flow pump station has adequate capacity to meet fire flow, no additional capacity is required.
8. The Water Treatment Plant will utilize package type water treatment units, housed in a new metal-framed building.
9. Cost of additional land/ easements/ permits is not included.
10. Cost of off-site facilities is not included.



11. Ultimate water demands will provide adequate water circulation in the system to keep water quality at the required level.

The cost estimate for water treatment plant expansion includes 5% of construction costs for planning, 10% for engineering design, 10% for construction management, and a 30% contingency.

### **Wastewater Treatment Plant Expansion**

The wastewater treatment plant expansion cost estimate is based on assumptions contained in the report *Sewer Treatment Plant Upgrades: Gateway CSA* (GS Lyon Consultants, Inc., March 2006) included as **Appendix B**.

### **State Route 98 Widening**

The SR-98 widening cost estimate is based on the following assumptions:

1. Widening will result in a 4-lane highway with 18-foot median from Ash Canal to SR-7.
2. Full design standards for a multi-lane conventional highway will be constructed per the Caltrans Highway Design Manual.
3. No bridge work is included in the estimate.
4. New traffic signal systems are included at Mary Morino Road and Los Alamos Road.
5. Modified traffic signal systems are included at Meneville Road and SR-7.
6. Right-of-way required for the widening to 4-lanes is expected to be dedicated by the Gateway developers.
7. Right-of-way required consists of a strip of land approximately 30 feet wide.

The cost estimate for SR-98 widening includes 5% of construction costs for planning, 11% for engineering design and right-of-way engineering, 10% for construction management, and a 30% construction contingency.

## Facility Cost Summaries

### Water Treatment Plant Expansion

The cost estimate for the water treatment plant expansion was estimated per the assumptions stated above. **Table 7** summarizes the estimated water treatment plant expansion costs.

**TABLE 7: Water Treatment Plant Expansion  
Estimated Costs**

DESCRIPTION	COST
Package WTP (3 units, 1.2 mgd each, \$700,000/unit)	\$ 2,100,000
Building, metal frame 11,000 sf	\$ 550,000
Raw water pond (4 ponds, 1.8 MG each, \$300,000/pond)	\$ 1,200,000
Pump Station (3,200 gpm)	\$ 550,000
On-site water storage (3.1 MG)	\$ 2,000,000
Sitework	\$ 100,000
Chlorination facility	\$ 120,000
On-site piping	\$ 100,000
Electrical/Instrumentation (15% total of PS and package WTP)	\$ 397,500
Planning (5%)	\$ 355,875
Engineering Design (10%)	\$ 711,750
Construction Management (10%)	\$ 711,750
<b>Subtotal</b>	<b>\$ 8,896,875</b>
Contingency (30%)	\$ 2,669,062
<b>TOTAL</b>	<b>\$ 11,565,937</b>

### Wastewater Treatment Plant Expansion

The cost estimate for the wastewater treatment plant expansion was estimated per the assumptions stated above. **Table 8** summarizes the estimated wastewater treatment plant expansion costs.

**TABLE 8: Wastewater Treatment Plant Expansion  
Estimated Costs**

DESCRIPTION	COST
Phase 2 Expansion	\$ 576,000
Phase 3 Expansion	\$ 631,000
Phase 4 Expansion	\$ 1,319,000
Phase 5 Expansion	\$ 1,819,000
Contingency (30%)	\$ 1,303,500
<b>TOTAL</b>	<b>\$ 5,648,500</b>

SOURCE: *Sewer Treatment Plant Upgrades: Gateway CSA* (GS Lyon Consultants, Inc., March 2006).

### State Route 98 Widening

The cost estimate for widening SR-98 to a 4-lane highway with median was estimated per the assumptions stated above. **Table 9** summarizes the estimated costs for widening SR-98.

**TABLE 9: State Route 98 Widening  
Estimated Costs**

DESCRIPTION	COST
Roadway Items (includes 30% contingency)	\$ 6,240,000
Structure Items (includes 30% contingency)	\$ 0
Right-of-Way	\$ 200,000
Planning (5%)	\$ 320,000
Engineering Design / Right-of-Way Engr. (11%)	\$ 730,000
Construction Management (10%)	\$ 640,000
<b>TOTAL</b>	<b>\$ 8,130,000</b>

The cost estimate for SR-98 widening was developed per the Caltrans District 11 eleven-page cost estimate format. The entire eleven-page estimate can be found in **Appendix D**.

# Cost Apportionment

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## Methodology

The goal of cost apportionment is to provide a reasonable basis to spread the costs of the future water treatment plant expansion, the wastewater treatment plant expansion, and the widening of SR-98 to future development within the Gateway planning area. The cost apportionment methodology used for each of these facilities is based on the relative utilization of the facility by each land use type.

### Water Treatment Plant Expansion

The water treatment plant expansion costs have been apportioned based on projected water consumption for commercial and industrial land uses. The apportionment assumes: (1) the benefit fees will be collected from the remainder of Phase 1, Phase 2, Phase 3, and Phase 4 developers; (2) \$460,000 is available for the water treatment plant expansion from benefit fees already collected from Subphase 1A developers; and (3) water capacity fees are available for water treatment plant expansion. **Table 10** provides a summary of apportionment information and resultant fee rates for the water treatment plant expansion.

**TABLE 10: Water Treatment Plant Expansion  
Cost Apportionment Summary**

	PHASE 1A		Remainder PHASES 1 – 4		TOTAL
	Commercial	Industrial	Commercial	Industrial	
Net Developable Acres	40.9	163.6	243.2	972.9	1,420.6
Cost of Improvements (November 2006 dollars)					\$ 11,565,937
Water Demand Rate (gpd/acre)	2,750	2,500	2,750	2,500	
Total Projected Water Demand (gpd)	112,475	409,000	668,800	2,432,250	3,622,525
Water Capacity Fee Rate (\$/gallon)	\$1.18	\$ 1.18	\$ 1.18	\$ 1.18	\$ 1.18
Water Capacity Fee Collected	\$ 132,721	\$ 482,620	\$ 789,184	\$ 2,870,055	\$ 4,274,580
Phase 1 Benefit Fees Available for Water Treatment Plant Expansion					\$ 460,000
Benefit Fees to be Collected from Remainder Phases 1 – 4					\$ 6,831,358
Benefit Fees to be Collected from Remainder Phases 1 – 4 (\$/gpd)					\$ 2.20
<b>Benefit Fees to be Collected (\$/acre)</b>			<b>\$ 6,058</b>	<b>\$ 5,507</b>	
<b>Total Dollars Collected</b>	<b>\$ 132,721</b>	<b>\$ 482,620</b>	<b>\$ 2,262,495</b>	<b>\$ 8,228,101</b>	<b>\$ 11,565,937</b>

### **Wastewater Treatment Plant Expansion**

The wastewater treatment plant expansion costs have been apportioned based on projected wastewater volumes generated for commercial and industrial land uses. The apportionment assumes: (1) the benefit fees will be collected from the remainder of Phase 1, Phase 2, Phase 3, and Phase 4 developers; and (2) wastewater capacity fees are available for wastewater treatment plant expansion. **Table 11** provides a summary of apportionment information and resultant fee rates for the wastewater treatment plant expansion.

**TABLE 11: Wastewater Treatment Plant Expansion  
Cost Apportionment Summary**

	PHASE 1A		Remainder PHASES 1 – 4		TOTAL
	Commercial	Industrial	Commercial	Industrial	
Net Developable Acres	40.9	163.6	243.2	972.9	1,420.6
Cost of Improvements (November 2006 dollars)					\$ 5,648,500
Wastewater Generation Rate (gpd/acre)	1,600	800	1,600	800	
Wastewater Generated (gpd)	65,440	130,880	389,120	778,320	1,363,760
Wastewater Capacity Fee Rate (\$/gallon)	\$ 1.45	\$1.45	\$ 1.45	\$ 1.45	
Wastewater Capacity Fee Collected	\$ 94,888	\$ 189,776	\$ 564,224	\$ 1,128,564	\$ 1,977,452
Benefit Fees to be Collected from Remainder Phases 1 – 4					\$ 3,671,048
Benefit Fees to be Collected from Remainder Phases 1 – 4 (\$/gpd)					\$ 3.14
<b>Benefit Fees to be Collected (\$/acre)</b>			<b>\$ 5,031</b>	<b>\$ 2,516</b>	
<b>Total Dollars Collected</b>	<b>\$ 94,888</b>	<b>\$ 189,776</b>	<b>\$ 1,787,823</b>	<b>\$ 3,576,013</b>	<b>\$ 5,648,500</b>

**State Route 98 Widening**

The costs associated with widening SR-98 to a 4-lane highway have been apportioned based on trip generation rates for commercial and industrial land uses. **Table 12** summarizes the trip generation rates for commercial and industrial developments utilized.

**TABLE 12: Gateway Trip Generation Rates**

LAND USE	TRIP RATE (ADT/acre)
Commercial	400
Industrial	90

SOURCE: *Gateway of the Americas Specific Plan* (August 1997).

**Table 13** provides a summary of apportionment information and resultant fee rates for widening SR-98 to a 4-lane highway.

**TABLE 13: State Route 98 Widening  
Cost Apportionment Summary**

	PHASE 1A		Remainder PHASES 1 – 4		TOTAL
	Commercial	Industrial	Commercial	Industrial	
Net Developable Acres	40.9	163.6	243.2	972.9	1,420.6
Cost of Improvements (November 2006 dollars)					\$ 8,130,000
Trip Generation Rate (ADT/acre)			400	90	
Total Trips Generated (ADT)			97,280	87,561	184,841
Benefit Fees to be Collected from Remainder Phases 1 – 4					\$ 8,130,000
Benefit Fees to be Collected from Remainder Phases 1 – 4 (\$/ADT)					\$ 43.98
<b>Benefit Fees to be Collected (\$/acre)</b>			<b>\$ 17,593</b>	<b>\$ 3,959</b>	
<b>Total Dollars Collected</b>			<b>\$ 4,278,739</b>	<b>\$ 3,851,261</b>	<b>\$ 8,130,000</b>



### Combined Facilities Summary

**Table 14** provides a summary of the total resultant benefit fee rates to be collected from development within the remainder of Phase 1, Phase 2, Phase 3, and Phase 4 of Gateway planning area to fund the water treatment plant expansion, wastewater treatment plant expansion and SR-98 widening projects combined.

**TABLE 14: Total Benefit Fee Summary**

PROGRAM COMPONENT	BENEFIT FEE (\$/acre)	
	Commercial	Industrial
Water Treatment Plant Expansion	\$ 6,058	\$ 5,507
Wastewater Treatment Plant Expansion	\$ 5,031	\$ 2,516
State Route 98 Widening	\$ 17,593	\$ 3,959
<b>TOTAL</b>	<b>\$ 28,682</b>	<b>\$ 11,982</b>

# Funding Considerations

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## Annual Cost-Indexing

It is recommended the fee rates be indexed annually in order to keep up with future increases in the cost of construction. The “Los Angeles Construction Cost Index” (LACCI) compiled by *Engineering News Record* (published by McGraw-Hill Publishing Company) is a regionally appropriate index, commonly referenced for such purposes. The fee rates contained in this report have been calculated based on an LACCI of 8893.07 (November 2006).

Indexing the rates to the LACCI is not intended to preclude the County from periodic evaluation and adjustment of the fee rates to better reflect the cost of current construction and other unforeseen project cost increases.

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## Other Funding Sources

The proposed fees are intended to fund identified facilities needed to mitigate the cumulative effects of future development. Other revenue sources will be required to fund existing deficiencies (if any) not attributable to new growth. Sources of additional revenue may include:

- ◆ General and Special Taxes (including property taxes, and other sales/use taxes).
- ◆ State and federal grant monies.
- ◆ County Service Area funding.
- ◆ Special assessments.

The funds collected will be used for the specific improvements identified in this report to accommodate future growth, and other funds will be used to address existing deficiencies (if any). The proposed fees may help the County leverage other funding sources, including state and federal grants. Grant programs often require a high level of difficult-to-find matching funds. Having a fee program demonstrates a committed plan of action for infrastructure improvements, and such revenue can provide a ready source of matching funds.

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## Statewide Community Infrastructure Program

The Statewide Community Infrastructure Program (SCIP), sponsored by the League of California Cities (League) and the California State

Association of Counties (CSAC), is a development impact fee financing program. SCIP offers tax-exempt pooled bond financing that provides economies of scale while greatly reducing cost of issuance and improving interest rates for projects of any size. Utilizing SCIP, developers can be reimbursed for fees paid in order to obtain a building permit, or fees can be funded prior to obtaining a building permit. SCIP offers the following fee financing alternatives:

- ◆ **Reimbursement Program:** local agency receives fees at issuance of building permit; property owner is reimbursed by SCIP for eligible amount from bond proceeds.
- ◆ **Pre-Funding Program:** fees set at time of approval of Tentative Map; local agency receives funds from SCIP after issuance of bonds.

Both of these programs involve the establishment of an assessment district into which applicant properties (or developments) will be required to annex. The property owner is reimbursed for the financed fees, and the bonds are payable through assessment installments levied on the landowner's property.

The California Statewide Communities Development Authority, a joint powers authority sponsored by the League and CSAC, funds these programs through the issuance of 30-year limited obligation bonds authorized by the Improvement Bond Act of 1915, with assessment liens imposed under the Municipal Improvement Act of 1913.

Some advantages of SCIP include:

- ◆ Pre-funding program can provide up front financing
- ◆ Better economies of scale due to pooled financing
- ◆ Tax-exempt financing available to smaller projects
- ◆ An alternative to fee deferral programs
- ◆ Lower costs and interest rates due to size and diversity
- ◆ SCIP handles all administration

Local agencies can become a member of SCIP by passing a resolution. After passage of the requisite resolution, individual developers or property owners can apply to SCIP for participation in eligible programs.

# Program Implementation

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## Statement of Findings

The following information is provided to assist the County with satisfaction of the requisite statutory findings contained in §66001 of the Mitigation Fee Act:

***Purpose of the Fee.*** The purpose of the fees is to fund program implementation and construction of identified water treatment, wastewater treatment and transportation facilities to mitigate the anticipated cumulative impacts associated with future development within the Gateway planning area.

***Use of the Fee.*** The fee will be used to fund program implementation and construction of certain water treatment, wastewater treatment and transportation facilities in the Gateway planning area.

***Reasonable Use (Benefit).*** Future development will have a significant, not easily mitigated, cumulative impact on the water treatment, wastewater treatment and transportation infrastructure capacity. The fee will be used to fund identified water treatment, wastewater treatment and transportation infrastructure to accommodate future development.

***Reasonable Need (Burden).*** Future development will have a significant, not easily mitigated, cumulative impact on the water treatment, wastewater treatment and transportation infrastructure capacity. The fee will be used to fund identified water treatment, wastewater treatment and transportation infrastructure to accommodate future development.

***Reasonable Apportionment.*** The facilities were identified based on an analysis of relative utilization by future development within the Gateway planning area. The costs of the facilities will be apportioned to future development based on relative utilization.

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## Capital Improvement Program

The following facility information is provided to assist the County with satisfaction of the Capital Improvement Program (CIP) requirements set forth in §66002 of the Mitigation Fee Act:

**Approximate location.** The approximate location of each identified facility has been described in this report.

**Size.** The size and/or characteristics of each identified facility have been provided in this report.

**Time of Availability.** The identified facilities will be constructed based on availability of funding, and as necessary to address the cumulative impacts of future development within the Gateway planning area.

**Estimated Cost.** The estimated cost of each identified facility (in November 2006 dollars) has been provided in this report

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## Inter-Agency Coordination

Collection of fees and construction of the identified facilities may involve varying degrees of inter-agency coordination. For example, Caltrans has jurisdiction over State Route 98, portions of which are proposed for improvement as part of this program. The financial aspects and timing of construction activities for such projects will certainly require considerable attention and coordination.

# **APPENDIX A**

## **Subphase 1A Specific Lots**

## Appendix A Subphase 1A Specific Lots

### Description of Subphase 1A:

Tract 941 - Unit 1; Book 19 page 10 of Final Maps,  
Lots 1 through 49 and Lot 51.

Tract 942 No. 2 - Unit 1: Book 19 page 24 of Final  
Maps, Block 4 Lots 1 - 7, Block 6 Lots 1 and 2.

Tract 942 No. 1 - Unit 1: Book 19 page 60 of Final  
Maps, Block 1 Lots 1 - 6, Block 3 Lots 1 - 5, Block 5  
Lots 1 - 6, Block 6 Lots 1 - 4, Block 8 Lots 1 and 2,  
Block 9 Lots 1 - 9.

Menvielle TM, bounded by Maggio, Menvielle, SR 7  
and SR 98: 24.56 acres.

Gateway to the Americas (Benefit Fee Acreages)

REV 2/14/07

Tract 941 - Unit 1 (Los Alamos/Pan American)

Book 19 page 10 of Final Maps (filed 7/15/99)

Remainder Parcels (undetermined acreages)

Lot	Acre	Lot	Acre	Lot	Acre	Lot	Acre
1	2.12	14	1.4	27	13.22	40	1.28
2	1.08	15	1.4	28	1.25	41	1.33
3	1.25	16	1.4	29	1.23	42	1.33
4	1.32	17	1.4	30	2.9	43	1.33
5	1.85	18	1.23	31	1.88	44	1.32
6	8.44	19	2.82	32	1.26	45	1.35
7	1.27	20	3.17	33	3.39	46	1.55
8	0.92	21	1.23	34	9.89	47	2.22
9	0.92	22	1.4	35	1.5	48	1.23
10	0.92	23	1.4	36	1.81	49	1.05
11	0.92	24	1.4	37	1.27	50	2.12
12	1.22	25	1.4	38	1.29	51	17.91
13	2.18	26	2.17	39	1.29	Total	122.43

Not in Subphase 1A  
Agg Prod

Tract 942 No. 2 - Unit 1 (Rice)

Book 19 page 24 of Final Maps (filed 10/19/99)

Remainder Parcels (119.37 Acres)

Lot	Block	Acre	Lot	Block	Acre
1	4	0.52	6	4	1.22
2	4	1.24	7	4	1.56
3	4	2	1	6	1.31
4	4	1.65	2	6	10.3
5	4	0.99	Total		20.79

Tract 942 No. 1 - Unit 1 (Menvielle, JET)

Book 19 page 60 of Final Maps (filed 12/29/00)

Remainder Parcels (205.01 Acres)

Lot	Block	Acre	Lot	Block	Acre	Lot	Block	Acre
1	1	1.33	3	5	1.71	4	9	0.64
2	1	1.22	4	5	1.53	5	9	0.6
3	1	1.22	5	5	1.37	6	9	0.55
4	1	1	6	5	1.37	7	9	0.6
5	1	0.98	1	6	2.05	8	9	0.62
6	1	1.48	2	6	2.28	9	9	0.65
1	3	1.08	3	6	1.51	1	11	3
2	3	1.21	4	6	1.5	1	12	3
3	3	1.04	1	8	1.72	Total		44.84
4	3	1.03	2	8	2.92			
5	3	1.14	1	9	0.58	7	1	2.55
1	5	1.37	2	9	0.46	1	12	11.45
2	5	1.38	3	9	0.7			

Not in Subphase 1A

Not in Subphase 1A

Water Plant

Retention Basin

Not in Subphase 1A

Not in Subphase 1A

# **APPENDIX B**

## **Sewer Treatment Plant Upgrades: Gateway CSA**



# **Sewer Treatment Plant Upgrades Gateway CSA**

Imperial County, California



Prepared by:

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El Centro, CA 92243  
GSL Project No. GS0523

**March 2006**

## 1.0 INTRODUCTION

The Gateway County Service Area (CSA) constructed the first stage of a sewer treatment plant (STP) in 2000 to serve about 165 acres of development within the 1400 acre Gateway of the Americas Specific Plan Area (SPA). The first stage of STP construction included backbone infrastructure consisting of two (2) remote pumping (lift) stations, force main and gravity main pipelines, a pump station at the STP headworks and a two (2) facultative lagoon treatment system and evaporation ponds. No bar screens or grit removal equipment were included in the initial headworks construction. The 12-foot deep (3 ft. free board), 1.13 million gallon, 80 mil HDPE lined and aerated facultative ponds (2) are operated in parallel and are designed to treat 100,000 gallons per day (GPD) of wastewater. However, the Phase 1 plant capacity is currently limited to 31,500 gallons per day for full daily evaporation (zero discharge) in accordance with California Regional Water Quality Order No. 99-042. A second permit for Phase 2 expansion of the STP was obtained from the Regional Board (NPDES Permit No. CA 7000015/Order No. R7-2003-0001) in January 2003 which authorizes up to 200,000 gallons per day daily discharge from the STP to the Alamo River with the addition of disinfection to the STP effluent. The NPDES Permit for Phase 2 operation limits effluent discharge constituents to 45 mg/l BOD, 95 mg/l Total Suspended Solids, 126 MPN E.coli, 0.01 mg/l average total chlorine residual, pH levels between 6.0 and 9.0 and no acute or chronic toxicity in the effluent or caused in the receiving waters (Alamo River).

Initially, Phase 2 upgrades (and the NPDES permit) anticipated constructing a chlorine contact channel and a dechlorination pipeline which would provide the required disinfection. The cost of this system addition was estimated to be about \$135,000 in 2001. In discussions with the STP operator (Water Quality Specialists/Rocky Vandergriff), the risk of exceeding NPDES effluent standards was high when using a chlorination/dechlorination system for disinfection. It was advised that the disinfection system be designed for filtration and Ultra-Violet Light (UV) disinfection to avoid chlorine residual exceedances in the effluent stream to the Alamo River. Construction of wetlands has also been suggested.

The addition of continuous backwashing upflow filtration and a UV Light disinfection system (with a treatment capacity of 0.2 MGD) is currently estimated at \$400,000. With these plant additions the STP is permitted to operate at 100,000 gpd (0.1 MGD). Aerators were installed in the facultative ponds in March 2005 by Water Quality Specialists to allow full treatment capacity of the lagoons. The current flow to the STP is about 14,000 gallons per day as measured by water meter readings to developed sites in the SPA. There is currently about 63 acres of developed industrial (warehousing) and commercial (convenience store/gas station) sites flowing to the plant. There is another 29 acres of development under construction or planning for the Gateway SPA (See Table 1). The county is also negotiating with the GSA Calexico East Port of Entry for acceptance of 12,000 to 15,000 GPD wastewater flow in the Gateway Sewer System at the intersection of Nina Lee and Carr Roads. The currently planned projects including the GSA Calexico East POE will add about 21,500 GPD flow to the STP. This requires the Phase 2 expansion to be implemented.

**TABLE 1****Current/Planned Gateway Developments  
(March 2005)**

<b><u>Development</u></b>	<b><u>Acreage</u></b>	<b><u>Estimated Sewer Flow</u></b>
Mexport Industrial Park (E)	30.9 ac.	5,850 gpd (*)
Romero Warehouse/Broker (E)	4.1 ac.	625 gpd (*)
USA/Jack-in-the-Box (E)	8.4 ac.	2,350 gpd
Rocket Gas Station (E)	1.5 ac.	1,750 gpd
RL Jones Warehouse/Broker (E)	18.0 ac.	3,400 gpd (*)
P3E/Rood & Pan American (P)	17.0 ac.	3,200 gpd (*)
Rice (Unit No. 1)	10.0 ac	2,000 gpd (*)
Farmer Boy Restaurant (P)	1.0 ac	4,000 gpd
Kragen Auto Parts (P)	1.0 ac.	275 gpd
GSA Calexico East POE (P)	80 ac	12,000 gpd

(\*) Based on 5 days per week

**2.0 PHASE 2 PLANT UPGRADES**

- a) The inlet piping to the two aerated lagoons will be modified to allow series operation of the lagoons rather than parallel. This will require the installation of a crossover pipe or channel between Lagoon No. 1 and Lagoon No. 2 (1 total).
- b) The outlet structures in Lagoon No. 1 and No. 2 need to be retrofitted with an adjustable opening stainless steel jack-gate weir with integral base drain pipe and shear gate (2 total).
- c) A new 60-inch diameter pumping wet well is required at the outlet end of Pipe No. 21 (12' diameter) which exits Manhole No. 4 (a 10 ft. deep manhole which collects outflows from existing and future lagoons).
- d) Two 3.0 horsepower, 180 gpm (0.26 MGD) self-priming centrifugal pumps are required on a pumping slab outside the new wetwell. The pumps will operate with integral pump sequencing level controls, lifting the effluent to the top of the continuous backwash sand filters (about 13 to 16 feet above base slab).
- e) Two 190 GPM (0.27 MGD) stainless steel continuous backwash sand filters (5' dia x 13ft. vertical tank vessels) are required. The sand filter loading rate is approximately 5 GPM per square foot of filter surface area. A 5 horsepower air compressor (3.2 SCFM minimum output) is required with each sand filter. Inlet and outlet effluent piping is 6-inch diameter. Reject (backwash) piping is 3-inch diameter and will be returned at a rate of 5 to 8 GPM to the aerated lagoons.
- f) Two Trojan UV3075K-PTP ultraviolet light modular units (100,000 GPD treatment capacity each) are required. Each unit is supplied in a stainless steel channel (48"Lx9"Wx15"D) and requires a 120 volt, 60 hertz, 5 amp plug outlet (on individual circuits).

- g) A new effluent outfall pipeline (12-inch diameter x 500 ft.) and 48" diameter manhole will be required from the disinfection area to an existing 60-inch diameter manhole with baffle weir wall at the northeast corner of the STP facility. The existing 60" diameter manhole will be used as a sampling station with electric power (120 volt/15 amp) and a small enclosure for sampling equipment required at the manhole. The sampling manhole outlets to the Alamo River via an existing 12-inch diameter concrete pipe.
- h) A base slab and shade will be required for mounting and housing the filter pumps, backwash filter vessels and UV disinfection channels. The overall slab dimensions are estimated at 30'x80'. The southern 50 ft. of the shade will require a 24' eave height steel building frame to provide clearance over future continuous backwashing sand filter vessels. The northern 30 ft. of the base slab will require a 14' eave height shade where the UV disinfection channels and an operator's office/laboratory will be located.
- i) A new electrical subpanel and wiring to the filter pumps, air compressors and UV lighting modules will be required at the filtration/disinfection facility. Stubouts consisting of three 1.5" conduits and one 2.5" conduit with four No. 6 THHN conductor wires were provided to the site of the filtration/disinfection building. The filtration/disinfection circuitry is connected to Panel A (200A, 3 phase, 277/480 volt.) at the headworks building main panel. A 120amp, 277/480 volt, 3 phase output standby emergency generator is located at the headworks building to supply power to essential facilities in the STP. Currently, the only connected load to this panel is two 5 horsepower pumps (350 gpm each) at the headworks lift station.

The estimate cost in 2005 dollars for the Phase 2 STP upgrades follows:

A. Crossover Pipe (Lagoons)	\$ 10,000
B. Jack-Gate Weirs (Outlet Structures)	\$ 10,000
C. 60"dia-Wet Well	\$ 10,000
D. Filtration Pumps (2 @ 3hp)	\$ 3,000
E. Continuous Backwash Filters & Piping (2)	\$186,000
F. UV Light Disinfection Modules (2)	\$ 36,000
G. Effluent Pipeline & 48" dia. Manhole (500'/12" dia.)	\$ 25,000
H. 30x80 Shade, Foundation & Building Pad	\$ 72,000
I. Electrical & Sampling Station	\$ 15,000
Subtotal	\$367,000
Design	<u>\$ 33,000</u>
<b>Phase 2 Total</b>	<b>\$400,000</b>

### 3.0 PHASE 3 PLANT UPGRADES

The Phase 3 STP upgrades are required at 0.07 MGD (70,000 gal/day) flow (70% of lagoon treatment capacity) and will consist of upgrading the treatment lagoons to 0.20 MGD capacity. These upgrades will consist of constructing one new HDPE lined lagoon that will be designed for a 0.2 MGD rated BIOLAC activated sludge wastewater treatment system with integral clarifier and wave oxidation nitrogen reduction process. In addition, a braced concrete separation wall will be installed in Lagoon No. 1 to allow smaller basins for BIOLAC Wastewater Treatment

System. A Helisieve In-Channel fine screen will be added for grit removal downstream of the headworks metering building. The helisieve screen will empty into cylindrical waste containers. The filtration/disinfection facility will have already been sized for 0.2 MGD flows, except for the UV light modules. Two additional Trojan UV-3075K-PTP modules will need to be added.

The estimated cost of the Phase 3 plant upgrades follow:

a) Earthwork/Liner/Concrete Walls	\$130,000
b) BIOLAC Equipment/Installation	\$200,000
c) Helisieve In-Channel Fine Screen	\$ 80,000
d) Piping Modifications	\$ 50,000
e) Electrical	\$ 30,000
f) UV Light Modules	\$ 36,000
Subtotal	\$526,000
20% Design/PM/CM	\$105,000
<b>Phase 3 Total</b>	<b>\$631,000</b>

#### 4.0 PHASE 4 PLANT UPGRADES

At 0.14 MGD operation (70% of rated plant capacity), a second BIOLAC activated sludge wastewater treatment basin will need to be operated. The basin should be designed to treat 0.5 MGD and will consist of the addition of BIOLAC air blowers, aeration chains, pumps and return activated sludge lines to one of the two existing lagoons. An integral clarifier will need to be added to the basin outflow. Two 0.55 MGD (380 GPM) continuous backwashing sand filters (7'dia. X 16' high) will be required at the filtration/disinfection building. The 0.27 MGD and 0.55 MGD filters will be operated in parallel (near equivalent head loss through the filter beds).

Two new 600 GPM (0.86 MGD) pumps of about 5 horsepower each will replace the 180GPM pumps at the wet well to the filtration/disinfection building. The UV light modules will need to be replaced with Trojan UV-3000 Plus automatically cleaning lighting banks and channels. Each UV-light disinfection unit will have a treatment capacity of 1.0 MGD. At this stage of plant development, the filtration/treatment building will be enclosed and an air-conditioned operator office/laboratory constructed.

The estimated cost of the Phase 4 plant upgrades follows:

a) BIOLAC Equipment/Installation (0.5 MGD)	\$500,000
b) Clarifier	\$100,000
c) Piping	\$ 30,000
d) Electrical	\$ 15,000
e) Filtration Pumps (2 @ 600 GPM)	\$ 4,000
f) Continuous Backwash Sand Filter (2 @ 0.55 MGD)	\$205,000
g) UV-3000 Plus Light Modules (2 @ 1.0 MGD)	\$200,000
h) Filtration/Disinfection Building Upgrades	\$ 45,000

Subtotal	\$1,099,000
20% Design PM/CM	\$ 220,000
<b>Phase 4 Total</b>	<b>\$1,319,000</b>

## 5.0 PHASE 5 PLANT UPGRADES

At 0.5 MGD flow (about 70% of 0.7 MGD rated plant capacity) a third BIOLAC activated sludge wastewater treatment basin will need to be operated. One of the existing HDPE lined facultative lagoons will be fitted with BIOLAC equipment capable of treating 0.8 MGD. This will bring the total rated plant capacity to 1.5 MGD, allowing operational flows to be 1.0 to 1.1 MGD. The plant additions will consist of the BIOLAC blower/aeration chains, a new integral clarifier, a rotary drum sludge thickener, solar sludge dryer, two 0.55 MGD continuous backwashing sand filters, two 850 gpm (1.2 MGD) filter pumps and a post-aeration chamber to oxygenize the effluent prior to discharge to the Alamo River.

The estimated cost of the Phase 5 plant upgrades follows:

a) BIOLAC Equipment/Installation (0.8 MGD)	\$800,000
b) Clarifier	\$160,000
c) Piping	\$ 45,000
d) Electrical (Including New Emergency Generator)	\$100,000
e) Filtration Pumps (2 @ 850 GPM)	\$ 6,000
f) Continuous Backwash Sand Filter (2 @ 0.55 MGD)	\$205,000
g) Sludge Thickener/Dryer	\$150,000
h) Post-Aeration Chamber	\$ 50,000
Subtotal	\$1,516,000
Design PM/CM	\$303,000
<b>Phase 5 Total</b>	<b>\$1,819,000</b>

## 6.0 PHASE 2 THRU 5 STP OPERATIONAL COSTS

The Sewer Treatment Plant (STP) currently has an influent flow of about 14,000 gpd and a capacity of 31,500 gpd while operating with evaporation ponds and a “zero discharge” requirement by the Regional Water Quality Board. The additional 12,000 to 15,000 gpd of wastewater from the GSA facility along with flows from about 29 acres of projects under construction or in current planning in the Gateway SPA will require the STP to be upgraded with the addition of disinfection facilities (continuous backwashing upflow filter and UV light disinfection). Addition of disinfection improvements will allow the STP to operate at 100,000 gpd with discharge to the Alamo River. Operational costs of the STP will increase to the Level 2 Fee Schedule provided to the Gateway CSA by Water Quality Specialists. The Level 2 fees result from the additional sampling and reporting requirements of the NPDES Permit when discharging effluent to the Alamo River. It is estimated that the Level 2 operational fees will be about \$5,500 per month which equate to about \$6,325 per month when including Gateway CSA Administration Fees. Addition of pumps for the continuous backwash filter and the UV light disinfection system will also increase electrical and replacement costs at the plant. At a 10 year

replacement interval, equipment replacement costs are estimated to be about \$1,850 per month. The total Phase 2 operation cost is estimated to be \$8,175 per month.

When plant flows reach 0.14 MGD (70% of the NPDES permit capacity) a new NPDES permit application will be needed. The NPDES permit should be modified to represent the BIOLAC Waste Activated Sludge Treatment System, the continuous backwash sand filtration and UV-light module disinfection system. The NPDES permit renewal/modification should be for a rated flow of 1.0 MGD to maintain a "Minor Discharge" status for the facility (USEPA rates facilities with flows above 1.0 MGD as "Major", with different permit requirement and increased fees). The approximate fee for modifying the NPDES permit is \$25,000.

## 7.0 SUMMARY

The additional flow from the GSA Facility (Calexico East POE) will require upgrades at the Sewer Plant, consisting of disinfection improvements. Installation of the improvements will allow the Gateway Sewer Plant to increase capacity from 31,500 gallons per day to 100,000 gpd. Upgrades to the plant will consist of continuous backwashing sand filters, ultra-violet disinfection lights and channels and a discharge pipeline. The estimated cost of the upgrades is about \$400,000.

Initial plant construction (100,000 gpd treatment capacity) was about \$860,000, not including any infrastructure to the sewer plant. Disinfection upgrades are estimated to be \$400,000. These costs do not include project burdens such as design, administration, inspections, and construction management. A burden of about 20% should be used for these costs. Additionally, a contingency of 20% should be added to the disinfection improvements cost.

The overall cost of the 100,000 gpd sewer treatment plant follows:

Initial Lagoon/Headworks (1999)	\$860,000
Disinfection Improvements (2006)	\$400,000
Contingency (Disinfection) (2006)	<u>\$ 80,000</u>
<b>Sub Total</b>	<b>\$1,340,000</b>
Design/PM/CM oversight (20%)	<u>\$268,000</u>
<b>Total Cost</b>	<b>\$1,608,000</b>

The approximate capacity cost for the sewer plant is \$16.00 per gallon of daily flow. Therefore, the GSA Facility should be responsible for at least \$240,000 for the upgrade cost, but may be required to pay for the entire upgrade due to lack of Gateway CSA funds to pay for the upgrades required for 0.1 MGD plant operation. The GSA will require repayment of funds paid in excess of \$240,000.

The Phase 3 (0.1 MGD), Phase 4 (0.5 MGD) and Phase 5 (0.8 MGD) upgrade costs are listed below with estimated dates for the upgrades and current (2006) estimated costs. A 5% annual inflation rate for construction costs has been added to the 2006 cost estimates. Construction costs have recently increased about 25% per year in 2004/2005. Generally, future cost increases of construction and upgrade costs due to regulatory changes cannot be accurately predicted.

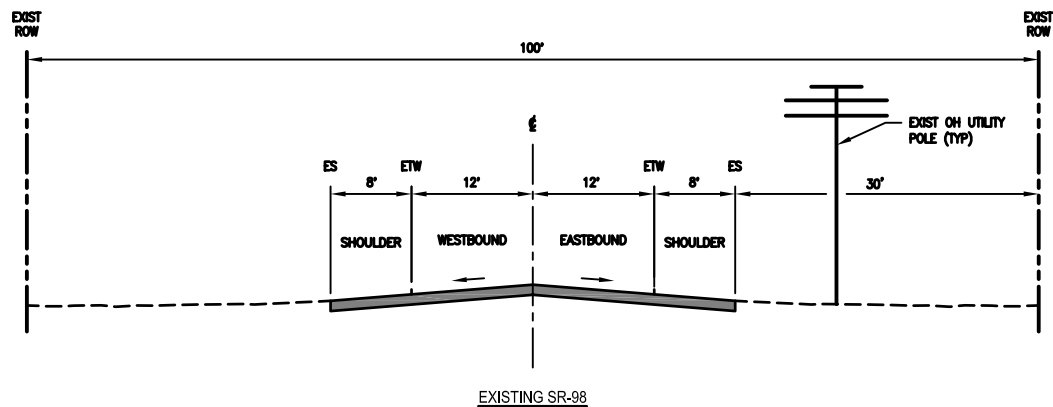
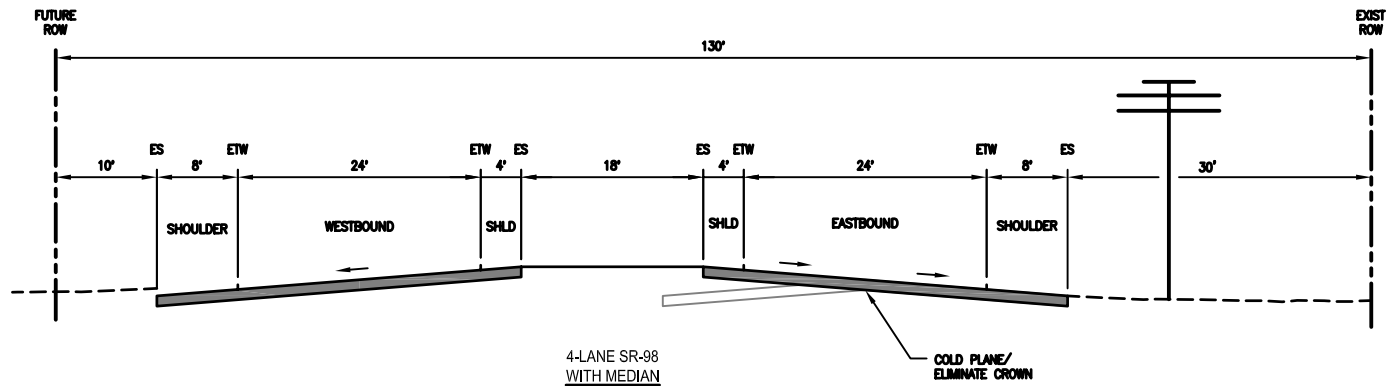
<u>STP Upgrade</u>	<u>2006 Cost Estimated</u>	<u>Year Completed</u>	<u>Inflation Factor</u>	<u>Cost</u>
Phase 1 and 2 (0.1 MGD)	\$1,608,000	2006	1.0	\$1,608,000
Phase 3 (0.1 MGD)	\$631,000	2011	1.28	\$ 807,680
Phase 4 (0.5 MGD)	\$1,319,000	2016	1.63	\$2,149,970
Phase 5 (0.8 MGD)	\$1,819,000	2021	2.08	\$3,783,520
<b>Totals</b>	<b>\$5,377,000</b>			<b>\$8,349,170</b>



# **APPENDIX C**

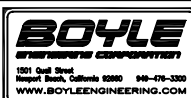
## **State Route 98 Typical Cross-Sections**

DWG: H:\150\100\01-Gateway\BenefitReport\Cost\PlanSet\C-SC.dwg  
 DATE: Dec 06, 2006 2:44pm  
 USER: reclusa  
 XREFS: BEC\0001B IMAGES:



SR-98 TYPICAL SECTIONS  
 PHASED IMPROVEMENTS  
 2 LANES → 4 LANES

LEGEND  
 ES EDGE OF SHOULDER  
 ETW EDGE OF TRAVELED WAY  
 SHLD SHOULDER  
 ROW RIGHT-OF-WAY  
 EXIST EXISTING  
 TYP TYPICAL  
 CL CENTER LINE



GATEWAY OF THE AMERICAS BENEFIT UPDATE

SR-98 PHASED IMPROVEMENTS TYP SEC

BEC  
 PROJECT NO.

SD-150-100-01

APPENDIX

01

NO SCALE

Dec 6, 2006

# **APPENDIX D**

## **State Route 98 Widening Cost Estimate**

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

Type of Estimate : Pre-PSR

Program Code :

Project Description SR-98 Widening

Limits : Ash Canal to SR-7

Proposed Improvement Widen to Provide Full-Standards Improvements

Scope : Develop cost estimate for use with Gateway of the Americas Benefit Update Report

Alternative : 4-Lane Alternative with 18' Median (all intersections at-grade)

Date: 12/5/2006

	Current <sup>1</sup>	Escalated <sup>2</sup>
ROADWAY ITEMS	\$ 6,233,285	\$
STRUCTURE ITEMS	\$ 0	\$
SUBTOTAL CONSTRUCTION COST	\$ 6,233,285	\$
RIGHT OF WAY	\$ 200,000	\$
<b>TOTAL CAPITAL COST</b>	<b>\$ 6,440,000</b>	<b>\$ N/A</b>
PSR SUPPORT	\$ 120,000	
PR/ED SUPPORT	\$ 200,000	\$
PS&E SUPPORT	\$ 640,000	\$
RIGHT OF WAY SUPPORT	\$ 90,000	\$
CONSTRUCTION SUPPORT	\$ 640,000	\$
TOTAL SUPPORT COST	\$ 1,690,000	\$ 0
<b>TOTAL PROJECT COST</b>	<b>\$ 8,130,000</b>	<b>\$ N/A</b>

\*ESCALATED PROJECT COST FY \_\_/\_\_

<sup>1</sup>Year of Pre PSR= 2006

<sup>2</sup>N/A, Escalation per ENR Construction Cost Index

Reviewed by:

_____	_____
Date	Phone

Approved by:

_____	_____
Date	Phone

<sup>2</sup> Escalation Rates per Engineering News Record (ENR) Construction Cost Index, Los Angeles CA, November 2006

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

Section	Cost
Earthwork	\$ 408,633
Structural Section	\$ 1,690,573
Drainage	\$ 259,530
Specialty Items	\$ 139,320
Environmental	\$ 308,000
Traffic Items	\$ 1,051,440
Detours	\$ 0
Minor Items	\$ 270,025
Supplemental Work	\$ 412,754
Roadway Mobilization	\$ 412,753
Resident Engineer's Office	\$ 42,000
Contingencies	\$ 1,238,257
<b>TOTAL ROADWAY ITEMS*</b>	<b>\$ 6,233,285</b>

Estimate Prepared By \_\_\_\_\_  
Date

\_\_\_\_\_  
Phone

Estimate Reviewed By \_\_\_\_\_  
Date

\_\_\_\_\_  
Phone

\*Verify that total equals total on Page 8

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**Section 1 EARTHWORK**

	Unit	Quantity		Unit Price (\$)		Cost
190101 Roadway Excavation	CY	35,199	x	6.95	=	\$244,633
198050 Embankment	CY	0	x		=	\$0
198001 Imported Borrow	CY	0	x		=	\$0
160101 Clearing & Grubbing	AC	13	x	3,000.00	=	\$39,000
170101 Develop Water Supply	LS	1	x	25,000.00	=	\$25,000
Removal or Relocation of Existing Facilities	LS	1	x	100,000.00	=	\$100,000

TOTAL EARTHWORK    \$        408,633

**Section 2 STRUCTURAL SECTION**

	Unit	Quantity		Unit Price (\$)		Cost
401000 PCC Pavement (___ Depth)	CY		x		=	\$0
390102 Asphalt Concrete (Type A)	Ton	17,160	x	75.00	=	\$1,287,000
390155 with Asphalt Price Index	Ton		x		=	\$0
390108 Asphalt Concrete Base (Type A)	Ton		x		=	\$0
390171 with asphalt Price Index	Ton		x		=	\$0
390128 RAC- Type G	Ton		x		=	\$0
390163 with Asphalt Price Index	Ton		x		=	\$0
260201 Class 2 Aggregate Base	CY	10,840	x	36.00	=	\$390,240
250401 Class 4 Aggregate Subbase	CY		x		=	\$0
XXXXXX Minor Concrete _____	CY		x		=	\$0
731502 Minor Concrete (Misc Const)	CY		x		=	\$0
3940XX Place AC Dike Type ___	Ft		x		=	\$0
150771 Remove AC Dike	Ft		x		=	\$0
420201 Grind Existing Pavement	SQ FT		x		=	\$0
XXXXXX Remove Concrete	CY		x		=	\$0
390095 Replace AC Surfacing	SQ FT		x		=	\$0
XXXXXX Place AC ( Misc Area)	SQ FT		x		=	\$0
1531XX Cold Plane 45 mm	SQ FT	32,520	x	0.41	=	\$13,333
1531XX Cold Plane ___mm	SQ FT		x		=	\$0
68XXXX Permeable Material Blanket	Ft		x		=	\$0
68XXXX Edgedrains	Ft		x		=	\$0

TOTAL STRUCTURAL SECTION    \$        1,690,573

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**Section 3 DRAINAGE**

	Unit	Quantity		Unit Price (\$)		Cost
Project Drainage	LS		x		=	\$0
6XXXXX 24" RCP	Ft	2,200	x	69.00	=	\$151,800
510502 Minor Concrete (minor structure)	CY	81	x	1,330.00	=	\$107,730
152604 Modify Inlet	EA		x		=	\$0
72XXXX Rock Slope Protection Type__	CY		x		=	\$0
729010 Rock Slope Protection Fabric	SQ FT		x		=	\$0
721XXX Concrete _____ Lining	CY		x		=	\$0

TOTAL DRAINAGE \$ 259,530

**Section 4 SPECIALTY ITEMS**

	Unit	Quantity		Unit Price (\$)		Cost
518201 Masonry Block Wall	SQ FT		x		=	\$0
51800X Sound Wall_)	SQ FT		x		=	\$0
72XXXX Slope Protection (Type _)	Acre		x		=	\$0
83XXXX Concrete Barriers (Type ____)	Ft		x		=	\$0
839XXX Cable Railing	Ft		x		=	\$0
800XXX Chain Link Fence CL-6	Ft	8,100	x	17.20	=	\$139,320
839XXX Crash Cushions (Type _____)	EA		x		=	\$0
Hazardous Waste Work	LS		x		=	\$0
192037 Structure Excavation (Ret.Wall)	CY		x		=	\$0
193013 Structure Backfill (Ret. Wall)	CY		x		=	\$0
193031 Pervious Backfill Material (Ret. Wall)	CY		x		=	\$0
520103 Bar Reinf. Steel (Ret. Wall)	Lbs		x		=	\$0
510133 Class 2 Concrete (Ret. Wall)	CY		x		=	\$0

TOTAL SPECIALTY ITEMS \$ 139,320

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**Section 5 ENVIRONMENTAL**

**5A - Environmental & Landscape**

	Unit	Quantity		Unit Price (\$)		Cost
20XXXXIrrigation	Acre	7	x	15,000.00	=	\$105,000
208XXX Extend Crossovers	Ft		x		=	\$0
204XXX Planting	Acre	7	x	20,000.00	=	\$140,000
204099 Plant Establishment	LS		x		=	\$0
201700 Top Soil	CY		x		=	\$0
20XXXX Irrigation Crossovers	Ft		x		=	\$0
20XXXX Erosion Control (Type __)	Acre		x		=	\$0
8000XX Fence (type)	Ft		x		=	\$0
Biological Mitigation	LS		x		=	\$0
Extend Plant Establishment (_ Years)	LS		x		=	\$0
Water Supply	LS		x		=	\$0
Maintenance Vehicle Pullouts	EA	4	x	2,000.00	=	\$8,000

**5B - NPDES**

074019 Prepare SWPPP	LS	1	x	12,000.00	=	\$12,000
074020 Water Pollution Control	LS	1	x	15,000.00	=	\$15,000
074023 Temporary Erosion Control	Acre	7	x	4,000.00	=	\$28,000
074027 Temp. Erosion Control Blanket	Sq Ft		x		=	\$0
203561 Jute Mesh	Sq Ft		x		=	\$0
074033A Temp. Construction Entrance	EA		x		=	\$0
074032A Temporary Concrete Washout	EA		x		=	\$0
074031A Temporary Gravel Bags	EA		x		=	\$0
074028 Temporary Fiber Rolls	Ft		x		=	\$0
074029 Temporary Silt Fence	Ft		x		=	\$0

TOTAL ENVIRONMENTAL \$ 308,000

Estimate Reviewed By \_\_\_\_\_ Environmental  
Date Branch Chief Phone

Estimate Reviewed By \_\_\_\_\_ District Landscape  
Date Architect Phone

Estimate Reviewed By \_\_\_\_\_ NPDES  
CID TESORO Date Phone



**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**Section 6 TRAFFIC ITEMS**

**6A - Traffic Electrical**

	Unit	Quantity		Unit Price (\$)		Cost
86055X Lighting & Sign Illumination	LS		x		=	\$0
8602XX Traffic Signals & Lighting (SR-98/Mary Morino Road)	LS	1	x	150,000.00	=	\$150,000
8602XX Traffic Signals & Lighting (SR-98/Los Alamos Road)	LS	1	x	150,000.00	=	\$150,000
8602XX Modify Traffic Signals & Lighting (SR-98/Meneville Road)	LS	1	x	110,000.00	=	\$110,000
8602XX Modify Traffic Signals & Lighting (SR-98/SR-7)	LS	1	x	110,000.00	=	\$110,000
560213 Furnish Overhead Sign Structures	LS		x		=	\$0
560219 Install Overhead Sign Structures	LS		x		=	\$0
XXXXXX Fiber Optic Conduit System	LS		x		=	\$0
8611XX Ramp Metering System	LS		x		=	\$0
XXXXXX Interconnection Facilities	LS		x		=	\$0
860810 Inductive Loop Detectors	LS		x		=	\$0
86093X Traffic Monitoring Stations	LS		x		=	\$0

**6B - Traffic Signing and Striping**

566011 Ground Mounted Signs	EA	50	x	450.00	=	\$22,500
568016 Overhead Sign Panels	EA		x		=	\$0
840656 Permanent Pavement Delineation	Ft	48,000	x	0.17	=	\$8,160
832001 Metal Beam Guard Railing	Ft	600	x	55.00	=	\$33,000
120159 Temporary Pavement Delineation	Ft	14,000	x	0.40	=	\$5,600
120090 Construction Area Signs	LS	1	x	10,000.00	=	\$10,000
129000 Temporary Railing "Type K"	Ft	8,100	x	11.50	=	\$93,150
129100 Temporary Crash Cushions Modules	EA	70	x	229.00	=	\$16,030
120152 Temporary Pavement Markings	SQ FT		x		=	\$0
840515 Thermoplastic Pavement Marking	SQ FT		x		=	\$0
120199A Traffic Plastic Drums	EA	70	x	300.00	=	\$21,000
120120 Type III Barricades	EA	50	x	120.00	=	\$6,000

**6C - Traffic Management Plan**

066063 Public Information	LS	1	x	45,000.00	=	\$45,000
066061 COZEEP	LS	1	x	18,000.00	=	\$18,000
120100 Traffic Control System	LS	1	x	220,000.00	=	\$220,000
066090 Maintain Traffic	LS	1	x	21,000.00	=	\$21,000
128650 Portable Changeable Message Signs	LS	1	x	12,000.00	=	\$12,000

TOTAL TRAFFIC SECTION    \$       1,051,440

Estimate Reviewed By

Dale Wilson	Date	Traffic Design	Phone

Estimate Reviewed By

Camille Abou-Fadel	Date	Traffic Operations	Phone

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**Section 7 DETOURS\***

	Unit	Quantity	Unit Price (\$)	Cost
190101 Roadway Excavation	CY	x	=	\$0
198050 Embankment	CY	x	=	\$0
198001 Import Borrow	CY	x	=	\$0
390102 Asphalt Concrete (Type A)	Ton	x	=	\$0
390155 with Asphalt Price Index	Ton	x	=	\$0
260201 Class 2Aggregate Base				
250101 Class 4 Aggregate Subbase	CY	x	=	\$0
Temporary Drainage	LS	x	=	\$0
129000 Temporary Railing Type "K"	Ft	x	=	\$0
12XXXX Temporary Signals	EA	x	=	\$0
120159 Temporary Pavement Delineation	Ft	x	=	\$0

\* Includes constructing, maintaining, and removal

TOTAL DETOURS \$ 0

SUBTOTAL SECTIONS 1-7 \$ 3,857,496

**Section 8 MINOR ITEMS (5%-10%)**

Subtotal Section 1-7 = \$ 3,857,496 x 7% = \$270,025

TOTAL MINOR ITEMS \$ 270,025

**Section 9 SUPPLEMENTAL WORK (5% - 10%)**

Total Section 1-8 = \$ 4,127,521  
\$ 4,127,521 x 5% = \$206,377

WPCP Implementation\*\* \$ 4,127,521 x 5% = \$206,377

	Unit	Quantity	Unit Price (\$)	Cost
066666 Price Index For AC	LS	x	=	\$0

TOTAL SUPPLEMENTAL WORK \$ 412,754

\*\*Use in all project with less than 2 hectares of disturbed soil. ---- Contact NPDES unit to obtain appropriate percentage to use.

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**Section 10 ROADWAY MOBILIZATION \***

Subtotal Section 1-8	=	\$	4,127,521			
			4,127,521	x	10%	= \$412,752

TOTAL ROADWAY MOBILIZATION    \$        412,753

\* If <50 Working Days (N/A)

**Section 12 RESIDENT ENGINEER'S OFFICE**

	Unit	Quantity		Unit Price (\$)		Cost
066105 RE OFFICE	LS	1	x	42,000.00	=	\$42,000

TOTAL STATE FURNISHED    \$        42,000

**Section 13 CONTINGENCIES\*\***

Subtotal Section 1-8						
Contingencies						
		\$	4,127,521	x	30%	= \$1,238,257

TOTAL CONTINGENCIES    \$        1,238,257

**TOTAL ROADWAY ITEMS    \$        6,233,286**

**Approx # of Working Days =                      200**

\*\* As a general rule use appropriate percentage per Project Development Procedures Manual (PDPM).  
(Pre-PSR 30%-50%, PSR 25%, PR 20%, PAR 15%, After PAR 10%)

Contingencies could be increased or decreased depending on the accuracy of the Engineering Estimate and in the possibility of any potential problems that could arise later on. If a contingency other than the recommended on the PDPM is used, then a justification is required.

Justification: (Briefly explain as to why a different percentage was used)

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

## II. STRUCTURES ITEMS

Bridge Name	None
-------------	------

Bridge Number	0
---------------	---

### Structure Type

Width (FT) [out to out]

Total Bridge Length (FT)

Total Area (SFT)

Structure Depth (FT)

Footing Type (pile/spread)

**Cost Per SFT**  
(incl. 10% mobilization,  
30% contingency & special  
aesthetic treatment)

Total Cost for Structure \$

SUBTOTAL STRUCTURES ITEMS	\$	0
---------------------------	----	---

Railroad Related Costs	\$	0
------------------------	----	---

**TOTAL STRUCTURES ITEMS \$ -**

COMMENTS:

Date \_\_\_\_\_

---

Phone

**DISTRICT 11  
PRELIMINARY  
PROJECT COST ESTIMATE**

**III. RIGHT OF WAY**

Acquisition, including Excess Land Purchase: LS (Assumes majority of ROW per Developer Dedication) \$ 200,000  
Damages to Remainder(s) &  
Goodwill Loss

Condemnation Settlements \_\_\_% \$

Acquisition of Offsite Mitigation  
(out to Out) \$

Utility Relocation (State Share) \$

Clearance and Demolition \$

RAP and/or Last Resort Housing Costs \$

Title and Escrow Fees \$

Base Right of Way Cost \$

Design Appreciation Factor \_\_\_% \$

**TOTAL RIGHT OF WAY \$ 200000**

RIGHT OF WAY SUPPORT \$ 20,000

ESCALATED RIGHT OF WAY \$

COMMENTS: (TOTAL ACREAGE, PARCEL COUNT, ESCALATION RATE THROUGH PROGRAMMED YEAR)

Support Cost Estimate Prepared By

\_\_\_\_\_  
Project Coordinator<sup>1</sup>      Date      Phone

Utility Estimate Prepared By

\_\_\_\_\_  
Utility Coordinator<sup>2</sup>      Date      Phone

R/W Acquisition Estimate Prepared By

\_\_\_\_\_  
Murray Wilson<sup>3</sup>      Date      Phone

<sup>1</sup> When estimate has Support Costs only    <sup>2</sup> When estimate has Utility Relocation    <sup>3</sup> When R/W Acquisition is required

#### IV. ENGINEERING SUPPORT COST

### DISTRICT 11 PRELIMINARY PROJECT SUPPORT COST ESTIMATE SUMMARY

SB-45 CATEGORY	FY 4/5	FY 5/6	FY 6/7	FY 7/8	FY 8/9	FY 9/10	FY 10/11	P3 Total	Support Ratio
PSR			120,000					120,000	2%
PR/ED (PD,PE,PM)				200,000				200,000	3%
PS&E (PS)					320,000	320,000		640,000	10%
R/W (RW)						90,000		90,000	1%
CONSTR (CM)							640,000	640,000	10%
<b>otal Support Cost:</b>	0	0	120,000	200,000	320,000	410,000	640,000	<b>1,690,000</b>	
<b>Total Capital Cost</b>									<b>6,440,000</b>
<b>Overall Percent Support</b>									<b>26%</b>

Approved by: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Phone: 688-3381  
Project Control Engineer