

Sacramento Central Groundwater Authority

Nexus Study for Well Protection Fee

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February, 2009

INTRODUCTION

The Sacramento Central Groundwater Authority (Authority) was formed on August 29, 2006 through a Joint Powers Agreement (JPA) between the Cities of Elk Grove, Folsom, Rancho Cordova, and Sacramento and the County of Sacramento. The Board of Directors of the Authority consists of sixteen members representing stakeholder interest groups including agriculture, agriculture/residential users, business, environmental/community organizations, local governments/public agencies and water purveyors.

The purpose of the Authority, as described in the JPA, is to maintain the long-term sustainable yield of the Central Sacramento County Groundwater Basin (Central Basin); ensure implementation of the Basin Management Objectives (BMOs) that are prescribed by the Central Sacramento County Groundwater Management Plan (GMP); oversee the operation of the Well Protection Program prescribed by the GMP; manage the use of groundwater in the Central Basin and facilitate implementation of an appropriate conjunctive use program by water purveyors; coordinate efforts among those entities represented on the governing body of the JPA to devise and implement strategies to safeguard groundwater quality; and work collaboratively with other entities, including the Sacramento Groundwater Authority, the Southeast Sacramento County Agriculture Water Authority and other groundwater management authorities that may be formed in the County of Sacramento and adjacent political jurisdictions, in order to promote coordination of policies and activities throughout the region.

Purpose of Study

Because the GMP recognized that increased groundwater pumping would be an integral component of conjunctive use programs to be implemented in the Central Basin; the stakeholders participating in the development of the GMP recommended determining the feasibility of a basin wide well protection program (WPP). The purpose of the WPP is to protect existing private domestic well and agricultural well owners from declining groundwater levels resulting from new development in the basin. The GMP stakeholders felt this was important because these groundwater users generally have no alternative source of water in the event their wells are “dewatered.” In order to implement the WPP a well protection fee has been identified in this study that would mitigate the cost of deepening or replacing these impacted wells.

The Fee Program will be established by the SCGA Board of Directors, Elk Grove City Council, Folsom City Council, Rancho Cordova City Council, and the Sacramento County Board of Supervisors (land use authorities) through the adoption of this Nexus Study. The Fee Program is compliant with the requirements set forth in the Mitigation Fee Act, also known as AB 1600, and ensures that a

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nexus exists between future development within the Central Basin and (i) the use and need of the proposed facilities, and (ii) the amount of the well protection fee assigned to future development. This Nexus Study demonstrates that a reasonable relationship exists between the fee to be levied and the cost of the impact attributed to future development.

Impact Fee Nexus Requirements (AB 1600)

Assembly Bill (AB) 1600, which was enacted by the State of California in 1987, created Section 66000 et. seq. of the Government Code. AB 1600, requires that all public agencies satisfy the following requirements when establishing, increasing, or imposing a fee as a condition of approval for a development project:

1. Identify the purpose of the fee;
2. Identify the use to which the fee will be put; and
3. Determine how there is a reasonable relationship between:
 - a. The fee's use and the type of development project on which the fee is imposed;
 - b. The need for the public facility and the type of development project on which the fee is imposed; and
 - c. The amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.

HYDROLOGIC AND MODELING ANALYSIS

The Mitigation Fee Act requires that a reasonable relationship exists between the need for public facilities and the type of development on which the fee is imposed. The need for public facilities is related to the level of service demanded, which varies in proportion to the level of development.

Zone 40 Water Supply Master Plan

The *Zone 40 Water Supply Master Plan* (SCWA/MWH, February 2005) was developed to address changes in land use approved by various land use authorities within the Central Basin and to further define SCWA's conjunctive use program of groundwater, surface water, and recycled water supplies, and includes a financing program for the construction of surface water diversion and treatment facilities; water conveyance pipelines; groundwater extraction, treatment, storage, and distribution facilities; and recycled water storage and distribution facilities within Zone 40.

Groundwater impacts in the Central Basin were evaluated in the *Hydrologic and Modeling Analysis for Zone 40 Water Supply Master Plan* (WRIME, September

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2003) as part of the process to develop the *Zone 40 Water Supply Master Plan*. As part of this analysis two baseline conditions were established, 2000 and 2030. These baseline conditions were based on land use (urban and agriculture), urban water demands, agriculture water demands, currently (and projected) available water supplies (groundwater, surface water, and recycled water), and hydrologic conditions (based on 72 years of available hydrologic data). The results of this analysis indicated that implementation of the preferred project (meaning the preferred project identified in the *Zone 40 Water Supply Master Plan*) and overall changes in land use throughout the basin would result in a further decline in basin groundwater levels.

Central Sacramento County Groundwater Management Plan

In conjunction with the development of the *Central Sacramento County Groundwater Management Plan* (SCWA/MWH, February 2006) the *Central Sacramento County Groundwater Management Plan – Impact Analysis for Well Protection* (WRIME, December 2005) was developed. This analysis is based on the *Hydrologic and Modeling Analysis for Zone 40 Water Supply Master Plan* (WRIME, September 2003) and specifically examines the number of “rural domestic wells” and “agricultural wells” that potentially could be impacted as a result of projected new growth through 2030. This analysis also provided estimated costs for deepening or replacing these wells.

The analysis takes a global approach to assess the cumulative effect of projected new growth on groundwater elevations in the basin. It is not reasonable or feasible to evaluate groundwater impacts on a project by project basis, or to evaluate groundwater impacts separately for each individual land use agency.

Refined Impact Analysis for Sacramento Central Groundwater Authority Well Protection Program

In an effort to more accurately define the number of impacted wells and to identify the potential area of impact the Authority completed the *Refined Impact Analysis for Sacramento Central Groundwater Authority* (WRIME, April 2008). This analysis is a further refinement of the studies that were conducted as part of the master planning process and development of the GMP.

WELL PROTECTION PROGRAM

This Nexus Study identifies the number of private domestic wells and agricultural wells that potentially could be impacted within the Central Basin. Based on the refined impact analysis, and subsequent discussions with WRIME, it is estimated that 91 domestic wells and 30 agriculture wells would be impacted as a result of the implementation of the conjunctive use program described in the *Zone 40 Water*

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Supply Master Plan to support new growth approved by the land use authorities and new growth occurring in other parts of the Central Basin. The WPP includes the cost of deepening or lowering the pump bowls for each of these wells. **Table 1** shows that the total net cost of impacts to domestic and agricultural wells attributable to new development is estimated at \$3.2 million.

Table 1. Well Impact Cost Estimate for the Central Basin WPP

	Number of Impacted Wells ²	Unit Cost	Subtotal (Dollars)
Domestic Wells	91	\$13,600 ³	\$1,237,600
Agricultural Wells	30	\$50,000 ⁴	\$1,500,000
Total	121	-	\$2,737,600
Total (Adjusted for 2009)¹	-	-	\$3,229,801

Notes:

1. The unit costs in this table are in 2005 dollars. The inflation adjustment is based on the change in the average of ENR/CCI for 20 cities and San Francisco in 2009 (ENR CCI = 9159.24) and 2005 (ENR CCI = 7763.43)
2. The number of potentially impacted wells is provided by WRIME based on the Refined Impact analysis.
3. The SCGA Board decided that the maximum compensation for an impacted domestic well in the Central Basin WPP benefit area should be the same as that of the North Vineyard Well Protection Program. The unit cost of \$13,600 represents the cost to deepen a domestic well in the North Vineyard Well Protection Program.
4. The unit cost of \$50,000 represents the maximum compensation for an impacted agricultural well in the Central Basin WPP benefit area. The unit cost of \$50,000 represents the cost to deepen an agricultural well according to the WRIME 2005 groundwater impact analysis.

The SCGA Well Protection Fees established in this Nexus Study ensure that new development will pay its fair share for impacts to private and agricultural wells, and will not pay for existing deficiencies.

WELL PROTECTION FEE AND NEXUS FINDINGS

Future development within the Central Basin will create a greater demand for water and additional water supply infrastructure to treat and convey this water. As part of this demand will consist of groundwater there will be a corresponding lowering of groundwater levels within the aquifer underlying the Central Basin. The Fee Program includes funding for existing private and agricultural wells impacted by this development. The Well Protection Fee calculated in this report meets the AB 1600 nexus requirements, as outlined below.

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Purpose of Fee

The purpose of the SCGA Well Protection Fee is to fund the cost of deepening or lowering the pump bowls in existing private and agricultural wells to mitigate impacts resulting from new development in the Central Basin.

Use of Fee

Fee revenue will be used to fund the cost of deepening or lowering the pump bowls of existing private wells that could be dewatered as a result of meeting increased water demands for new development approved by the land use authorities within the Central Basin. Fee revenue will also be used to provide funding for cost contingencies and administrative costs.

Reasonable Relationship Between the Fee's Use and the Type of Development

New development within the Central Basin will generate a need for water. This increase in water demand (particularly groundwater) will cause a decline in current groundwater levels thus impacting currently operating domestic and agricultural wells. Fee revenues will be used to mitigate these impacts.

Reasonable Relationship Between the Need for the Facility and the Type of Development

New development in the Central Basin will generate residents who will demand water service. The water supply needs of new development will place a greater demand on available groundwater supplies. In order to ensure that existing domestic and agricultural well owners continue to have access to a source of groundwater to meet their water supply needs provisions need to be made to cover this cost should the need arise.

Reasonable Relationship Between the Amount of the Fee and the Cost of the Facility

The relationship between the amount of the fee and the facility cost attributable to new development is based on equivalent dwelling units (EDUs). One EDU represents a single family residence and is typically characterized by a one-inch service connection. Facilities with a larger water demand have a larger service connection and thus a greater number of EDUs. Because the majority of new development occurring in the Central Basin will be primarily single family residences; it is assumed for the purpose of this study that the fee collected for individual building permits will be that for a single family residence.

WELL PROTECTION FEE CALCULATION

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Table 1 provides a summary of well impact costs in the Central Basin, which has a net cost of \$3.2 million. The total net cost is allocated to projected new development based on the number of building permits issued annually over a fourteen year period, which is the estimated life expectancy of the program (see **Table 2**).

Table 2. Annual Number of Building Permits Projection in the Fee Area

Land Use Agencies	Annual Number of Building Permits Projection
County of Sacramento	300
City of Elk Grove	300
City of Rancho Cordova (excluding Sunridge Specific Plan)	100
City of Folsom	100
Total	800

The total well impact cost is then combined with estimated administrative costs and a fifteen-percent contingency. This cost is then divided by an estimated program life of thirteen years (starts in 2010 and ends in 11 years after the Vineyard Surface Water Treatment Plant is online, which is around 2022) and then divided by an estimated 800 building permits a year. The administrative cost for SCGA is based on the cost of registering individual wells and on-going program administration. The administrative costs for land use agency staff has been estimated at \$10 per permit. The resulting SCGA Well Protection Fee is \$434 per EDU (see **Table 3**).

Table 3. Well Protection Fee Estimate

Cost Components	Total Cost (\$)	Cost per Year (\$)
Well Impact Cost	\$3,229,800	\$248,446
Administrative Cost for SCGA Staff	\$590,157	\$44,900
Administrative Cost for Land Use Agency Staff	\$104,000	\$8,000
Subtotal	\$3,923,958	\$301,843
15% Contingency	\$588,594	\$45,276
TOTAL	\$4,512,552	\$347,119
Well Protection Fee (\$ per EDU, 2009)	\$434	

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EXEMPTED PROPERTIES

Figure 1 (*Note: will be provided later*) identifies properties that are within the Central Basin but are exempt from paying the Well Protection Fee or receiving benefits under the Well Protection Plan. These areas include the service areas of the Fruitridge Vista Water Company and the Florin County Water District, the City of Sacramento, and the Sunridge Specific Plan area in the City of Rancho Cordova. Each area is described in more detail below:

- Fruitridge Vista Water Company – Exempt from receiving benefit because it is not a member of SCGA and does not participate in the Well Protection Plan. The area is not exempt from paying the well protection fee.
- Florin County Water District – Same as Fruitridge Vista Water Company.
- City of Sacramento – Exempt from receiving benefits and paying the well protection fee because the area within the Central Basin boundary for the City is determined to be served exclusively by surface water, thus has no impact on the groundwater elevation.
- Sunridge Specific Plan Area – Exempted from paying the Central Basin well protection fee because it is already covered by the North Vineyard WPP and pays approximately the same amount of well protection fee for each new building permit. No domestic wells are located in the Sunridge Specific Plan Area.

FEE ADJUSTMENTS

The SCGA Well Protection Fee may be adjusted in future years to reflect revised well costs or receipt of funding from other sources. In addition to such adjustments, in March of each calendar year the cost estimates and the SCGA Well Protection Fee will also automatically be adjusted by the average of the change in the San Francisco Construction Cost Index (CCI) and the change in the 20-city CCI as reported in the Engineering News Record for the 12-month period ending in January of that year.

FEE IMPLEMENTATION

According to the California Government Code, prior to levying a new fee or increasing an existing fee, an agency must hold at least one open and public meeting. At least ten days prior to this meeting, the agency must make data on infrastructure costs and funding sources available to the public. Notice of the time and place of the meeting, and a general explanation of the matter, are to be published in accordance with Section 6062a of the Government Code, which states that the publication shall occur twice, with at least five days intervening. Commencing at least ten days before the hearing, in a newspaper regularly published once a week or more.

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The Fee Program will need to be approved by the SCGA Board of Directors, the Cities of Elk Grove, Folsom, and Rancho Cordova and the County of Sacramento. The Cities of Elk Grove, Folsom and Rancho Cordova and the County of Sacramento will each prepare an ordinance and fee resolution to adopt the fee. The ordinance authorizing the Fee Program and resolution establishing the fee will then be adopted by the Elk Grove City Council, the Folsom City Council, the Rancho Cordova City Council and the County of Sacramento Board of Supervisors. Once the SCGA Well Protection Fee is adopted, it shall become effective sixty days later.

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