


**SACRAMENTO COUNTY MUNICIPAL SERVICES AGENCY  
DEPARTMENT OF WATER RESOURCES**

**MEMORANDUM**

**TO:** Linda Foster-Hall

**FROM:** Keith DeVore 

**DATE:** August 31, 2007

**SUBJECT:** Report Back on Staffing Levels and Use of Engineering Consultants.

**CC:** Paul Hahn  
Steve Pedretti

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**Recommendation**

Water Resources recommends retaining Engineering Consultant Services to provide pipeline design and other related services on an on-call basis. These services will complement existing staff until such time that development activities warrant the hiring of additional staff or backfilling vacancies. Water Resources should not consider any new engineering design team positions until the business climate improves.

**Background**

On February 26, 2007, the Sacramento County Water Agency (SCWA) issued a Request for Proposals (RFP) to On-Call Consulting Engineering Services for the design of SCWA transmission pipelines. On August 14, 2007, staff appeared before the Board of Directors requesting approval of a contract with a local consulting engineering firm for the purpose of providing pipeline design and other related services on an on-call basis over the next three to five years.

The number of SCWA pipeline projects may increase significantly over the next few years. The anticipated increase is due in part to roadway improvement projects that are planned within the cities of Elk Grove and Rancho Cordova and also within the unincorporated area of Sacramento County. The SCWA also has several large pipeline installation projects that are required to bring wet utilities to the future Vineyard Surface Water Treatment Plant (VSWTP) site at Florin Road and Knox Road.

The number of projects and the scale of some of them will require assistance and support from engineering consultants who have expertise with these types of projects. SCWA staff has established a new on-call services contract for pipeline design and related services for upcoming projects, such as:

<u>Project</u>	<u>Sponsor</u>
• Bradshaw Road – Calvin Road to Florin Road	SacDOT
• Sheldon Road/Waterman Road Intersection	City of Elk Grove
• Grantline Road – Survey Road to Bradshaw Road	City of Elk Grove
• Sheldon Road/Bradshaw Road Intersection	City of Elk Grove
• West Stockton Boulevard Bridge	City of Elk Grove
• Kammerer Road – Bruceville Road to I-5	City of Elk Grove
• Sheldon Road – Elk Grove-Florin Road to Bradshaw Road	City of Elk Grove

The work to be performed by the selected consultant will include the following:

1. Provide project management services, such as conducting meetings during the preliminary design phase, preparing monthly invoices, developing a project schedule, and coordinating with agencies affected by the projects.
2. Coordinate with other departments on issues related to sewer, storm drain, and roadway improvements, including road sections, sidewalk, curb and gutter.
3. Assist with environmental resources assessment and environmental reporting; identify environmental impacts and mitigation measures; and provide documentation for acquisition of environmental permits.
4. Provide preliminary design services, such as geotechnical information, roadway design data, surveys, improvement plans, and identify and address utility conflicts.
5. Provide pipeline design and related services, such as prepare corrosion study reports, provide design recommendations and/or calculations; develop traffic control plans and sequence of work; and develop detailed drawings and construction specifications.
6. Provide technical support to the SCWA staff during bidding and construction.
7. Provide general consulting services related to pipeline design and construction.

The Board of Directors requested that Water Resources report back on staffing levels and the use of engineering consultants.

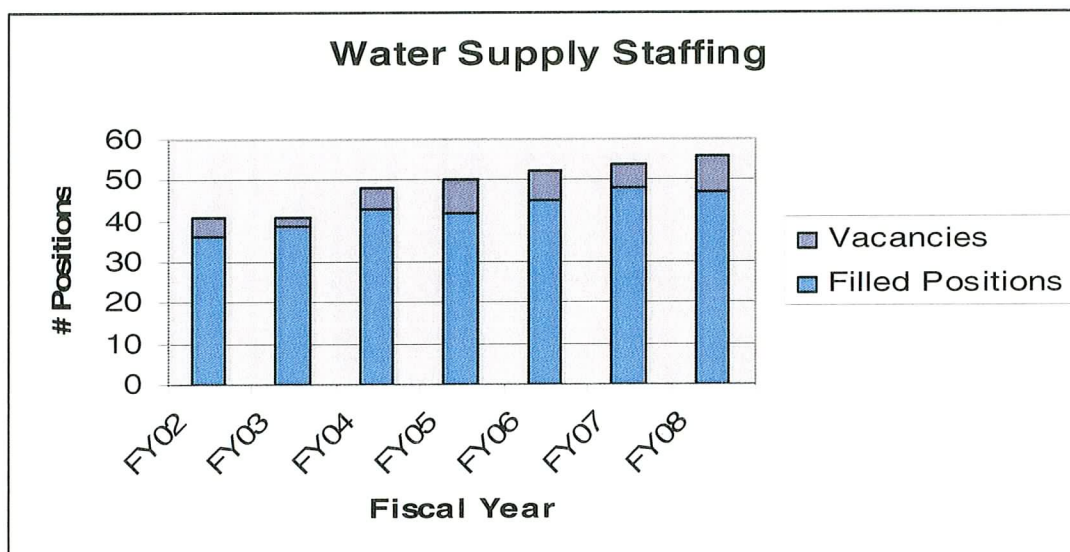
### **Analysis**

Staffing for Water Supply Division projects is driven by several factors:

- Development Activity – Many of the SCWA’s project requirements are driven by development activity and the need to keep water supplies in step with development demand.
- Sacramento County DOT Projects – Roadway improvements proposed by the Sacramento County DOT may require the installation or replacement of transmission or distribution projects on a timetable not driven by Water Resources.
- Other Cities’ Needs – Similar to the Sacramento County DOT projects, other municipalities may require the installation or replacement of transmission or distribution projects on a timetable not driven by Water Resources.

- Internal Water Supply Needs – Regardless of other factors, the SCWA may have internally driven project needs. An example may be improvements to fulfill a regulatory requirement such as arsenic treatment or fluoride addition.

Review of the graph below illustrates the level of Water Supply staffing since FY 2002. The positions include staff from Water Supply Design, Development, Planning, Engineering Operations sections, and the Freeport Project. Staff levels within the Water Supply Division have grown from 41 positions in FY 2002 to current level of 56. Vacancies have typically varied from 10 to 16 percent, although in FY 2003, the vacancy rate was about 5 percent.



The Water Supply Design Section initiated the aforementioned RFP. Since 2002, that section grew from nine positions to 13 positions in 2007. Currently that section has funding for 12 positions, of which two are currently vacant. One vacancy is an Associate Civil Engineer, and the other is a Principal Engineering Technician; both positions require a higher level of experience.<sup>1</sup> Assuming that each employee utilizes 1,750 billable hours per year, at the appropriate labor rates, the design team of an Associate and Principal Engineering Technician corresponds to approximately \$432,000 in salary, benefits, and overhead annually.

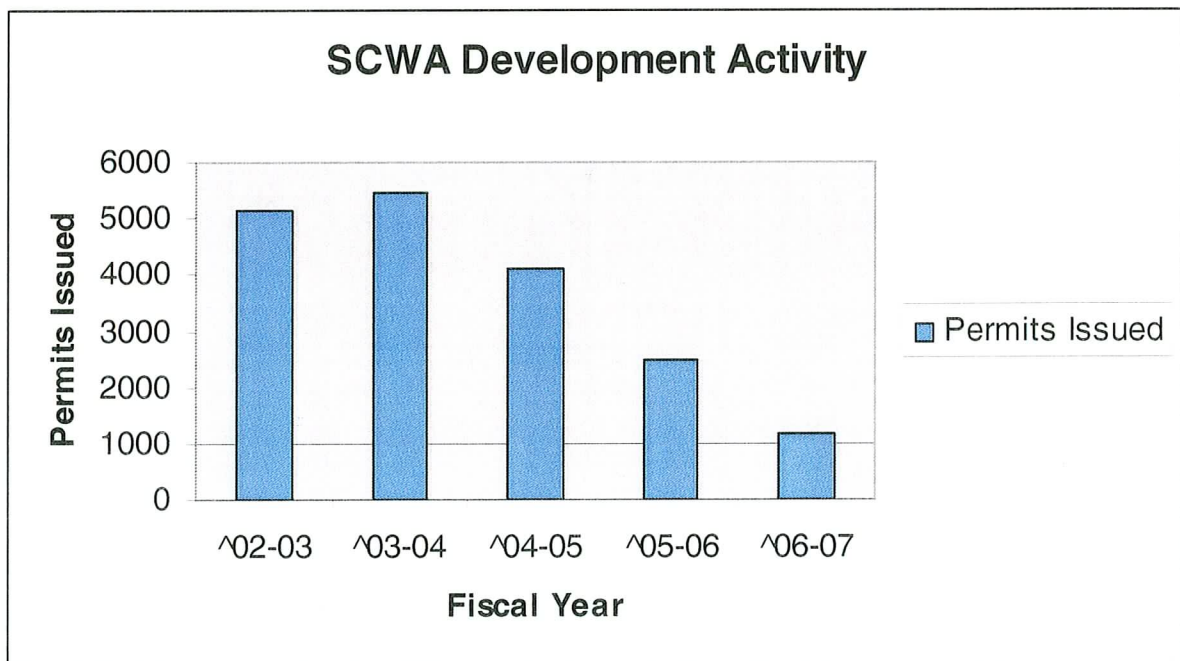
In addition, Water Resources has had difficulty recruiting qualified applicants with the appropriate design experience. Despite the recent adjustments in the wage for Associate Civil Engineers, other public sector agencies, such as CalTrans and other municipalities, offer comparable (if not better) salaries and benefits. Also, the training required to allow

<sup>1</sup> Currently the Water Supply Design Section has one Associate Civil Engineer out on extended absence due to a personal illness. While technically this is not a vacancy, no work is being performed. The section is still absorbing his salary, and there is no desire to backfill due to his pending return.

new hires to take on project level work results in a time lag before they can be fully functional in their job duties.

Furthermore, not all the required work necessary to providing plans and specifications necessary for certain transmission and distribution projects can be performed in-house. Certain soils conditions require the use of a Licensed Geotechnical Engineer, which is a specialty practice for which the county does not staff. Also, design services include site surveying. While this work typically can be performed by the County Department of Surveyor Services, it is usually a small part of the overall design, and Surveyor Services is not always available to perform these services on the timeline needed.

The number of building permits issued on an annual basis acts as a reasonable measurement of development activity. The graph below illustrates the recent development activities within the boundaries of the SCWA. The graph shows that development activity peaked in FY 2004 with the issuance of over 5,000 building permits. The graph further illustrates the most recent decline in development activity within the boundaries of the SCWA.

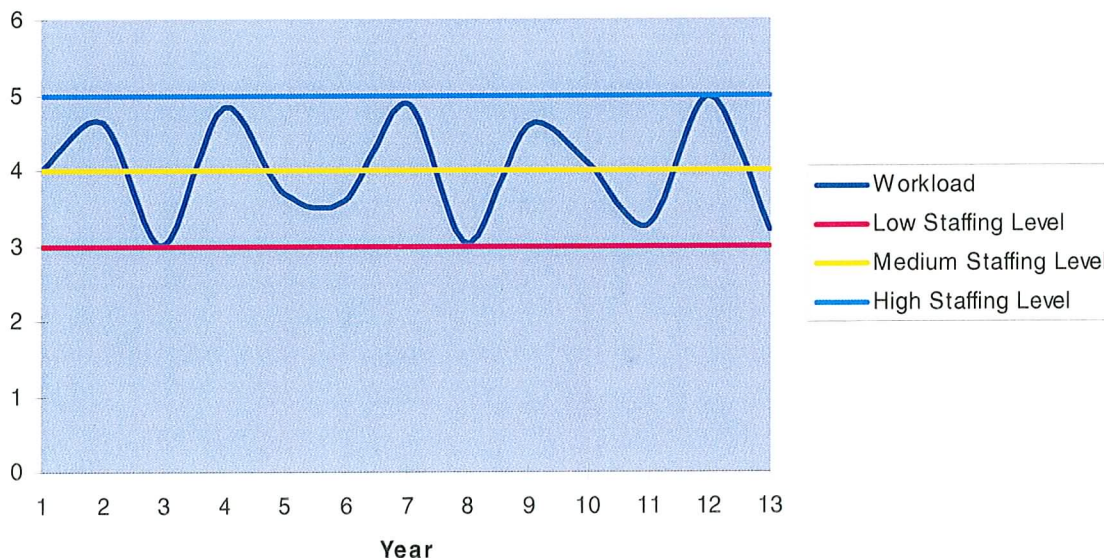


In any given year the workload within Water Resources fluctuates depending on the aforementioned factors, which begs the question of what the desired staffing level should be with any given workload year. An example of the workload fluctuations and various staffing levels is illustrated in the graph on page 5 titled “*DWR Workload and Staffing Levels.*”

If Water Resources staffs at the lowest perceivable workload level, staff is optimized in every case year. Workloads above the lowest levels are accommodated by either the use of overtime or by retaining Engineering Consultant Services to meet those workload demands. Typically, it is not an optimum staffing level since on an ongoing annual basis, Engineering Consultant Services is much more expensive than retaining and maintaining in-house professional staff.

Likewise, it is fiscally irresponsible to maintain staff at the highest workload levels. To do so would result in underutilized human resources the majority of times.

**DWR Workload and Staffing Levels**



The desired staff level is somewhere between that which is capable of handling the most minimal workload and staffing for the peak times. A medium staff level can generally handle most workload scenarios: During peaks, workloads are accommodated by either the use of overtime or by retaining Engineering Consultant Services; during lulls, staff can be directed to work backlogs, recordkeeping and other less technical activities, or cross-training.

The data indicates that the Water Supply Division is currently staffed at or above the medium level (including vacancies) but does not match the workload, which has decreased due to the current reduction in development activity. It would be prudent to delay filling vacancies and any new hires until such time that the housing market recovers.

### **Findings**

1. Water Resources is currently experiencing a decline in development activities, which results in a lower workload level and corresponding lower staffing demand.
2. To fully staff the Water Supply Design Section will result in charges of approximately \$432,000 every year regardless of workload.
3. Staff is asking to retain the aid of Engineering Consultant Services to provide pipeline design and other related services on an on-call basis. The proposed agreement has a price ceiling amount of \$800,000. If the term of the agreement is limited to three years, this results in a cost of approximately \$267,000 per year. This represents 62 percent of the annual cost to hire in-house County employees as the design team.

### **Conclusion**

Due to the decline in development activities, Water Resources should utilize Engineering Consultant Services to provide pipeline design and other related services on an on-call basis. These services are intended to complement existing staff until such time that development activities warrant the hiring of additional staff or backfilling current vacancies. Water Resources should not consider any new engineering design team positions until the business climate improves.

### **Contact**

Should you require additional information please contact Water Resources Division Chief, Herb Niederberger, at 916-874-5436.