



**REPORT TO THE  
REDEVELOPMENT AGENCY  
AND CITY COUNCIL  
of the City of Sacramento**

**915 I Street, Sacramento, CA 95814-2671  
www.CityofSacramento.org**

**Staff Report  
August 12, 2008**

**Honorable Mayor and Members of the City Council  
Honorable Chair and Members of the Board**

**Title: Pioneer Reservoir Relocation/Engineering Feasibility Study and Financing Plan**

**Location/Council District: West of Front Street and south of Interstate 50 (Council District 4)**

**Recommendation: Adopt a 1) City Council Resolution:** a) Authorizing the City Manager or his designee to release a Request for Proposals (RFP) for the preparation of a Feasibility Study and Financing Plan for the relocation of Pioneer Reservoir; b) increasing the tax increment (Fund 3701) revenue and expenditure budget for the Pioneer Bridge Development Project (B18214000) by \$150,000; c) authorizing the City Manager to enter into an Individual Project Agreement (IPA) with the Agency in an amount not to exceed \$150,000 for the Pioneer Reservoir Relocation/Engineering Feasibility Study and Financing Plan; and **2) a Redevelopment Agency Resolution:** Transferring \$150,000 in Merged Downtown Tax Increment Funds to the Pioneer Bridge Development Project (B18214000).

**Contact:** Beth Tincher, Senior Project Manager, 808-7730; Leslie Fritzsche, Downtown Development Manager, 808-5450; Dave Brent, Engineering Services Manager, 808-1420

**Presenters:** Beth Tincher, Senior Project Manager; Dave Brent, Engineering Services Manager

**Department:** Economic Development, Department of Utilities

**Division:** Downtown Development Group and Engineering Services

**Organization No:** 4451, 3330

**Description/Analysis**

**Issue:** Sacramento has a dream - a dream of transforming and re-energizing its waterfront into one of the great waterfronts of the world and of building a spectacular gateway to the City. Sacramento's leadership has consistently provided policy direction to reclaim its waterfront through the adoption of the Riverfront Master Plan, development of a Specific Plan for the future development of the Docks area, and the

design of the Docks Promenade Parkway. The Docks area is one of the few sites the City has available to provide for a new neighborhood along the Sacramento River. The Draft General Plan also identifies this area as an opportunity for a mixed-use neighborhood.

The ability to develop the Docks area to its full potential is hampered by the fact that the four acre Pioneer Reservoir currently takes up about 15% of the proposed development area. The City is at a critical junction. Unless Pioneer Reservoir is redesigned as an amenity or can be moved to a new location or incorporated in the land use plan in a cost-effective way, development on this section of the waterfront will not likely occur on this side of the river. Price points for condominiums and flats on the riverfront cannot be obtained if the reservoir is in its current condition and the developer is not willing to risk beginning the first phase of development without a decision to improve Pioneer Reservoir or to relocate the facility. At the same time, dense urban development is necessary along the riverfront to help spread the cost of infrastructure. City Council has already determined through previous policy decisions that the highest and best use for the riverfront is a vibrant mixed use neighborhood.

Adding to the complexity is the condition of Pioneer Reservoir. Pioneer Reservoir is a critical component of the City's combined sewer treatment/storage capacity and is required for the National Pollutant Discharge Elimination System permit. The 26-year-old roof is showing signs of early structural failure. At present, the reservoir is only about halfway thru its anticipated service life. Several roof beams are supported with temporary steel columns. Utilities department staff installed the columns as an emergency measure to prevent collapse. It is not evident whether the structural failure is the result of corrosion, poor design, inappropriate materials, or poor construction quality control.

Economic Development and Utilities staff is recommending the initiation of a formal study to determine the potential cost of relocating the reservoir. The proposed study would evaluate the cost and outline potential financing scenarios for the relocation. In addition, the study would value engineer previous options investigated for capping the existing facility and making it a park (see the Background section for a description of work conducted to date). The anticipated cost of the study is \$150,000 and will take approximately one year.

### **Policy Considerations:**

City of Sacramento General Plan – The City recently completed a Draft General Plan that is the plan for the City's growth through the year 2030. The Docks Project site is identified as "Urban Center High" on the Draft General Plan's Land Use and Urban Form Diagram.

Relevant goals and policies from the Draft 2030 General Plan include:

- *Goal LU 1.1 Growth and Change:* Support sustainable growth and change through orderly and well-planned development that provides for the needs of existing and future residents and businesses, ensures the effective and

- *Policy LU 1.1.4 Leading Infill Growth:* The City shall facilitate infill development through active leadership and the strategic provision of infrastructure and services and supporting land uses.
- *Policy LU 2.2.1 World Class Rivers:* The City shall encourage development throughout the city to feature the Sacramento and American Rivers and shall develop a world-class system of riverfront parks and open spaces that provide a destination for visitors and respite from the urban setting for residents.
- *Policy LU 2.2.3 Improving River Development and Access:* The City shall require new development along the Sacramento and American rivers to use the natural river environment as a key feature to guide the scale, design, and intensity of development, and to maximize visual and physical access to the rivers.
- *Goal LU 5.5 Urban Centers:* Promote the development of high-density urban centers that are readily accessible by transit and contain a dynamic mix of retail, employment, cultural and residential uses.
- *Goal U 1.1 High Quality Infrastructure and Services:* Provide and maintain efficient, high-quality public infrastructure facilities and services throughout the city.
- *Policy U 1.1.9 Joint Use Facilities:* The City shall support the development of joint use water, drainage, and other utility facilities as appropriate in conjunction with schools, parks, golf courses, and other suitable uses to achieve economy and efficiency in the provision of services and facilities.

The Docks Project helps achieve the City's Land Use objectives of taking full advantage of sustainable infill development opportunities and maximizing the amenity value of the Sacramento River by bringing intensive new mixed-use development to the riverfront and providing public access to the river. Finding a way to accommodate the important public health and safety functions of the Pioneer Reservoir that permits joint use of the facility for recreational or other suitable uses in an aesthetically pleasing way, either in its current location or elsewhere, will also help achieve the City's desire to make the most of valuable utility facilities.

*Sacramento Riverfront Master Plan* - The recommended actions are consistent with prior City Council direction related to the implementation of the 2003 Sacramento Riverfront Master Plan.

*Redevelopment Agency of the City of Sacramento* – Redevelopment of the Docks project area is consistent with the Amended Merged Downtown Redevelopment Plan, the 2005-2009 Merged Downtown Redevelopment Plan and the 2005-2007 Docks Area Community Planning Process. Redevelopment of the Docks Area will eliminate blight by 1) eliminating environmental deficiencies in the Merged Project Area, including mixed uses, small and irregular lots, obsolete, aged and deteriorated buildings, inadequate public improvements, and uneconomic land uses; and 2) strengthening retail and other commercial functions in the downtown area by the installation of needed site improvements either inside or outside the Merged Project Area to stimulate new commercial expansion, employment and economic growth.

**Environmental Considerations:** A Draft Environmental Impact Report (EIR) is currently being prepared for the proposed development of the Docks area and is scheduled to be released for circulation the last week of August 2008. Subsequent projects regarding Pioneer Reservoir will require additional environmental review prior to implementation.

**Rationale for Recommendation:** In 2006, two studies were prepared to evaluate rough estimates for fixing the roof of Pioneer Reservoir, reroofing the reservoir to support a park, and relocating the reservoir. Costs related to these items ranged from \$12.5 million to fix the existing roof of the current facility to \$81 million to relocate the facility. The first study was prepared by Black and Veatch at the request of the City and the second study was prepared by ARUP at the request of the developer.

<b>Black and Veatch (with input from City Staff)</b>	
<b>Item</b>	<b>Cost</b>
Fix roof on existing facility	\$12.5 million
Reinforce roof to support a park	\$67 million
Relocate facility to PG&E parcel (on-site)	\$81 million

<b>ARUP</b>	
<b>Item</b>	<b>Cost</b>
Reinforce roof to support a park	\$56.6 million
Relocate to the Towe site with Storm King Treatment	\$38.5 million
Relocate to the Towe site with conventional storage	\$40.5 million

On January 28, 2008, the Department of Utilities prepared a memo that summarized the studies to modify Pioneer Reservoir and also took a look at the location and costs of relocating the facility to a different site. With each of these proposed new sites, the discharge outfall would remain in its current location. These proposals ranged in cost from \$80 million to \$110 million. Staff has identified two sites as viable options that should be analyzed in more detail. In addition, the Department of Utilities staff believes that there is value in taking a look at the proposal and cost to reroof the existing facility to accommodate a park to see if there is an opportunity to value engineer this proposal.

While there is the potential to reroof the existing facility to accommodate a park, there are several benefits to building a new facility, which include:

- The City's Draft General Plan indicates that 40,000 new homes and 40,000 new jobs will be built in Downtown Sacramento. A new facility could be constructed to provide additional storage that would serve as mitigation for development.
- New facilities can be designed to occupy a smaller footprint.
- The City can explore new technologies that may provide for increased water quality. This potentially could be combined with a smaller footprint, subject to the Regional Water Control Board's approval.
- The structure of a new facility could more easily accommodate a roof for a park

- versus retrofitting a foundation in an existing facility to accommodate a park.
- The roof of the existing facility is failing. The option to reroof the existing structure is \$67.5 million. Since the cost of relocating the facility is close to the cost of building a park on the existing facility, relocating the reservoir will allow the City to recapture the waterfront for development and a park.

Development of the Docks area has complex issues to overcome including relocation of rail lines, designing development to mitigate for potential remaining contaminants, flood protection provisions and purchasing land from the state to name a few and is among the toughest sites to develop in Downtown Sacramento, given the physical and political constraints associated with it. Resolving these issues and developing the urban Sacramento riverfront is an expensive proposition. It is an issue that the City continues to face and chooses to overcome these issues to reclaim its waterfront. If Pioneer Reservoir isn't an amenity, the waterfront development along the Sacramento River will not occur. The site will remain in its current state undeveloped or with industrial uses without the benefit of a regional amenity that would improve public access to the riverfront or the development of a vibrant mixed-use neighborhood. If the Docks riverfront development does not occur, anticipated losses include:

- The City will lose approximately \$2 billion of private development investment in the Docks area which would have created a vibrant mixed-use neighborhood of:
  - 1,155 residential units including townhomes, mid-rise and high-rise development
  - 500,000 sq. ft. of offices
  - 3 acres of open space park area or more along with 14 acres of park/promenade facilities
  - 40,500 sq. ft. of commercial uses along the waterfront and at the base of the office buildings
- This investment will likely occur on the other side of the river.
- There will be a lost opportunity to fund future relocation of the reservoir facility. Since the General Plan anticipates about 40,000 new residential units and 40,000 new jobs in the Downtown area, part of the sewer and drainage impact fees for this development could be used to fund the relocation of the reservoir and the potential for increased and improved wastewater treatment. If development occurs prior to establishing a plan for ultimate location of Pioneer Reservoir, the opportunity to have development pay for a portion of the cost will be lost.
- Improving Pioneer Reservoir may be a cost effective way of improving the water quality effectiveness of the combined system.
- The site is likely to remain undeveloped for quite some time resulting in **2,550 less residents** in the Downtown area to support Downtown and Old Sacramento businesses, a **loss of approximately \$10 million in annual taxes** each year and the **loss of approximately an additional 500,000** visitors to the waterfront area each year.
- May result in losses of higher property values that would generate additional tax increment.
- Creating a regional destination along the river.

Additional losses would include:

- A portion of the criteria to apply for grant funding for the promenade is redevelopment of a Brownfields site that will serve a new population close to the downtown. It will be more difficult to qualify for grants to build the Promenade, which could result in a loss of funding options up to \$11.5 million.

Now is the best possible time to move ahead with the City's plans to reclaim the waterfront. While the economy is in a downturn, the City has an opportunity to complete its planning efforts and be poised to develop as the market conditions improve. Staff is recommending that the City Council consider the concept of relocating Pioneer Reservoir, approve the preparation of a Feasibility Study to evaluate sites for Pioneer Reservoir relocation, release an RFP for the preparation of these studies and establish a revenue and expense budget of \$150,000 for the preparation of these studies.

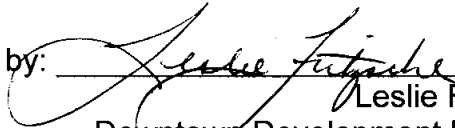
**Financial Considerations:** The recommended actions will increase the tax increment (Fund 3701) revenue and expense budget for the Pioneer Bridge Development project (B18214000) by \$150,000 for the preparation of a Feasibility Study and Financing Plan. The proposed plan will evaluate the feasibility of relocating Pioneer Reservoir and will value engineer the proposal to reroof the existing structure to support a park. Current study proposals provided cost estimates ranging from \$13 million to fix the existing roof to \$80-\$110 million to relocate the reservoir. The Feasibility Study would verify these cost estimates and examine ways to reduce these costs, and the Financing Plan would identify financing mechanisms to fund the relocation of the reservoir. The proposed budget for the Feasibility Study and Finance Plan will be \$150,000.

Assuming a cost of \$100 million to relocate Pioneer Reservoir, an annual revenue stream of approximately \$8 - \$9 million would be needed to fund the associated debt service obligation. A component of the Feasibility Study will include a preliminary financing plan to evaluate various options and methodologies to ensure availability and security of supporting revenue. The matrix included as Attachment 4 depicts potential options that may be reviewed.

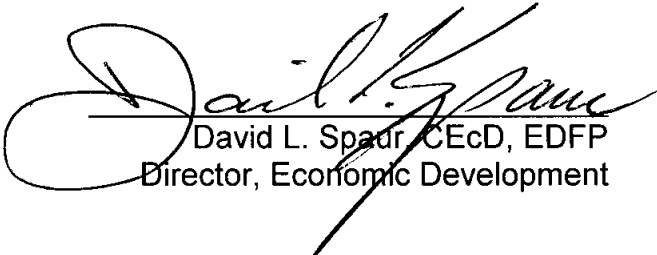
As shown on the matrix, traditional financing methods will generate approximately \$35 million of the needed funds, far short of the \$100+ million needed. In addition to analyzing the more traditional methods of financing improvements, the financing plan component will evaluate other alternatives that may be more far reaching than just Pioneer Reservoir project, but have significant policy implications in that they may require developer support, Prop 218 risk, and/or redirection of revenue streams from other programs. The Financing Plan component of the Study will assist in further developing the feasibility of these alternatives, as well as others that may be identified.

**M/WBE Considerations/ Emerging Small Business Development (ESBD):**

This RFP and contract process will follow the City of Sacramento's Emerging and Small Business Enterprises (ESBE) program requirements.

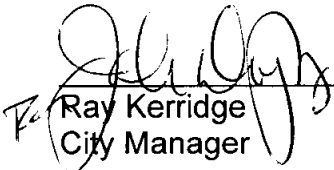
Respectfully Submitted by:   
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Engineering Services Manager  
Department of Utilities

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Recommendation Approved:

  
Ray Kerridge  
City Manager

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**Attachment 1**

**Background**

In January 2006, the City hired a consultant to prepare a study to analyze the costs for the following three options: 1) reroof the Pioneer Reservoir facility, 2) reinforce the roof to support a park, and 3) relocate the facility. Black and Veatch prepared the analysis with input from City staff, which resulted in the following:

<b>Item</b>	<b>Cost</b>
Fix roof on existing facility	\$12.5 million
Reinforce roof to support a park	\$60 million
Relocate facility	\$81 million

In July, 2006, the Developer hired its own consultant and looked at alternative treatment methods in their proposed solutions. The analysis was prepared by ARUP and resulted in the following:

<b>Item</b>	<b>Cost</b>
Reinforce roof to support a park	\$56.6 million
Relocate to the Towe site with Storm King Treatment	\$38.5 million
Relocate to the Towe site with conventional storage	\$40.5 million

Long term, the City will prepare a comprehensive study of the Combined Water/Sewer system and proposed improvements to upgrade the entire system to meeting the growth anticipated in the City General Plan. This modeling required for this study will not be complete for another two to three years. Since this study may not be completed within the Docks entitlement performance schedule, the Department of Utilities performed an internal study that analyzed the potential cost of relocating the facility. Their study was published in January 28, 2008 and identified options for relocating the reservoir and is included as Attachment 3.



**Attachment 3  
January 28, 2008 –  
Department of Utilities Memo**

DEPARTMENT OF  
UTILITIES

CITY OF SACRAMENTO  
CALIFORNIA

1395 35<sup>TH</sup> AVENUE  
SACRAMENTO, CA

ENGINEERING SERVICES

January 28, 2008  
Rev. 06/09/08  
Doc #: 80236

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**MEMORANDUM**

**To:** Rick Batha

**From:** Stu Williams

**Copy to:** Beth Tincher

**PN:** XN23

**SUBJECT:** Pioneer Reservoir relocation/modification studies

**INTRODUCTION**

This memo summarizes studies of alternatives to modify and/or relocate Pioneer Reservoir. Viable alternatives must maintain the same treatment ( $\pm 370$  million gallons per day = mgd) and storage (23 million gallons) capacities, as well as be a 'better fit' with the adjacent neighborhood(s).

When Pioneer Reservoir was sited in 1977, the general plan designated the Docks Area for industrial uses. The present location was chosen over nine alternate sites after a series of public hearings were held between late 1975 and mid-1976. Since 1977, many of the industrial uses have ceased operation. The Docks Area is now a collection of mostly vacant parcels with considerable development potential.

The City's 2003 Riverfront Master Plan looked at the Docks Area in the context of the rest of the Sacramento riverfront, as well as how it relates to the West Sacramento side of the river. City Economic Development is managing a project (The Docks Area Project), the goal of which is to develop the area as a new riverfront neighborhood. In late 2007, City Council approved the Docks Area redevelopment concept, which calls for a high-density, mixed use neighborhood with housing and retail, a riverfront parkway/promenade, plus parks and open space.

**OVERVIEW**

Pioneer Reservoir is a major component of the City's combined sewer system (CSS). It was constructed in 1980 as a portion of the county-wide effort to regionalize the sewer system. At that time, it was composed of numerous small wastewater treatment plants as well as the CSS

that overflowed to the Sacramento River several times per year. The original purpose of Pioneer Reservoir was to function as off-line storage facility, in which CSS flows during medium and larger storms would be routed to the reservoir rather than overflow into the river. This resulted in much fewer combined system overflows (CSOs).

In 1990, the City received a "Cease and Desist Order" (CDO) from the State Regional Water Quality Control Board (SRWQCB) that essentially required the City to improve its CSS beyond the improvements constructed in the late 70s/early 80's. In 1995, the City proposed a set of improvements that included conversion of Pioneer Reservoir to a primary treatment plant, in addition to functioning as a storage reservoir. The SRWQCB accepted the City's plan, rescinded the CDO, and in 1997 the primary treatment improvements were constructed. The City's current National Pollution Discharge Elimination Permit, which allows it to discharge some flows to the Sacramento River, requires that the City operate Pioneer Reservoir in this fashion.

## **BACKGROUND**

The City's combined sewer system (CSS) collects storm drainage and sanitary sewer flows from an area of approximately 7,500 acres. It also collects sewer flows from an additional 3,700 acres where sewers are separated from the drainage lines. All the CSS flow passes thru the City's two CSS pump stations, Sump1 and Sump 2. Total pumping capacity from these two sumps is approximately 900 million gallons per day (mgd). Of the total 900 mgd that can be pumped, up to 60 mgd can be sent to Regional (SRCSD's wastewater treatment facility east of I-5, ±1 mile south of the City's southern boundary). In storm events, that leaves a balance of up to 840 mgd that cannot be sent to Regional.

The City's permit to operate the CSS is based on performing some primary treatment on flows that cannot be sent to Regional. The City operates Pioneer Reservoir and the CWTP facility (1393 35<sup>th</sup> Ave) for the sole purpose to perform primary treatment (solids settling, removal of floatables, and chlorination/dechlorination) on CSS flows that cannot be sent to regional. These two facilities are only operated during storm events. The combined total primary treatment capacity thru the City facilities is roughly 500 mgd. The City is permitted to discharge the balance (up to 340 mgd = 840 - 500) to the Sacramento River when flow exceeds the total treatment capacity. Figure 1 shows the relative positions of Sumps 1 and 2, Pioneer Reservoir, and the CWTP facilities. Figure 2 is a compilation of the Thomas Guide<sup>®</sup> street maps for the same area. (Figures are included at the end of this memorandum.)

The treatment capacity of CWTP is 130 mgd, and for this study, the capacity of Pioneer Reservoir was taken as 370 mgd. From both Sumps, the CWTP, and from Pioneer Reservoir, there are large discharge pipes into the Sacramento River. Discharge pipe sizes and flow velocities are shown in Table 1.

**Table 1**  
Existing River Discharge Pipe Sizes

Site	Pipe Diameter	Peak Flow (mgd)	Peak Velocity (fps)
Sump 1	60"	120	9.5
Pioneer Reservoir	120"	370	7.3
Sump 2	2 @ 90"	120 ea	4.2
CWTP	78"	130	6.1

In addition to the discharge pipes to the river, there are large pipes that connect Sump 2 to CWTP and to Pioneer Reservoir. Figure 2 shows the general alignment of the existing pipes, and Table 2 summarizes the pipe capacities. Table 2 shows 250 mgd from Sump 2 in the Pioneer Interceptor, which reflects the typical operating mode (Sump 1's engine driven pumps off, and Sump 1A pumping 120 mgd into Pioneer reservoir).

**Table 2**  
Existing Pipe Sizes and Treatment Flows from Sump 2

Pipe	Flows to	Pipe Diameter	Peak Flow (mgd)	Peak Velocity (fps)
Pioneer Interceptor	Pioneer Reservoir	120"	250	4.9
City Interceptor	Regional	72"	60	7.3
Sump 2 Interceptor	CWTP	84"	130	5.2

The important point to note from these tables is that any relocation site for Pioneer Reservoir will also need large pipe connections to Sumps 1 & 2, and large discharge pipes to the river.

For relocation sites north of Sump 2, it's advantageous from a low cost perspective, to relocate as close as practicable to the existing Pioneer Interceptor. Typical installed pipe costs run \$6 to \$13 per running foot per inch of pipe diameter. For these studies, \$9/dia-inch/running-foot was used to estimate new pipe (i.e., 120" dia pipe will cost 9x120 = \$1,080 per foot to install). By considering only sites close to the existing Interceptor, it is anticipated that modifications will allow re-use of existing pipe, either as part of the necessary connections to the sumps, or as part of a new discharge pipes to the river, and thus reduce the length/cost of new pipe(s).

For relocation sites south of Sump 2, there appears to be room to parallel the Sump 2 and City Interceptors with another pipeline up to 12' (144") in diameter. To be compatible with existing pumps, design velocities in new pipelines should be about the same as existing velocities. For a new reservoir south of Sump 2, a new pipeline will be needed to handle flows from Sump 2 that presently flow northward in the Pioneer Interceptor (250 mgd), plus flows from Sump 1 that

presently flow directly into Pioneer Reservoir (120 mgd). That's a total 'combined' new flow of 370 mgd. At 6 feet per second, the average velocity in Table 2, it takes a 132-inch (11') diameter pipe to transport 370mgd.

### **MODIFICATION/RELOCATION OPTIONS**

Per Figure 1, although there's not a lot of available open space between Pioneer Reservoir and CWTP, four potential relocation sites were identified for consideration. The existing reservoir occupies about 4 acres. By constructing it deeper and adding effluent pumps (an estimated \$9 million cost, not counting delivery and contingency mark-ups), a facility could be designed with a smaller footprint. For this evaluation, four reservoir relocation sites and one modification site were studied. They are identified as follows:

- Option (1.) **Existing Site** (Reconstruct the existing reservoir roof in-place with a new "green roof" to serve as a park site.)
- Option (2.) **PG&E Site** (Build a new reservoir on the former PG&E site. This property north of the existing reservoir is a capped Brownfields site, and its use would require alteration to the City's negotiations with the State Department of Toxic Substances Control. Also, the Specific Plan shows all or a portion of the PG&E site as residential development. The Plan and EIR would need to be amended and re-circulated for public review.)
- Option (3.) **Marina Site** (Build a new reservoir on the Miller Park/Marina Corp Yard site. This is also where City Police stable their horses. The roof would support light corp. yard storage and a "green roof" where the horses could be stabled.)
- Option (4.) **School Site** (Build a new reservoir on the City School 'field' west of Jedediah Smith Elementary. This site, owned by the Sac Unified School District -- not the City, would require subdivision, but the Pioneer Interceptor already encroaches into the property via easement, and the site does not appear to be used for school activities. The added expense of a "green roof" could probably be avoided.)
- Option (5.) **CWTP Site** (Build a new reservoir near the northeast corner of the existing CWTP. The property is owned by the City, with about 1/3 in use as the CWTP electrical shop, and about 2/3 in Cooledge Park.)

Table 3, on the following page, lists some of the pertinent pros and cons, and shows total project cost estimates for each site. These estimates are very approximate, and are for purposes of general comparison only. Each estimate includes a 30% contingency for unknowns, and a 30% 'delivery' allowance for engineering, construction management, bidding, inspection, and construction testing. Cost estimate sheets for all but the School Site are attached, following the figures, at the end of this memo. For the School Site, no cost information was available for purchase of the required property, so Table 3 lists the same total project costs for the Marina and School sites. For the sake of simplicity and comparison, it was assumed that property costs plus added length of forcemain costs from Sump 1/1A for the School Site, would balance out with what might be saved by not installing a green roof at the School Site. Green roof costs were included in the Marina Site estimate.

**CONCLUSIONS**

In terms of providing capital towards relocating the facility, it is reasonable that sewer and drainage fees could contribute an amount equal to the cost of repairing the roof (about \$13 million) in lieu of actually making the repairs. Similarly, since Pioneer Reservoir, which was originally constructed by SRCSD, is showing signs of structural defects that need repair, the City may have grounds to request SRCSD's participation in making the repairs or in constructing a new facility.

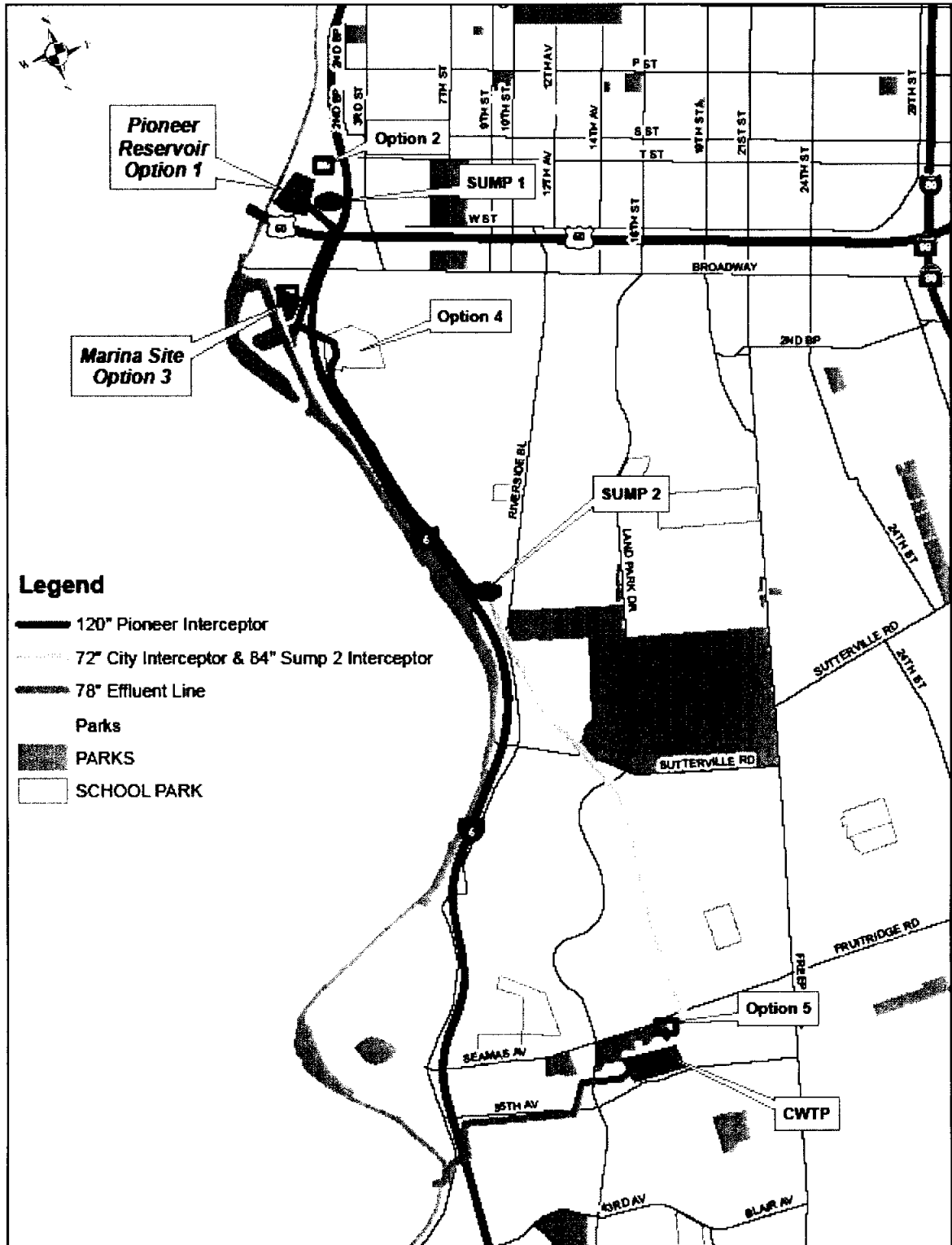
In terms of the reconstruction and/or relocation options discussed herein, the estimates all include comparable contingencies. Actual costs, however, would be dependent upon market driven conditions at the time the work was awarded.

Memorandum  
January 28, 2008

Table 3  
Pioneer Reservoir Modification/Relocation Pro's, Con's, and Costs

Option No.	Site Name	Pro's	Con's	Estimate of Total Project Costs (newest \$1,000)
1.	Existing Site	<ul style="list-style-type: none"> <li>Close to river and existing piping</li> <li>Siphon outfall works so effluent pumping not required.</li> <li>No organized neighborhood opposition to continued use.</li> <li>Large size roof park option.</li> <li>City owns the property.</li> </ul>	<ul style="list-style-type: none"> <li>Existing reservoir cannot be taken out of service for construction, so seasonal mob &amp; demobs over two or more construction seasons required.</li> <li>Estimate assumes a building shell over existing pump/RVAC room, so that will be visible in the park area.</li> <li>Moderate potential for odor complaints.</li> </ul>	\$66,090,000
2.	PG&E Site	<ul style="list-style-type: none"> <li>Close to river and fairly close to existing piping.</li> <li>Siphon outfall likely would work, so effluent pumping not anticipated.</li> <li>No organized neighborhood opposition to continued use.</li> <li>Large size roof park option.</li> <li>Multiple mob/demobs not required since can work around use of existing reservoir and piping.</li> <li>Site is large enough to fit a uniform rectangular structure.</li> <li>City is purchasing (or already owns) the property.</li> </ul>	<ul style="list-style-type: none"> <li>Estimate assumes a building shell over existing pump/RVAC room, so that will be visible in the park area.</li> <li>Moderate potential for odor complaints.</li> </ul>	\$80,973,000
3.	Marina Site	<ul style="list-style-type: none"> <li>Close to existing Pioneer Interceptor.</li> <li>No organized neighborhood opposition to continued use.</li> <li>Multiple mob/demobs not required since can work around use of existing reservoir and Pioneer Interceptor.</li> <li>City owns the property.</li> </ul>	<ul style="list-style-type: none"> <li>Medium length extension of twin 60" pipes is required from Sump 1/1A.</li> <li>Moderate potential for odor complaints, more so after Tocco site develops.</li> <li>Site was identified as potential development area in 2003 Riverfront Master Plan.</li> <li>Site is irregular shape, so a uniform rectangular structure cannot be built.</li> <li>Effluent pumping is anticipated for this site.</li> <li>At least a 30' setback from levee has anticipated.</li> <li>Encroachment into Front St., with new vertical profile a likely requirement.</li> </ul>	\$102,281,000
4.	School Site	<ul style="list-style-type: none"> <li>Close to existing Pioneer Interceptor</li> <li>An expensive green roof might not be required.</li> </ul>	<ul style="list-style-type: none"> <li>Long extension of twin 60" pipes from Sump 1/1A required, including under I-5.</li> <li>Probably too far for siphon outfall to work. Effluent pumping is anticipated for this site.</li> <li>Parcel split would be required.</li> <li>City doesn't own the property. Land purchase from SCLUSD required.</li> <li>Site is long and narrow.</li> <li>Neighborhood and school opposition would be expected.</li> </ul>	\$102,281,000
5.	CWTP Site	<ul style="list-style-type: none"> <li>City owns the property.</li> <li>Consistent with existing CWTP operation.</li> <li>Some O&amp;M efficiencies expected</li> </ul>	<ul style="list-style-type: none"> <li>Very long (to one mile) extension of new 11" diameter force main required from Sump 2.</li> <li>Effluent pumping would be required for this site.</li> <li>Highly organized neighborhood opposition would be expected.</li> <li>Expect new force main construction would impact backyard facilities that have encroached into the unused railroad right-of-way.</li> <li>New outfall line could not follow existing CWTP outfall, which is in backyard easements.</li> <li>Relocating new CSS outfall closer to the County's &amp; East Bay MWD's new Freepoint intake may raise government opposition in addition to neighborhood opposition.</li> </ul>	\$107,267,000

Figure 1 & 2



### Existing Site

#### New Cast-in-place Green Roof Option

#### Preliminary Total Project Cost Estimate

Maintain existing 4 acre footprint. Construct over multiple construction seasons, weather permitting.

Item	Description	Quantity	Units	Unit Cost	Price	
1	New cast-in-place roof per Black & Veatch studies	1	LS	\$30,888,000	\$28,427,000	
2	New Wash System	1	LS	\$3,860,000	\$3,860,000	
3	NaCl/NaHSO4 Tank Relocation	1	LS	\$796,000	\$796,000	
4	NaCl/NaHSO4 Pumps Relocated and New Pump Building	1	LS	\$834,000	\$834,000	
5	Pump/HVAC/MCC Building Addition	1	LS	\$4,630,000	\$4,630,000	
6	Raise Electrical	1	LS	\$560,000	\$560,000	
					Construction Subtotal =	\$39,107,000
					Construction Contingency (30%)	\$11,732,000
					Delivery (Engineering, inspection, CM, permits, etc. @ 30% of total)	\$15,251,000
					<b>Total Project Cost Opinion =</b>	<b>\$66,090,000</b>

**PG&E Site**

**New 23 MG Pioneer Reservoir on PG&E Site w/ a Green Roof**

**Preliminary Total Project Cost Estimate**

Seven chambers @ 41' x 390', Invert elev = 5.0, high water elev = 32.5, footprint plan area = 303' by 394'

Item	Description	Quantity	Units	Unit Cost	Price
1	Mobilization @ 10% of construction	1	LS	\$3,608,905	\$3,608,905
2	SWPPP Measures	1	LS	\$30,000	\$30,000
3	Excavation & Off-haul (Cover & contaminated soil)	102,129	CY	\$25	\$2,553,225
	12" AB Working Mat	4,422	CY	\$35	\$154,770
4	Furnish & Install 12" square 70' long conc piles @ \$85/ft	1,350	EA	\$5,950	\$8,032,500
5	Bottom conc slab, avg 2'-6" thick	11,054	CY	\$800	\$8,843,200
6	Exterior Reinf Conc Walls, 2' thick x 31.17' tall	3,200	CY	\$1,000	\$3,200,000
7	Six Interior Reinf Conc Walls, 2' thick x 28' tall x 390' long	4,853	CY	\$1,000	\$4,853,000
8	Double tee roof members, 41' long x 32" deep	119,382	SF	\$25	\$2,984,550
9	Reinf Conc Topping slab, 6" thick	2,211	CY	\$1,000	\$2,211,000
10	Fine Screen System on Reservoir Inlet	1	EA	\$400,000	\$400,000
11	120" Dia Inlet pipe @ \$9 per inch dia per foot	765	LF	\$1,080	\$826,200
12	120" Dia outlet pipe @ \$9 per inch dia per foot	290	LF	\$1,080	\$313,200
13	Inlet/Outlet Connections to exist reservoir piping	2	EA	\$200,000	\$400,000
14	Demo existing reservoir roof	155,340	SF	\$8	\$1,165,050
15	Re-process demo'd roof as AB	4,894	CY	\$25	\$122,350
<b>Construction Subtotal =</b>					<b>\$39,697,950</b>
Construction Contingency (30%)					\$11,909,385
Delivery (Engineering, inspection, CM, permits, etc. @ 30% of total)					<u>\$15,482,200</u>
<b>Cost Opinion of the new Structure =</b>					<b>\$67,089,535</b>
<b>Operational Componenets not included in the Structure Cost:</b>					
New Wash System					\$3,860,000
NaCl/NaHSO4 Tank Relocation					\$796,000
NaCl/NaHSO4 Pumps Relocated and New Pump Building					\$834,000
Pump/HVAC/MCC Building Addition					\$4,630,000
Raise Electrical					\$560,000
Project delivery (30%) for Operational Components					<u>\$3,204,000</u>
<b>Opinion of Probable Total Project Cost =</b>					<b>\$80,973,535</b>

### Marina Site

#### New 23 MG Pioneer Reservoir @ Miller Park Marina Site w/ a Green Roof

##### Preliminary Total Project Cost Estimate

Non-rectangular, 3-chamber shape to fit the parcel, Inv elev = 6.0, high water elev = 29, footprint area = 148,743sf = 3.4 acres

Item	Description	Quantity	Units	Unit Cost	Price
1	Mobilization @ 10% of construction	1	LS	\$5,501,912	\$5,501,912
2	SWPPP Measures	1	LS	\$30,000	\$30,000
3	Excavation of Foundation	71,617	CY	\$10	\$716,170
4	Place green fill soil on reservoir top	11,000	CY	\$15	\$165,000
5	Off-haul surplus fnd excavation	60,617	CY	\$22	\$1,333,574
6	12" AB Working Mat	5,500	CY	\$35	\$192,500
7	Furnish & install 12" sq 70' long conc Piles @ \$85/ft	1,682	ea	\$5,950	\$10,007,900
8	Bottom conc slab, avg 2'-6" thick	13,772	CY	\$800	\$11,017,600
9	Exterior Reinf Conc Walls, 2' thick x 26.5' tall, I=1794'	3,522	CY	\$1,000	\$3,522,000
10	Interior Reinf Conc Walls, 2' thick x 24' tall x 236' long	1,778	CY	\$1,000	\$1,778,000
11	Double tee roof members, 41' long x 32" deep	148,743	SF	\$25	\$3,718,575
12	Reinf Conc Topping slab, 6" thick	2,755	CY	\$1,000	\$2,755,000
13	New Effluent pump station (5,000hp @ \$1,800/hp)	1	LS	\$9,000,000	\$9,000,000
14	Extend twin 60" FM's from Sump 1 & 1A (2,005' ea @ \$9/')	4,010	LF	\$540	\$2,165,400
15	Extend 120" Pioneer Interceptor diagonally across old reservoir site to connect w/ outlet	500	LF	\$1,080	\$540,000
16	Relocate lab & chemical storage	1	LS	\$1,630,000	\$1,630,000
17	New Electrical System	1	LS	\$500,000	\$500,000
18	Air Control system	1	LS	\$500,000	\$500,000
19	Roof landscaping & fencing	1	LS	\$300,000	\$300,000
20	Demo existing reservoir roof	155,340	SF	\$8	\$1,165,050
21	New PVC rooftop Wash System	1	LS	\$3,860,000	\$3,860,000
22	Re-process demo'd roof as AB	4,894	CY	\$25	\$122,350
<b>Construction Subtotal =</b>					<b>\$60,521,031</b>
Construction Contingency (30%)					\$18,156,309
Delivery (Engineering, inspection, CM, permits, etc. @ 30% of total)					\$23,603,202
<b>Cost Opinion =</b>					<b>\$102,280,542</b>

**CWTP Site**

**New 23 MG Pioneer Reservoir @ CWTP Site w/ a Green Roof**

**Preliminary Total Project Cost Estimate**

Twelve chambers @ 40' x 236', invert elev = 4.0, high water elev = 31.1, footprint plan area = 240' by 506' = 2.8 acres

Item	Description	Quantity	Units	Unit Cost	Price
1	Mobilization @ 10% of construction	1	LS	\$5,770,169	\$5,770,169
2	SWPPP Measures	1	LS	\$30,000	\$30,000
3	Excavation of Foundation	81,902	CY	\$10	\$819,020
4	Place berm on two sides + top	23,000	CY	\$15	\$345,000
5	Off-haul surplus fnd excavation	58,902	CY	\$22	\$1,295,844
6	12" AB Working Mat	4,498	CY	\$35	\$157,430
7	Relocate part of exist 84" Sump 2 Interceptor	500	lf	\$756	\$378,000
8	Bottom conc slab, avg 2'-6" thick	11,244	CY	\$800	\$8,995,200
9	Exterior Reinf Conc Walls, 2' thick x 31' tall, l=1484'	3,408	CY	\$1,000	\$3,408,000
10	Eleven Interior Reinf Conc Walls, 2' thick x 28' tall x 236' long	5,384	CY	\$1,000	\$5,384,000
11	Double tee roof members, 41' long x 32" deep	121,440	SF	\$25	\$3,036,000
12	Reinf Conc Topping slab, 6" thick	2,249	CY	\$1,000	\$2,249,000
13	New Effluent pump station (5,000hp @ \$1,800/hp)	1	LS	\$9,000,000	\$9,000,000
14	New 11' Dia FM from Sump 2 @ \$9 per inch dia per foot	8,600	LF	\$1,188	\$10,216,800
15	New 11' Dia Effluent pipe @ \$9 per inch dia per foot	5,000	LF	\$1,188	\$5,940,000
16	Sump 2 Flow Control Structure Modifications	1	LS	\$500,000	\$500,000
17	Air Control system	1	LS	\$500,000	\$500,000
18	Roof landscaping & fencing	1	LS	\$300,000	\$300,000
19	Demo existing reservoir roof	155,340	SF	\$8	\$1,165,050
20	New PVC rooftop Wash System	1	LS	\$3,860,000	\$3,860,000
21	Re-process demo'd roof as AB	4,894	CY	\$25	\$122,350
<b>Construction Subtotal =</b>					<b>\$63,471,863</b>
Construction Contingency (30%)					\$19,041,559
Delivery (Engineering, inspection, CM, permits, etc. @ 30% of total)					<u>\$24,754,027</u>
<b>Total Project Cost Opinion =</b>					<b>\$107,267,449</b>

Attachment 4  
Matrix of Financing Options

	TRADITIONAL SOURCES							ALTERNATIVE SOURCES				
	Revenue Bonds	Revenue Bond Surcharge	Tax Allocation Bonds	Tax Increment Pledge	Mello-Roos Bonds	Mello-Roos Pledge	Dev. Impact Fees	Dev. Impact Fees - Comb. System	Developer	Hotel Tax	Other Sources - Public	Other Sources - Private
<b>Security</b>	Sewer/Drainage revenues Depends on revenue and coverage levels	Sewer/Drainage revenues w/surcharge on new development Depends on revenue and coverage levels	Tax Increment \$261 k - \$1.6 mm over 15 year period; require 3 bond issues	TI back-up to other bonds \$261 k - \$1.6 mm over 15 year period	Special Taxes on Land \$1.16 mm (no move) - \$1.64 mm (move)	Special Tax Back-up to other Bonds	Park, Sewer, etc. as applicable	Combined System	Construction Loan Land collateral	Transient Occupancy Tax	Surcharges, venue tax, parking parcel tax, etc.	Pension Fund/Equity partners - Land collateral
<b>Est. Annual Rev Capacity</b>	\$12 - \$15 mm	TBD	\$12 mm	N/A	\$14 - \$20 mm	N/A	TBD	TBD - based on absorption	N/A	unk.	unk.	unk.
<b>Risk/Challenges</b>	Long-term pledge of revenues; rate increases subject to Prop 218	Long-term pledge of revenues, surcharge subj to Prop 218; requires developer support	Tries up tax increment; requires TI growth critical	TI growth critical	Reputation, VTL	Risk relates to primary bonds	Development & drainage fees ties up revenue	Limited to mitigation of future revenue shift from other program	Full cost of loan to developer; require corporate guarantee	Policy issues related to current commitment of TOT	Policy issues related to 218 developer and landowner support	Unknown risk to City; may require corporate Developer, debt payments and equity sharing
<b>Benefit</b>	No GF pledge	No GF Pledge	No GF pledge	Provides means of bond enhancement	Off-balance sheet, re-course to City	Provides means of enhancement	Revenue shift from GF	Revenue shift from City	No City impact	No GF Pledge	Revenue shift from GF; may address larger front, Downtown development	Off-balance sheet

GF: General Fund  
 TI: Tax Increment revenue derived from the redevelopment project area  
 Bonds issue by the City and secured by pledge of a specific funds (i.e. General Fund, tax increment, special taxes) with a reimbursement agreement from another source to offsets payments if necessary.  
 VTL: Value to Lien - the appraised value of land relative to the special tax bonds secured by such land

**RESOLUTION NO. 2008-**

Adopted by the Sacramento City Council

**AUTHORIZING THE CITY MANAGER OR HIS DESIGNATED TO RELEASE A  
REQUEST FOR PROPOSALS FOR THE PIONEER RESERVOIR  
RELOCATION/ENGINEERING FEASIBILITY STUDY AND ESTABLISH RELATED  
REVENUE AND EXPENDITURE BUDGETS**

**BACKGROUND**

- A. The 29-year-old Pioneer Reservoir roof is showing signs of early structural failure. Continued operation of Pioneer Reservoir is considered necessary for City compliance with Regional Water Quality Control Board waste discharge requirements.
- B. Between 2005 and 2008, the City of Sacramento (City) engaged in an extensive community planning process to further define the Docks Area. The Docks Area community planning process resulted in a Draft Specific Plan for a high-density, mixed-use neighborhood with a riverfront promenade along the Sacramento River.
- C. In January 2006, the City hired a consultant to explore options for the Docks development of the Pioneer Reservoir site and prepared a study to analyze the costs for the following three options: 1) reroof the Pioneer Reservoir facility, 2) reinforce the roof to support a park, and 3) relocate the facility.
- D. In July 2006, the Developer hired its own consultant and looked at alternative treatment methods in their proposed solutions.
- E. The City would like to conduct a study to determine whether the relocation of the Pioneer Reservoir is feasible.

**BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL  
RESOLVES AS FOLLOWS:**

- Section 1. After due consideration of the evidence presented, the findings, including the environmental findings regarding this action as stated in the staff report that accompanies this Resolution, are approved.
- Section 2. The City Manager or his designee is authorized to release a Request for Proposal (RFP) for the preparation of a Feasibility Study and Financing Plan for the relocation of the Pioneer Reservoir an value engineering capping the facility for a park.
- Section 3. The FY2008/09 Capital Improvement Program is amended by increasing the tax increment (Fund 3701) revenue and expenditure budget for the Pioneer Bridge Project (B18214000) in the amount of \$150,000.

- Section 4. The City Manager is authorized to enter into an Individual Project Agreement (IPA) with the Agency in an amount not to exceed \$150,000 for the Pioneer Reservoir Relocation Feasibility Study and a Financing Plan and to conduct value engineering of the proposal to cap the existing reservoir to accommodate a park.
- Section 5. Pursuant to section 33445 of the Health and Safety Code of the State of California, the City makes the following findings:
- a) The Docks Area Project, including the potential relocation of pioneer reservoir is of benefit to the Merged Downtown Redevelopment Project Area because the improvements will be a catalyst for development of a high-density, mixed-use development and the remediation of a Brownfields site.
  - b) There are no other reasonable means of financing studies.
  - c) The use of redevelopment area tax increment proceeds to conduct these studies will work towards eliminating blight influences of inadequate, under-capacity and dilapidated infrastructure inside the Project Area and the Project is consistent with the implementation plan adopted pursuant to Health and Safety Code of the State of California, section 33490.

**Attachment 6**

**RESOLUTION NO. 2008-**

Adopted by the Redevelopment Agency  
of the City of Sacramento

**MERGED DOWNTOWN SACRAMENTO REDEVELOPMENT PROJECT AREA:  
DOCKS AREA CAPITAL IMPROVEMENT PROJECT;  
GRANT AGREEMENTS AND FUNDING**

**BACKGROUND**

- A. The 29-year-old Pioneer Reservoir roof is showing signs of early structural failure. Continued operation of Pioneer Reservoir is necessary for City compliance with Regional Water Quality Control Board waste discharge requirements.
- B. Between 2005 and 2008, the City of Sacramento (City) engaged in an extensive community planning process to further define the Docks Area. The Docks Area community planning process resulted in a Draft Specific Plan for a high-density, mixed-use neighborhood with a riverfront promenade along the Sacramento River.
- C. In January 2006, the City hired a consultant to explore options for the Docks development of the Pioneer Reservoir site and prepared a study to analyze the costs for the following three options: 1) reroof the Pioneer Reservoir facility, 2) reinforce the roof to support a park, and 3) relocate the facility.
- D. In July 2006, the Developer hired its own consultant and looked at alternative treatment methods in their proposed solutions.

**BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE REVELOPMENT AGENCY RESOLVES AS FOLLOWS:**

Section 1. After due consideration of the evidence presented, the findings, including the environmental findings regarding this action as stated in the staff report that accompanies this Resolution, are approved.

Section 2. Pursuant to section 33445 of the Health and Safety Code of the State of California, the Agency makes the following findings:

- a) The Docks Area Project, including the potential relocation of pioneer reservoir is of benefit to the Merged Downtown Redevelopment Project Area because the improvements will be a catalyst for development of a high-density, mixed-use development and the remediation of a Brownfields site.
- b) There are no other reasonable means of financing these studies.
- c) The use of redevelopment area tax increment proceeds to conduct

these studies will work towards eliminating blight influences of inadequate, under-capacity and dilapidated infrastructure inside the Project Area and the Project is consistent with the implementation plan adopted pursuant to Health and Safety Code of the State of California, section 33490.

Section 3. The Director or her designee is authorized to transfer via Individual Project Agreement (IPA) for the Pioneer Bridge Project (B18214000).

Section 4. The Director or her designee is authorized to transfer \$150,000 of tax increment from the Merged Downtown Property Acquisition Fund to the Pioneer Bridge project (B18214000) for the preparation of the Pioneer Reservoir Relocation/Engineering Feasibility Study and Financing Plan.