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MEMORANDUM OF UNDERSTANDING

BETWEEN

THE SAN FRANCISCO PUBLIC UTILITIES COMMISSION

AND

THE SAN FRANCISCO RECREATION AND PARK DEPARTMENT

FOR THE APPLICATION AND MANAGEMENT OF WATER USE EFFICIENCY PROGRAMS

January____, 2009

This MOU is entered into this _____ day in January 2009, in the City and County of San Francisco, by and between the San Francisco Public Utilities Commission (SFPUC) and the San Francisco Recreation and Park Department (SFRPD) to further project planning and design for the replacement of groundwater and potable water with recycled water for irrigation on SFRPD property and to maximize water use efficiency on SFRPD property.

Recitals

Whereas, the SFPUC is implementing a multi-billion dollar capital improvement program to upgrade the San Francisco's regional and local drinking water system. The program will deliver improvements that enhance San Francisco's ability to provide reliable, affordable, high quality drinking water to 800,000 retail customers in San Francisco and 27 wholesale customers, in an environmentally sustainable manner.

Whereas, SFRPD is currently pumping potable groundwater for irrigation and other non-potable uses in Golden Gate Park. Groundwater is pumped from three active water-supply wells located in Golden Gate Park and one water-supply well at the San Francisco Zoo. The water-supply wells draw on the Westside Basin aquifer, a source of groundwater that extends from Golden Gate Park to the San Francisco County line and south into San Mateo County. The SFPUC has undertaken planning and feasibility studies to replace the groundwater with recycled water for irrigation purposes within Golden Gate Park and at the San Francisco Zoo.

Whereas, potable water is used for irrigation at SFRPD golf courses, such as Harding Park and Fleming Park Golf Courses, Sharp Park Golf Course and Lincoln Park Golf Course. The SFPUC has undertaken design and feasibility studies to provide recycled water for irrigation at SFRPD golf courses as well as other parks and open spaces managed by SFRPD and other areas of the City.

Whereas, Golden Gate Park, Harding Park and Fleming Park Golf Courses, Lincoln Park Golf Course and the San Francisco Zoo are located within designated Recycled Water Use Areas as set forth in San Francisco Public Works Code Section 1209.

Whereas, the SFPUC Groundwater Program proposes to pump approximately four million gallons (mgd) of groundwater a day to blend with the municipal system for drinking water purposes. Approximately six wells are proposed for the Western portion of San Francisco and would begin production after 2011. The proposal includes building three new well stations on SFRPD lands and modifying two existing wells in Golden Gate Park.

Whereas, the SFPUC Recycled Water Program proposes to build a reverse osmosis recycled water facility on SFRPD property to produce recycled water for irrigation purposes at Golden Gate Park, Lincoln Park Golf Course, San Francisco Zoo and other appropriate facilities by 2013. The SFPUC also proposes to replace potable water used for irrigation purposes with recycled water at Harding Park Golf Course and Sharp Park Golf Course in 2010.

Whereas, the SFPUC Water Conservation Program implements a number of programs to assist residential, municipal and commercial sectors to reduce water usage. Programs include water audits, rebates and technical and financial support to implement the water-saving technologies set forth in this MOU. The SFPUC proposes to save up to four mgd of water through implementation of conservation measures in San Francisco by 2018.

Whereas, in order to undertake environmental review of these proposed projects, it is necessary to coordinate with SFRPD to better define the possible design and programmatic concepts.

Now, therefore, the Parties agree as follows:

AGREEMENT

I. Definitions

A. "Groundwater Facilities" refers to groundwater wells and all related fixed assets owned and operated by the SFPUC, including transmission, storage, pumping and appurtenant facilities necessary to deliver groundwater to the SFPUC distribution system for potable purposes. Groundwater Facilities include SFRPD groundwater infrastructure that the SFPUC will modify and use for potable purposes. The SFPUC will compensate SFRPD for assuming groundwater infrastructure owned by SFRPD. The term "Groundwater Facilities" does not include any SFRPD groundwater infrastructure that is not part of the SFPUC's program to develop groundwater for potable purposes that SFRPD owns, operates and maintains for its own purposes.

B. "Irrigation System Retrofits" means the retrofits to Park Irrigation Systems and associated capital costs that are required under Title 22 of the California Code of Regulations to enable SFRPD to irrigate city parks and golf courses using recycled water.

C. "Park Irrigation Systems" refers to all SFRPD owned and operated components of irrigation systems downstream of the discharge side of the SFPUC's potable water or recycled water meters, including irrigation piping systems, hoses, fittings and associated valves, sprinklers and controllers.

D. "Park Water Conservation Plan" refers to the plan to be prepared by SFRPD and SFPUC that identifies the top water consuming parks in the City, excluding park lands identified for recycled water and artificial turf conversion, and to develop measures and recommendations to install water use efficiency measures, such as retrofits to existing irrigation systems, new irrigation systems, automatic controllers, climate-appropriate plants, by September 2009. The Plan will include a schedule for implementation and budget recommendations.

E. "Point of Delivery" refers to the meters to be installed by the SFPUC to measure the quantities of potable surface water, groundwater, or recycled water delivered to Park Irrigation Systems, up to the discharge side of the meters.

F. "Recycled Water Facilities" refers to SFPUC-owned and operated recycled water treatment plants, transmission, storage, pumping and appurtenant facilities to and including the Point of Delivery that are necessary to produce and deliver recycled water to Park Irrigation Systems.

II. Financial Responsibilities; Cooperation Regarding Development and Use of Recycled Water, Groundwater, and Promotion of Water Use Efficiency

A. SFPUC will fund the design and, if approved, construction of all Groundwater and Recycled Water Facilities and retrofits to Park Irrigation Systems that are required to use recycled water in place of potable surface or groundwater. The SFPUC will maintain and operate all Recycled Water and Groundwater Facilities. The SFPUC will coordinate the design and implementation of any Groundwater and Recycled Water Facilities with SFRPD.

B. SFRPD will properly use and apply recycled water where available and maximize water efficiency irrigation measures on park lands using Park Irrigation Systems. SFRPD will provide access to park lands and associated property interests, as necessary, following completion of CEQA review where required, for the construction and operation of any approved Groundwater and Recycled Water Facilities.

C. SFPUC, as part of its ongoing water conservation program, will contribute towards the cost of retrofits to Park Irrigation Systems that are required to maximize water use efficiency and conserve water at parks based upon the Park Water Conservation Plan, in a manner similar to water conservation funding provided by the SFPUC to other large irrigation water users. SFPUC and SFRPD will develop a list of prioritized sites for retrofits. Upon completion of the improvements to the irrigation systems, SFRPD and SFPUC will negotiate another agreement for the SFPUC to operate and maintain the Park Irrigation Systems.

III. General Design And Construction Considerations For Recycled Water And Groundwater Projects

A. SFRPD shall assist the SFPUC in identifying all existing utilities in City parks that are located in the vicinity of all proposed Groundwater and Recycled Water Facilities, including, but not limited to, water, sewer, electrical, gas, telephone and cable television.

B. All Recycled Water and Groundwater Facility engineering, design and, if approved, construction documentation prepared by or for the SFPUC will be reviewed by SFRPD. All Recycled Water and

Groundwater Facility construction, modification and related appurtenances will be performed in accordance with mutually approved engineering design and construction plans. The SFPUC and SFRPD will develop access routes, storage and staging areas for Recycled Water and Groundwater Facility construction on SFRPD park lands.

D. SFRPD will work with the SFPUC to identify opportunities to beneficially use “overboard water” produced by Groundwater Facilities (groundwater that is generated through pumping that is otherwise not delivered to the SFPUC's potable water distribution system or to Park Irrigation Systems) when the well stations initially start up during each pumping cycle.

E. The SFPUC, in consultation with SFRPD, will prepare maps of the existing and proposed Park Irrigation Systems within Golden Gate Park, Harding Park and Fleming Park Golf Courses, Sharp Park Golf, Lincoln Park Golf Course and the San Francisco Zoo. The proposed Park Irrigation System maps will show all Recycled Water and Groundwater Facilities and associated Points of Delivery to Park Irrigation Systems. The SFPUC and SFRPD will review and update these maps as they may change in relation to capital work at Golden Gate Park, San Francisco Zoo and/or SFRPD Golf Courses.

G. After fair compensation has been provided to SFRPD, SFRPD will allow the SFPUC permanent access, with applicable easements, to all Groundwater and Recycled Water Facilities constructed on SFRPD property for the short- and long-term operation and maintenance of these facilities, if approved, following completion of CEQA review where required.

IV. Coordination of Planning and Design Activities for Recycled Water and Groundwater Facilities by SFRPD and SFPUC

A. Groundwater

1. Municipal Well Stations – Permanent Supply

a. SFPUC, in consultation with SFRPD, will modify two existing irrigation wells located in Golden Gate Park for potable purposes. Additionally, the SFPUC will build two new groundwater well stations at West Sunset Playground and South Sunset Playground for potable purposes. Modification and construction of the groundwater well stations are subject to compliance with CEQA, and subsequent approval, if required

b. SFPUC, in consultation with SFRPD, will develop a conceptual design for an additional groundwater well

station to be located within Golden Gate Park, including the orientation, layout and footprint of this facility.

c. SFRPD will allow the SFPUC to construct a test well at the new proposed groundwater well station site. The purpose of the test well is to verify that the pumping rate and groundwater quality are sufficient for proceeding with a new municipal water-supply well station at this location, subject to compliance with CEQA, and subsequent approval, if required.

2. Municipal Well Stations – Emergency Supply

a. The parties agree that SFPUC will use the San Francisco Zoo Well No. 5 as an emergency water supply on a permanent basis. The SFPUC will coordinate with SRPD and the San Francisco Zoo.

b. The parties agree that SFPUC will use the SFPUC-constructed San Francisco Zoo Well Emergency Drinking Water Fill Station on a permanent basis.

c. SFRPD will coordinate with SFPUC in the semi-annual testing of the San Francisco Zoo Well Emergency Drinking Water Fill Station.

3. Groundwater Pipelines

a. SFRPD and the SFPUC will identify locations and routes for the groundwater branch pipelines (from well stations to trunk line) in Golden Gate Park, West Sunset Playground and South Sunset Playground.

4. Groundwater Basin Management

a. SFRPD will work with the SFPUC to develop a plan to decommission inactive wells in Golden Gate Park as required by the California Water Code and Article 12B of the San Francisco Health Code. SFRPD and SFPUC will develop a well inventory that documents the condition and location of the inactive irrigation and monitoring wells under its jurisdiction and in prepare specifications for well decommissioning.

b. To protect groundwater quality, the SFPUC will work with SFRPD to develop plans to maintain a buffer around

all current and future groundwater well stations, including potable and irrigations well stations on SFRPD property, that is free and clear of construction debris, wood waste and manure. This buffer area also shall not be used to store fertilizer, fuels or toxic chemicals.

c. SFRPD will manage groundwater use for irrigation in the western part of Golden Gate Park in order to avoid salt water intrusion impacts on the aquifer.

d. SFRPD will allow the SFPUC permanent access to collect flow rate and flow totalizer data from the flow meters installed at the South Windmill (Replacement) Deepwell Pump Station, North Lake Deepwell Pump Station, San Francisco Zoo Well no. 5, and Pine Lake Well. SFRPD and the SFPUC will coordinate to allow the periodic calibration of these flow meters and for troubleshooting apparent problems with these meters.

B. Recycled Water

1. SFRPD will coordinate with the SFPUC to assess the Park Irrigation Systems at Golden Gate Park, Lincoln Park Golf Course, Harding Park and Fleming Park Golf Courses, Sharp Park Golf Course and the San Francisco Zoo to determine the necessary retrofits that are required to irrigate with recycled water.

2. The SFPUC will contribute toward the costs of the irrigation system retrofits to meet state and local requirements for application of recycled water and the operational requirements of the SFRPD. The irrigation system to be installed, at the SFPUC's direction, shall be the best available technology (BET) and shall include evapotranspiration sensors and two-way communications computer controls.

3. SFRPD will operate all Park Irrigation Systems in compliance with all City, state and federal guidelines on recycled water use requirements and applicable health, building and plumbing codes, including but not limited to, backflow prevention, cross connection control and customer and public interaction, notification, signage & postings.

4. The SFPUC will train SFRPD employees on the proper use and application of recycled water on SFRPD property. SFRPD employees will be responsible for complying with all laws, regulations and requirements of Federal, state, county and municipal authorities on the proper application of recycled water.

5. SFRPD will comply with the San Francisco Reclaimed Water Ordinance (Title 22, Public Works Code) for parks located within designated "Reclaimed Water Use Areas" by designing and installing Park Irrigation Systems that meet Title 17 and Title 22 requirements for application of recycled water.

C. Water Use Efficiency

1. Water Conservation

- a. The SFPUC will conduct water audits of SFRPD parks to identify the largest water users, other than Golden Gate Park, develop water budgets and install meters if necessary.
- b. SFRPD, with assistance provided by the SFPUC, will develop a Park Water Conservation Plan by September 2009, including measures and budget recommendations to conserve water in SFRPD parks.
- c. The SFPUC shall immediately establish an assessment program of SFRPD facilities to verify the location and accuracy of water meters and water usage.

2. Landscape Practices

- a. SFRPD will promote climate appropriate planting unless the new/renovated area is designed for recreational purposes or subject to other restrictions such as landmark designation.
- b. All landscape-related activities under SFRPD will be in compliance with AB 1881.
- c. Park Irrigation Systems will be designed, installed and operated to ensure the efficient use of water during operation, including but not limited to operating irrigation systems to prevent run off and overspray.

3. SFRPD Park Facility Renovations

- a. SFRPD, with the assistance of the SFPUC Water Conservation Program, will incorporate water efficient

fixtures in all SFRPD facility renovations and new facilities built on SFRPD property.

b. SFRPD will use re-circulating water in non-potable water features, such as decorative fountains, located on SFRPD property as allowed by local and state regulatory agencies.

V. Post Project Implementation Activities – Items for Future Agreement Following Completion of Review Under California Environmental Quality Act

The SFPUC's recycled water and groundwater projects in San Francisco must undergo CEQA review by the Department of City Planning prior to the exercise of discretion by either SFPUC or SFRPD in initiating construction; allocating funding for construction; or allowing use of SFRPD property for SFPUC project facilities. SFRPD must in addition make required findings under the City Charter and Administrative Code regarding whether SFPUC's proposed use of park property is consistent or otherwise related to park use prior to authorizing use of park lands for project purposes by the SFPUC. Notwithstanding anything to the contrary in this MOU, neither party is in any way limiting its discretion or the discretion of any department, board or commission with jurisdiction over these projects, including but not limited to the SFPUC, the SFRPD or the Board of Supervisors, from exercising any discretion available to such department, board or commission with respect to these projects, including but not limited to the discretion to (i) make such modifications deemed necessary to mitigate significant environmental impacts, (ii) select other feasible alternatives to avoid such impacts; (iii) balance the benefits against unavoidable significant impacts prior to taking final action if such significant impacts cannot otherwise be avoided, or (iv) determine not to proceed with the proposed Projects. SFPUC and SFRPD agree to cooperate and use best efforts to reach agreement, including agreement on the project description required to perform the necessary environmental analysis, on the following matters:

A. Groundwater

1. Conversion by the SFPUC of two existing irrigation wells in Golden Gate Park, the South Windmill (Replacement) Deepwell Pump Station and the North Lake Deepwell Pump Station, for permanent use as permitted water sources for the San Francisco municipal water supply.
2. Construction and permanent operation of a new municipal water-supply well station by the SFPUC in Golden Gate Park.
3. Construction and permanent operation of a new municipal water-supply well station by the SFPUC at a site at the West Sunset Playground. This site is located in the northeast corner

of the parking lot for the playground, near 40th Avenue and Quintara Street.

4. Construction and permanent operation of a new municipal water-supply well station by the SFPUC at a site at the South Sunset Playground. This site is located behind the southeast corner of the new playing fields at the playground near 40th Avenue and Wawona Street.

5. Conversion of the new West Sunset Playground municipal water-supply well station for use as an emergency water supply and drinking water fill station.

B. Recycled Water

1. Construction and operation by SFPUC of a reverse osmosis recycled water treatment facility, or similar recycled water treatment facility, within Golden Gate Park to produce recycled water for irrigation purposes. SFPUC and SFRPD will jointly determine the location of the treatment facility. If the facility is located above-ground, the SFPUC will provide fair compensation to SFRPD.

2. Modification by SFPUC of the existing reservoir within Golden Gate Park to store recycled water for use at Golden Gate Park and Lincoln Park Golf Course.

3. Construction by SFPUC of a 700,000 gallon underground tank and above ground pump station to store and pump recycled water for irrigation at Harding Park and Fleming Park Golf Courses.