

EXHIBIT 1
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
LAND USE AND LAND USE PLANNING						
LU-1	Project construction would have a substantial impact on the existing character of the vicinity and could substantially disrupt or displace existing land uses or land use activities.	<p>M-LU-1: Maintain Internal Cemetery Access (Site 7 [Consolidated Treatment at Site 6] and Site 14).</p> <p>Prior to commencing construction at either Site 7 (where treatment for Site 7 is consolidated at Site 6) or at Site 14, the SFPUC or its construction contractor shall develop an access plan to be implemented during construction to ensure that access is available for visitors to all portions of the Woodlawn Memorial Park and Golden Gate National Cemetery within a reasonable period of time upon their arrival at the cemetery. The access plan shall include, for example, trench plating and alternative routing for visitors. The plan shall also address measures to maintain access for cemetery operations and maintenance. A copy of the access plan shall be submitted to the owner or operator of the Woodlawn Memorial Park and the Golden Gate National Cemetery prior to commencing construction, and they also shall be provided with the name of, and contact information for, a person identified to act as a liaison during construction at these sites.</p>	<ol style="list-style-type: none"> SFPUC EMB/CMB SFPUC CMB SFPUC CMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM SFPUC BEM 	<ol style="list-style-type: none"> If consolidated treatment at Site 6 is selected for Site 7, ensure that contract documents include requirement for contractor to develop Access Plans for Sites 7 and 14 and submit to Woodlawn Memorial Park and Golden Gate National Cemetery, respectively. If consolidated treatment at Site 6 is selected for Site 7, ensure that Contractors Site 7 and Site 14 Access Plans are completed and submitted to Woodlawn Memorial Park and Golden Gate National Cemetery as required. Designate construction period liaison. 	<ol style="list-style-type: none"> Design Construction Construction
AESTHETICS						
AE-1	Project construction would have a substantial adverse impact on a scenic vista, resource, or on the visual character of a site or its surroundings.	<p>M-AE-1a: Site Maintenance (Sites 4, 7, 12, 13, 14, 15, and 18 [Alternate])</p> <p>The SFPUC shall require the contractor to ensure that construction-related activity is as clean and inconspicuous as practical by storing construction materials and equipment at areas of the construction site that are generally away from public view, and by removing construction debris promptly at regular intervals.</p>	<ol style="list-style-type: none"> SFPUC EMB SFPUC CMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM 	<ol style="list-style-type: none"> Ensure that contract documents include requirement for contractor to store material and equipment away from public view and properly removing construction debris at regular intervals. Monitor to ensure that the contractor implements requirements. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> Design Construction
AE-1 (cont.)	Project construction would have a substantial adverse impact on a scenic vista, resource, or on the visual character of a site or its surroundings.	<p>M-AE-1b: Tree Protection Measures (Sites 3, 4, 7, 10, 11, 12, 13, 14, 15, and 17 [Alternate])</p> <p>The SFPUC shall identify trees to be protected and retained during construction and minimize potential impact to these trees by implementing the following measures:</p> <ul style="list-style-type: none"> Construction activities within the dripline of trees to be retained adjacent to construction area boundaries or adjacent to pipeline routes shall be avoided. A qualified arborist shall identify the location of exclusion fencing to be installed around trees to be retained. Prior to the start of construction, the SFPUC or its contractor shall install exclusion fencing around the dripline of trees to be retained and within 50 feet of any grading or construction activity. Prior to construction, the SFPUC shall verify that the temporary construction fencing is installed and approved by a qualified arborist. Any encroachment within these areas must first be approved by a qualified arborist and the SFPUC. Temporary fencing shall be continuously maintained by the contractor until all construction activities near the trees are completed. No construction activities shall occur within the exclusion fencing. For trees on slopes, exclusion fencing shall consist of a silt fence that will be installed at the upslope base of the tree to prevent soil from moving into the root zone (defined as the extent of the tree dripline) if work is performed upslope of any protected trees. Pruning of trees to be retained shall be completed by either a certified arborist or by the contractor under supervision of either an International Society of Arboriculture qualified arborist, American Society of Consulting Arborists consulting 	<ol style="list-style-type: none"> SFPUC EMB SFPUC CMB (qualified arborist) 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM 	<ol style="list-style-type: none"> Ensure that the contract documents include the listed tree protection measures, including requirement for contractor to provide a qualified arborist and identify trees to be protected, specifically at Sites 3, 4, 7, 10, 11, 12, 13, 14, 15, and 17 [Alternate]. Monitor to ensure that contractor implements measures. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> Design Pre-construction/ Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

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		arborist, or a qualified horticulturalist.				
AE-1 (cont.)	Project construction would have a substantial adverse impact on a scenic vista, resource, or on the visual character of a site or its surroundings.	<p>M-AE-1c: Develop and Implement a Tree Replanting Plan (Site 12)</p> <p>The SFPUC shall develop and implement a tree replanting plan to address the removal of trees along El Camino Real at Site 12. The tree replanting plan shall include planting locations (which may include non-SFPUC properties), native tree and shrub species (consistent with those near the well facility site), planting ratios, and irrigation requirements. Tree replanting activities occurring on SFPUC properties or right-of-way shall be consistent with the requirements of the SFPUC's Integrated Vegetation Management Policy (SFPUC 2007). The planting ratio for replacement trees shall be a minimum of 1:1, or in substantial compliance with the City of South San Francisco's tree preservation ordinance (Chapter 13.30.080, Replacement of Protected Trees). Replanting shall occur the first year after completion of construction. The SFPUC shall monitor the replacement trees annually for five years after project completion to ensure that the trees survive; if necessary, the SFPUC shall implement additional measures, such as replanting for trees that did not survive.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC EMB 3. SFPUC CMB 4. SFPUC Water Enterprise, WST 	<ol style="list-style-type: none"> 1. SFPUC Water Enterprise, WRD 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC Water Enterprise, WRD 	<ol style="list-style-type: none"> 1. Develop Tree Replanting Plan 2. Ensure that contract documents include the listed tree replanting requirements plan for site 12. 3. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action. 4. Perform annual tree replacement monitoring. 	<ol style="list-style-type: none"> 1. Design 2. Design 3. Construction 4. Post-Construction Monitoring (at least five years, depending on success)
AE-1 (cont.)	Project construction would have a substantial adverse impact on a scenic vista, resource, or on the visual character of a site or its surroundings.	<p>M-AE-1d: Construction Area Screening (Site 15)</p> <p>The SFPUC and its contractors shall screen the construction area at the facility site at Site 15. Screening shall be designed to minimize view of construction equipment and construction activities from views from Sneath Lane and the surrounding areas. Vehicles and other construction equipment shall be parked in the screened construction area at night and when equipment is not actively being used for pipeline construction along Sneath Lane.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM 	<ol style="list-style-type: none"> 1. Ensure that contract documents include requirement for construction screening for Site 15. 2. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action. 	<ol style="list-style-type: none"> 1. Design 2. Construction
AE-1 (cont.)	Project construction would have a substantial adverse impact on a scenic vista, resource, or on the visual character of a site or its surroundings.	<p>M-AE-1e: Tree Removal and Replacement (Site 7)</p> <p>Prior to the removal of any trees within the construction area boundary at Site 7, the SFPUC shall determine if any trees within the Town-designated tree mass can be retained without causing conflicts with construction equipment and/or safety risks during construction at this site. A qualified arborist shall conduct the tree retention survey. Any trees found not to conflict with construction activities or create a safety risks shall be protected during construction.</p> <p>For each tree to be removed, the SFPUC shall plant replacement trees on-site to the extent allowable by its Integrated Vegetation Management Policy (Section 13.006) (SFPUC 2007). Each replacement tree shall be in a minimum 15-gallon container and shall be of species listed in the vegetation management policy. The on-site plantings shall be located such that the visual continuity of the existing tree mass is restored to the extent feasible. To the extent tree replacement on-site is not feasible, replacement trees shall be planted off-site in substantial compliance with the Town of Colma's Tree Cutting and Removal ordinance.</p> <p>In all cases, the planting ratio shall be a minimum of 1:1 (i.e., one tree planted for each tree removed). Replanting shall occur within the first year after completion of construction. The SFPUC shall monitor plantings annually for five years after project completion to ensure that the replacement planting(s) has developed and that the trees survive. If necessary, the SFPUC shall implement additional measures (e.g., replanting, installation of irrigation) to address continued survival of the plantings, and shall re-plant additional trees should a significant amount of the original plantings not survive during the monitoring period.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC Water Enterprise, WRD 3. SFPUC CMB 4. SFPUC Water Enterprise, WST 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. Town of Colma 3. SFPUC BEM 4. SFPUC Water Enterprise, WRD 	<ol style="list-style-type: none"> 1. Ensure that contract documents include the listed requirements for a qualified arborist, tree retention survey, and on- and off-site tree planting for Site 7. 2. Approve off-site plantings. 3. Verify arborist's credentials. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action. 4. Perform annual tree replacement monitoring. 	<ol style="list-style-type: none"> 1. Design 2. Pre-Construction 3. Construction 4. Post-Construction Monitoring (at least five years, depending on success)
AE-3	Project operation would have a substantial adverse impact on a scenic	<p>M-AE-3a: Implement Landscape Screening (Sites 4, 7, and 18 [Alternate])</p> <p>The SFPUC shall develop and implement a landscape-screening plan to screen views of the well facility. The landscape plan</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC EMB 	<ol style="list-style-type: none"> 1. SFPUC Water Enterprise, WRD 2. SFPUC BEM 	<ol style="list-style-type: none"> 1. Develop Landscape Screening Plan 2. Ensure that contract documents include Landscape Screening Plan requirements 	<ol style="list-style-type: none"> 1. Design 2. Design

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	vista, resource, or on the visual character of a site or its surroundings.	shall include native trees and shrubs common to the surrounding areas. The landscape plan shall include plant species, planting specifications, and irrigation requirements necessary to screen the well facility. The SFPUC shall monitor landscape plantings annually for five years after project completion to ensure that sufficient ground coverage has developed and that the shrubs survive. If necessary, the SFPUC shall implement additional measures (e.g., replanting, temporary irrigation) to address continued survival of the plantings, and shall replant additional shrubs should a significant amount of the plantings not survive during the monitoring period.	3. SFPUC CMB 4. SFPUC Water Enterprise, WST	3. SFPUC BEM 4. SFPUC Water Enterprise, WRD	for Sites 4, 7, and 18. 3. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action. 4. Perform annual tree replacement monitoring for at least 5 years.	3. Construction 4. Post-Construction Monitoring (at least five years, depending on success)
CULTURAL RESOURCES						
CR-1	Project construction could cause an adverse change in the significance of a historical resource.	<p>M-CR-1a: Minimize Construction-related Impacts to Elements of the Historical Resource at Site 14</p> <p>The SFPUC and its contractor shall implement the following measures during construction at Site 14 to protect elements of the historical resource:</p> <ul style="list-style-type: none"> • The SFPUC shall lay plywood or other material down temporarily for access between the cemetery access road and the construction area during construction. • Temporary protective barriers shall be constructed for protection of the headstones during construction, including those near the existing pump structure to be removed. • Final plans and specifications shall be submitted to the VA prior to construction. • Construction workers shall undergo a training program to be made aware of the importance of the site and the contributing elements of the historical resource that would be affected by the proposed work. The training program shall be approved by either a qualified historical architect or architectural historian. • Through measurements and photographs, a historical architect shall document the roads and concrete curbs where trenching would occur. This documentation shall serve as a reference for replacing the curbs to match the existing curbs where removed for trenching. The SFPUC shall replace curbs removed for trenching with new curbs to match the existing curbs. • Grass shall be restored where removed for trenching. 	1. SFPUC EMB 2. SFPUC EMB 3. SFPUC CMB/historical architect	1. SFPUC BEM/VA 2. SFPUC BEM 3. SFPUC BEM	1. Submit final plans and specifications to VA to obtain VA approval 2. Ensure that contract documents include historical protection measures for Site 14, including requirements for contractor to provide a qualified historical architect or architectural historian and provide a training program. 3. Verify credentials of historical architect or architectural historian. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Pre-construction 2. Design 3. Construction
CR-1 (cont.)	Project construction could cause an adverse change in the significance of a historical resource.	<p>M-CR-1b: Minimize Construction-related Impacts on Elements of the Historical Resource at Site 15</p> <p>The SFPUC and its contractor shall implement the following measures during construction at Site 15 to protect elements of the historical resource:</p> <ul style="list-style-type: none"> • Temporary protective barriers shall be constructed for protection of the adjacent building to the north during construction. • Final plans and specifications shall be submitted to the VA prior to construction. • Construction workers shall undergo a training program to be made aware of the importance of the building adjacent to Site 15 and the contributing elements of the historical resource that would be affected by the proposed work. The training program shall be approved by either a qualified historical architect or architectural historian. • Through measurements and photographs, a historical architect shall document the roads and concrete curbs where trenching would occur. This documentation shall serve as a reference for replacing the curbs to match the existing curbs where removed for trenching. The SFPUC shall replace curbs removed for trenching with new curbs to match existing. Grass shall be restored where removed for trenching 	1. SFPUC EMB 2. SFPUC EMB 3. SFPUC CMB/historical architect	1. SFPUC BEM/VA 2. SFPUC BEM 3. SFPUC BEM	1. Submit final plans and specifications to VA to obtain VA approval. 2. Ensure that contract documents include historical protection measures for Site 15, including requirements for contractor to provide a qualified historical architect or architectural historian and provide a training program. 3. Verify credentials of historical architect or architectural historian. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Pre-construction 2. Design 3. Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

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CR-2	Project construction could cause an adverse change in the significance of an archaeological resource.	<p>M-CR-2: Discovery of Archaeological Resources (All Sites except West Lake Pump Station)</p> <p><i>Archaeological Monitoring Program.</i> Despite the negative results of archaeological test investigations at Site 11, there is some potential that remnants of a known prehistoric archaeological site (CA-SMA-299) are located below the ground surface. Consequently, an archaeological monitoring plan shall be prepared and implemented for construction at Site 11. The monitoring plan shall specify the location and duration of monitoring activities and shall be subject to review by the Environmental Review Officer (ERO). The scope of the monitoring plan shall conform to MEA WSIP Archaeological Guidance No. 4.</p> <p><i>Accidental Discovery.</i> To avoid potential adverse effects on accidentally discovered archaeological resources, the SFPUC shall distribute the San Francisco Planning Department’s archaeological resource “ALERT” sheet to: the Project prime contractor; any subcontractors (including firms subcontracted to perform demolition, excavation, grading, foundation, pile driving, etc.); and/or any utilities firm involved in soil-disturbing activities within the archaeological C-APE for each well facility site. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The SFPUC shall provide the ERO with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) confirming that all field personnel have received copies of the ALERT sheet.</p> <p>If potential archaeological resources are uncovered, the discovery site shall be secured, personnel and equipment shall be redirected, and the ERO shall be notified immediately. If the ERO determines that an archaeological resource may be present within the C-APE, the SFPUC shall retain the services of a qualified archaeological consultant. For construction at Site 11, an archaeological monitoring plan shall be prepared and implemented. The monitoring plan shall specify the location and duration of monitoring activities and shall be subject to review by the ERO.</p> <p>If archaeological resources are discovered at Site 11 or any of the other well facility sites, the archaeological consultant shall advise the ERO as to whether the discovery is an archaeological resource that retains sufficient integrity and is of potential scientific/historical/cultural significance. If an archaeological resource is present, the consultant shall identify and evaluate the archaeological resource. The archaeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the SFPUC.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC EMB (Archeologist) 3. SFPUC CMB 4. SFPUC CMB (Archeologist) 5. SFPUC CMB/BEM (Archeologist) 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM/ERO 3. SFPUC BEM 4. SFPUC BEM/ERO 5. SFPUC BEM/ERO 	<ol style="list-style-type: none"> 1. Ensure that the contract documents include requirements for a qualified archeologist and measures related to archeological monitoring during construction for Site 11. 2. Development of an Archaeological Monitoring Plan for Site 11. 3. Ensure that all project personnel for each well facility site receive “Alert” sheet. Maintain file of affidavits for submittal to ERO. Monitor to ensure that the contractor implements measures in the contract documents, report noncompliance, and ensure corrective action. 4. Ensure that all potential discoveries are reported to the ERO as required and that the contractor suspends work in the vicinity. Mobilize an archeologist (whose credentials have been verified) to the area if the ERO determines that an archeological resource may be present. 5. In the event of a potential discovery, archeologist shall evaluate the potential discovery and advise ERO as to the significance of the discovery. Proceed with recommendations, evaluations, and implementation of additional measures in consultation with ERO. Prepare and distribute Final ADRR as required. 	<ol style="list-style-type: none"> 1. Design 2. Design 3. Pre-construction and Construction 4. Construction 5. Construction
CR-2 (cont.)		<p>Measures might include: preservation in situ of the archaeological resource; an archaeological monitoring program; or an archaeological evaluation program. If an archaeological monitoring program or archaeological testing program is required, it shall be subject to review by the ERO. The ERO may also require that the SFPUC immediately implement a site security program if the archaeological resource is at risk from vandalism, looting, or other damaging actions.</p> <p>For any discovery of an archaeological resource, the archaeological consultant shall submit an archaeological data recovery report (ADRR) to the ERO which, in addition to the usual contents of the ADRR, shall: include an evaluation of the historical significance of any discovered archaeological resource; describe the archaeological and historical research methods employed in the archaeological monitoring/data recovery program(s) undertaken; and present, analyze and interpret the recovered data. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report. Once approved by the ERO, copies of the ADRR shall be distributed as follows: the relevant California Historical Resources Information System Information Center shall receive one copy, and the ERO shall receive one copy of the transmittal letter of the ADRR to the Information Center. The San Francisco Planning Department, Environmental Planning Division, shall receive three copies of the ADRR along with copies of any formal site recordation forms (California Department of Parks and</p>				

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		Recreation Form 523 series) and/or documentation for nomination to the National Register/California Register. The SFPUC shall receive copies of the ADRR in the number requested. In instances of high public interest in or high interpretive value of a resource, the ERO may require a different final report content, format and distribution than that presented above. All archaeological work performed under this mitigation measure shall be subject to review by the ERO or designee.				
CR-3	Project construction could result in a substantial adverse effect by destroying a unique paleontological resource or site.	<p>M-CR-3: Suspend Construction Work if a Paleontological Resource is Identified (All Sites except Site 9 and Westlake Pump Station)</p> <p>If a paleontological resource (fossilized invertebrate, vertebrate, plant or micro-fossil) is discovered during construction at any of the proposed well facility sites, all ground disturbing activities within 50 feet of the find shall be temporarily halted but may be diverted to areas beyond 50 feet from the discovery to continue working. An appointed representative of the SFPUC shall notify a qualified paleontologist, who will document the discovery as needed, evaluate the potential resource, and assess the nature and significance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if the SFPUC determines that the find cannot be avoided. The paleontologist shall make recommendations for any necessary treatment that is consistent with the SVP Guidelines (SVP 2012) and currently accepted scientific practices. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation and publication of a report describing the find. The paleontologist's recommendations shall be subject to review and approval by the ERO or designee. The SFPUC shall be responsible for ensuring that treatment is implemented and reported to the San Francisco Planning Department. If no report is required, the SFPUC shall nonetheless ensure that information on the nature, location and depth of all finds is readily available to the scientific community through university curation or other appropriate means.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB/BEM (paleontologist) 3. SFPUC CMB/BEM (paleontologist) 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM/ERO 3. SFPUC BEM/ERO 	<ol style="list-style-type: none"> 1. Ensure that the contract documents include the listed measures related to discovery of paleontological resources. 2. Ensure that all potential discoveries are reported to the ERO as required and that the contractor suspends work in the vicinity as required. Mobilize a qualified paleontologist (whose credentials have been verified) to the area if the ERO determines that a paleontological resource may be present. 3. In the event of a potential discovery, evaluate the potential discovery and advise ERO as to the significance of the discovery. Proceed with recommendations, evaluations, and implementation of additional measures in consultation with ERO. 	<ol style="list-style-type: none"> 1. Design 2. Construction 3. Construction
CR-4	Project construction could result in a substantial adverse effect related to the disturbance of human remains.	<p>M-CR-4: Accidental Discovery of Human Remains (All Sites except Westlake Pump Station)</p> <p>The treatment of any human remains and associated or unassociated funerary objects discovered during soil-disturbing activities shall comply with applicable State laws. Such treatment would include immediate notification of the San Mateo County Coroner and, in the event of the coroner's determination that the human remains are Native American, notification of the NAHC, which would appoint a Most Likely Descendant (MLD) (PRC Section 5097.98). A qualified archaeologist, the SFPUC and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement would take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties could not agree on the reburial method, the SFPUC shall follow Section 5097.98(b) of the PRC, which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance." All archaeological work performed under this mitigation measure shall be subject to review by the ERO or designee.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB/BEM (Archeologist) 3. SFPUC CMB/BEM 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM/ERO 3. SFPUC BEM 	<ol style="list-style-type: none"> 1. Ensure that Contract Documents include measures related to discovery of human remains. 2. If potential human remains are encountered, mobilize an archeologist (whose credentials have been verified) to confirm existence of human remains. If human remains are confirmed, perform required coordination and notifications. 3. Monitor to ensure that the contractor implements measures in contract documents including insuring that all potential human remains are reported to the San Mateo County Coroner as required and that contractor suspends work in the vicinity. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> 1. Design 2. Construction 3. Construction
CR-5	Project facilities could cause an adverse change in the significance of a historical resource.	<p>M-CR-5a: Minimize Facilities Siting Impacts on Elements of the Historical Resource at Site 14</p> <p>The SFPUC shall implement the following measures to minimize impacts on Site 14:</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC EMB 3. SFPUC EMB/BEM 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM/VA officials/Historical 	<ol style="list-style-type: none"> 1. Ensure that Construction Documents include required design elements for Site 14 including landscaping and fencing. 	<ol style="list-style-type: none"> 1. Design 2. Pre-Construction 3. Pre-Construction

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		<ul style="list-style-type: none"> The proposed well facility structure shall be located as close to the northern fence as feasible taking into consideration the need of the VA for vehicle access along this fence line. The SFPUC shall confirm with the VA the minimum width of the required access. The SFPUC shall construct a well facility building or a fenced enclosure to house the well and well appurtenances as discussed below: If the SFPUC constructs a building to house the well and well appurtenances, the proposed facility building shall be constructed at a height of no more than eight feet. Landscaping shall be planted around the new building to act as a screen, lessening the visual intrusion. Cladding materials for the proposed facility building shall be compatible with those existing on the site and the adjacent maintenance structures (i.e., stucco walls and clay tile hipped roofs). The design of the well facility, including the proposed screening plantings, shall meet any applicable VA planting guidance, and prior to construction shall be reviewed and approved by appropriate VA officials and a historical architect meeting the Secretary of the Interior's Professional Qualification Standards. The proposed building and associated outside areas shall be constructed in compliance with the Secretary of the Interior's Standards for Rehabilitation and be compatible with the existing maintenance buildings in the use of materials with minimal detailing. If the SFPUC constructs a wall around the well and well appurtenances, the wall shall be constructed at a height of no more than eight feet. Landscaping shall be planted around the new fence to act as a screen, lessening the visual intrusion. The design of the well facility, including the proposed screening plantings, shall be reviewed and approved by appropriate VA officials and a historical architect meeting the Secretary of the Interior's Professional Qualification Standards and any applicable VA planting guidance, prior to construction. The proposed fence and associated planted areas shall be constructed in compliance with the <i>Secretary of the Interior's Standards for Rehabilitation</i> and be compatible with the existing maintenance buildings in the use of materials with minimal detailing. The SFPUC shall lay plywood or other material down temporarily for access between the cemetery access road and construction area during construction, unless the type and use of grass pavers proposed are determined by SHPO to be compatible with the historical resource. The existing pump structure and ancillary equipment shall be documented prior to its demolition. The documentation shall follow the Historic American Buildings Survey guidelines. Although a contributing resource, this resource is a utilitarian structure whose contribution to the GGNC as a whole is minor. Therefore, the level of documentation of this resource (Level 1, Level II, Level III, or Level IV) shall be determined by VA officials and an architectural historian meeting the Secretary of the Interior's Professional Qualification Standards. 	(architectural historian)	Architect 3. SFPUC BEM	<ol style="list-style-type: none"> Review and approve final design of Site 14 with VA and a historical architect (whose credentials have been verified). Document the existing pump structure and equipment prior to its demolition. The documentation shall follow the Historic American Buildings Survey guidelines. The level of documentation of this resource (Level 1, Level II, Level III, or Level IV) shall be determined by VA officials and an architectural historian meeting the Secretary of the Interior's Professional Qualification Standards. Verify credentials of architectural historian. 	
CR-5 (cont.)	Project facilities could cause an adverse change in the significance of a historical resource	<p>M-CR-5b: Minimize Facilities Siting Impacts on Elements of the Historical Resource at Site 15</p> <p>The SFPUC shall implement the following measures to minimize impacts on elements of the historical resource at Site 15:</p> <ul style="list-style-type: none"> The proposed facility building and associated outside areas shall be constructed in compliance with the Secretary of the Interior's Standards for Rehabilitation and be compatible with the existing maintenance buildings in the use of materials with minimal detailing. The size and scale of the proposed facility building shall be smaller than that of the existing structure, so as not to overwhelm the existing maintenance building. <ul style="list-style-type: none"> The height shall be below the eave of the adjacent maintenance building. The height of the new 8-foot high concrete wall with stucco finish, perpendicular to the existing building wall, shall be kept below the adjacent maintenance building's window sills. The length shall be kept to the minimum and the building located farther to the east; the east elevation would align with the east elevation of the maintenance building. 	<ol style="list-style-type: none"> SFPUC EMB SFPUC EMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM/VA officials/Historical Architect 	<ol style="list-style-type: none"> Ensure that Construction Documents include required design elements for Site 15 including landscaping and fencing. Review and approve final design of Site 15 with VA and a historical architect (whose credentials have been verified). 	<ol style="list-style-type: none"> Design Pre-Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<ul style="list-style-type: none"> o The western elevation of the new building shall be set back (to the east) from the face of the western elevation of the existing building by at least 10 feet. o The fence line along Sneath Lane shall be maintained and shall not wrap around the new building; it is acceptable for the building to break the fence line. • The proposed facility building shall be separated from the existing building by a minimum of approximately eight feet (the width of the planting area south of the existing maintenance building), to maintain the relationship of the historic maintenance buildings with the entry gates. • Cladding materials for the proposed facility building shall be compatible with those existing on the site and the adjacent maintenance structures (i.e., stucco walls and clay tile hipped roofs). • Paved parking shall be kept to the minimum necessary and shall not be within 10 feet of the entry gate. • Wrought iron, or equivalent, fencing shall replace the existing chain link fencing. • A landscaping plan shall be developed for the east, south and west elevations and shall reflect the landscaping around nearby structures. The row of existing street trees in front of the maintenance yard fence shall extend to the west to where the wrought iron fence begins. The SFPUC shall work with the VA to develop the landscaping plan. • The design of the proposed facility, including landscape plantings, shall be reviewed and approved by appropriate VA officials and a historical architect meeting the Secretary of the Interior’s Professional Qualification Standards to ensure that proposed structure and associated outside areas are constructed in compliance with the Secretary of the Interior’s Standards for Rehabilitation and any applicable VA planting guidance, prior to construction. 				
TRAFFIC						
TR-1	The Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.	<p>M-TR-1: Traffic Control Plan (Sites 2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 17 [Alternate], 18 [Alternate], and 19 [Alternate])</p> <p>Prior to construction, the SFPUC and its contractor(s) shall prepare and implement traffic control plans for each local jurisdiction in which construction would affect roadways and intersections. The traffic control plan shall be submitted to the applicable local jurisdiction for review as part of the encroachment permit process. Each contractor shall prepare a traffic control plan for the well facility sites under their contract, and where construction at well facility sites could occur within and/or across multiple streets in the same vicinity, the SFPUC and its construction contractors shall coordinate the traffic control plans to mitigate the impact of traffic disruption.</p> <p>The traffic control plan shall include sufficient measures to address the overall Project construction, as well as appropriate site-specific measures, including measures to reduce potential impacts on traffic flows on roadways affected by Project construction activities. The traffic control plan shall comply with local jurisdiction and Caltrans requirements and be tailored to reflect site-specific traffic and safety concerns, as appropriate. The traffic control plan shall include, but not necessarily be limited to, the following measures as applicable to site-specific conditions:</p> <p><u>Traffic Controls</u></p> <ul style="list-style-type: none"> • Circulation and detour plans shall be developed to minimize impacts on local street circulation. Haul routes that minimize truck traffic on local roadways and residential streets shall be utilized to the extent feasible. Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone. • A public information program to advise motorists, nearby residents, and adjacent commercial establishments of the impending construction activities (e.g., media coverage, direct distribution of flyers to impacted properties, email notices, portable message signs, informational signs at the job sites) shall be developed and implemented. • Truck routes designated by local jurisdictions shall be identified in the traffic control plan and shall be utilized to the 	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB 4. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM/ Caltrans/ SamTrans/Colma/ Daly City/ Millbrae/ San Bruno/South San Francisco/San Mateo County, as applicable 3. SFPUC BEM/ SamTrans/ South San Francisco 4. SFPUC CMB 	<ol style="list-style-type: none"> 1. Ensure that the contract documents include the requirement to prepare a Traffic Control Plan including submittals to applicable local jurisdiction. 2. Ensure that contractor submits a Traffic Control Plan to the appropriate agencies or local jurisdiction, as necessary and obtains any required permits and approvals. Verify that the plan complies with the applicable local requirements. Ensure that the contractor coordinates its plans with those of Caltrans and other applicable agencies and cities for affected roadways and intersections. 3. Arrange with SamTrans and City of South San Francisco to relocate SamTrans bus stops on El Camino Real and Huntington Ave. 4. Monitor to ensure that the contractor implements measures in Traffic Control Plan. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> 1. Design 2. Pre-Construction/ Construction 3. Pre-Construction 4. Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>extent feasible to minimize truck traffic on local roadways and residential streets that are not identified locally as designated haul routes.</p> <ul style="list-style-type: none"> Lane closures shall be limited during peak hours to the extent feasible. In addition, outside of allowed working hours, or when work is not in progress, roads shall be restored to normal operations, with all trenches covered with steel plates. Roadside safety protocols shall be implemented, such as advance “Road Work Ahead” warning signs, and speed control (including signs informing drivers of State-legislated double fines for speed infractions in a construction zone) shall be provided to achieve required speed reductions for safe traffic flow through the work zone. Roadway rights-of-way shall be repaired or restored to their general pre-construction condition (or better) upon completion of construction. The traffic control plan shall also conform to applicable provisions of the State’s <i>Manual of Traffic Controls for Construction and Maintenance Work Areas</i>. 				
TR-1 (cont.)		<p><u>Private and Emergency Access</u></p> <ul style="list-style-type: none"> Access to driveways and private roads shall be maintained, as feasible, by using steel trench plates. If access must be restricted for brief periods (more than one hour), property owners shall be notified by the SFPUC in advance of such closures. At locations where the main access to a nearby property is blocked, the SFPUC shall be required to have ready at all times the means necessary to accommodate access by emergency vehicles to such properties, such as plating over excavations, short detours, and/or alternate routes. Construction shall be coordinated with facility owners or administrators of land uses that may be more significantly affected by traffic impacts, such as police and fire stations, transit stations, hospitals, ambulance providers, and schools. Emergency responders, and other more significantly affected facility owners and/or operators shall be notified by the SFPUC in advance of the timing, location, and duration of construction activities and the locations and durations of any temporary detours and/or lane closures. <p><u>Transit Controls</u></p> <ul style="list-style-type: none"> Construction shall be coordinated with local transit service providers to arrange the temporary relocation of bus routes or bus stops in work zones, if necessary. Prior to construction activities, the SFPUC shall work with SamTrans and the City of South San Francisco to temporarily relocate the SamTrans bus stop located along the southbound lane of El Camino Real near West Orange Avenue. The temporary bus stop shall be located in an acceptable location that minimizes impacts to bus users and meets safety requirements. Prior to construction activities, the SFPUC shall work with SamTrans and the City of South San Francisco to temporarily relocate the SamTrans bus stop located in the pipeline construction zone along the northbound lane of Huntington Avenue. The temporary bus stop shall be located at an acceptable location that minimizes impacts to bus users and meets safety requirements. <p><u>Pedestrian and Bicycle Access</u></p> <ul style="list-style-type: none"> Pedestrian and bicycle access and circulation shall be maintained during Project construction where safe to do so. If construction activities encroach on a bicycle lane, warning signs shall be posted that indicate bicycles and vehicles are sharing the lane. <p>Detours shall be included for bicycles and pedestrians in all areas potentially affected by Project construction. Notices shall be provided to advise bicyclists and pedestrians of any temporary detours around construction zones.</p>				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
C-TR-1	Construction and operation of the proposed Project could result in a cumulatively considerable contribution to cumulative impacts related to transportation and circulation.	<p>M-C-TR-1: Coordinate Traffic Control Plan with other SFPUC Construction Projects (Sites 2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 17 [Alternate], 18 [Alternate], and 19 [Alternate])</p> <p>Prior to construction, the SFPUC and its contractors shall coordinate with other SFPUC construction projects in the region and update traffic control plans to avoid overlapping construction schedules or, if not practical, to minimize impacts to congestion, emergency access, and alternative modes of transportation.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB (traffic coordinator) 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM 	<ol style="list-style-type: none"> 1. Ensure that contract documents include the requirement to coordinate with other SFPUC projects. 2. Assign a qualified construction coordinator responsible for coordinating the GSR project-specific traffic control plan with other SFPUC projects. 	<ol style="list-style-type: none"> 1. Design 2. Pre-construction/ Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
NOISE						
NO-1	Project construction would result in noise levels in excess of local standards.	<p>M-NO-1: Noise Control Plan (1, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 [Alternate], 18 [Alternate], and 19 [Alternate])</p> <p>The SFPUC will limit well facility and pipeline construction as follows:</p> <ul style="list-style-type: none"> For Site 1 in Daly City, the proposed construction hours for well facility and pipeline construction (i.e., exclusive of well drilling and pump testing) fall within the locally allowable construction hours and therefore may occur as proposed; For Sites 3 and 4 in the County of San Mateo, well facility (exclusive of well drilling and pump testing) and pipeline construction will be limited to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturday, and shall be disallowed on Sundays and holidays; For Sites 9, 10, 11, 12, 13, 18 (Alternate), and 19 (Alternate) in the City of South San Francisco, well facility (exclusive of well drilling and pump testing at Sites 9, 11, 12, 18 [Alternate], and 19 [Alternate]) and pipeline construction will be limited to the hours of 8:00 a.m. to 8:00 p.m. Monday through Friday and 9:00 a.m. to 8:00 p.m. on Saturday and from 10:00 a.m. to 6:00 p.m. on holidays; For Sites 8 and 17 (Alternate), in the Town of Colma, well facility (exclusive of well drilling and pump testing at Site 17 [Alternate]) and pipeline construction will be limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday and 10:00 a.m. to 6:00 p.m. Saturday and from 10:00 a.m. to 6:00 p.m. on holidays; and For Site 16 in Millbrae, well facility (exclusive of well drilling and pump testing) and pipeline construction will be limited to the hours of 7:30 a.m. to 7:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. on Saturdays and from 9:00 a.m. to 6:00 p.m. on holidays. The proposed construction hours (exclusive of well drilling and pump testing) from Monday to Friday fall within the locally allowable construction hours and therefore may occur as proposed. <p>The SFPUC will retain a qualified noise consultant to prepare a Noise Control Plan and the SFPUC will approve the Noise Control Plan and ensure that it is implemented to reduce construction noise levels at nearby noise-sensitive land uses to meet the performance standards described below. Upon request, the SFPUC will provide a copy of the completed Noise Control Plan to the jurisdictions listed below:</p> <ul style="list-style-type: none"> For Sites 3 and 4, in unincorporated San Mateo County, well drilling and testing will be limited to 57 dBA L_{eq} at the property line of the nearest sensitive receptor; For Sites 8 and 17 (Alternate), in the Town of Colma, any single piece of construction equipment will be limited to 85 dBA L_{eq} at 25 feet during the day; For Sites 9, 10, 11, 12, 13, 18 (Alternate), and 19 (Alternate), exclusive of nighttime well drilling and pump testing -- in South San Francisco, daytime noise levels will be limited to 90 dBA L_{max} from 8:00 a.m. to 8:00 p.m. Monday to Friday and from 9:00 a.m. to 8:00 p.m. on Saturdays, measured at the property plane or at 25 feet from the loudest single piece of equipment; To the extent feasible, well drilling and pump testing at Sites 9, 11, 12, 18 (Alternate), and Sites 19 (Alternate) in South San Francisco that occurs between the hours of 8:00 p.m. and 10:00 p.m., Monday to Saturday, and from 6:00 p.m. and 10:00 p.m. on Sundays, L_{50} dBA noise levels will be limited to 60 dBA; from 10:00 p.m. to 7:00 a.m., Monday through Sunday, L_{50} dBA noise levels will be limited to 50 dBA; and from 7:00 a.m. to 8:00 a.m. Monday to Friday, from 7:00 a.m. to 9:00 a.m. on Saturdays and from 7:00 a.m. to 10:00 a.m. on Sundays and holidays, L_{50} dBA noise levels will be limited to 60 dBA; and For Site 14, in San Bruno, a single piece of construction equipment will be limited to 85 dBA L_{max} at 100 feet from 7:00 a.m. to 10:00 p.m. or to 60 dBA L_{max} at 100 feet from 10:00 p.m. to 7:00 a.m. 	<ol style="list-style-type: none"> SFPUC EMB SFPUC CMB (qualified noise consultant) SFPUC CMB SFPUC CMB SFPUC CMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM SFPUC BEM SFPUC BEM SFPUC BEM 	<ol style="list-style-type: none"> Incorporate appropriate language into contract documents regarding allowable work days and hours per each local jurisdiction for each site, including requirement for qualified noise consultant (whose credentials have been verified) to prepare a noise control plan. Ensure that the noise control plan is prepared in accordance with the contract documents and includes allowable work days and hours per each local jurisdiction for each site. Submit noise control plan to local jurisdictions on request. Designate project liaison responsible for responding to noise complaints. Ensure that liaison's name and phone number is included on posted notices. Develop a reporting program for tracking complaints received and for documenting their resolution. Monitor to ensure that the contractor(s) implements noise control requirements, provides 24-hour notice to residents near well drilling sites; reports complaints and resolution, reports noncompliance; ensure corrective action within timelines specified in contract. 	<ol style="list-style-type: none"> Design Pre-Construction Pre-Construction and Construction Pre-Construction and Construction Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
NO-1 (cont.)		<p>The contractor will determine the specific methods to meet the performance standards provided above. Specific measures that can be feasibly implemented to comply with these performance standards include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Best available noise control practices (including mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) shall be used for all equipment and trucks in order to minimize construction noise impacts. • If impact equipment (e.g., jack hammers, pavement breakers, rock drills) is needed during Project construction, hydraulically or electric-powered equipment shall be used wherever feasible to avoid the noise associated with compressed-air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used. External jackets on the tools themselves shall also be used if available and feasible. • To the extent consistent with applicable regulations and safety considerations, operation of vehicles requiring use of back-up beepers shall be avoided near sensitive receptors during nighttime hours and/or, the work sites shall be arranged in a way that avoids the need for any reverse motions of large trucks or the sounding of any reverse motion alarms during nighttime work. If these measures are not feasible, trucks operating during the nighttime hours with reverse motion alarms must be outfitted with SAE J994 Class D alarms (ambient-adjusting, or “smart alarms” that automatically adjust the alarm to 5 dBA above the ambient near the operating equipment). • Stationary noise sources shall be located as far from sensitive noise receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used. Enclosure openings or venting shall face away from sensitive noise receptors. • A designated project liaison shall be responsible for responding to noise complaints during the construction phases. The name and phone number of the liaison shall be conspicuously posted at construction areas and on all advanced notifications. This person shall take steps to resolve complaints, including periodic noise monitoring, if necessary. Results of noise monitoring shall be presented at regular Project meetings with the contractor. The liaison shall coordinate with the contractor to modify any construction activities that generate noise levels above the levels identified in the performance standards listed in this measure. • A reporting program shall be required that documents complaints received, actions taken to resolve problems, and effectiveness of these actions. • Locate equipment at the work area to maximize the distance to noise-sensitive receptors, and to take advantage of any shielding that may be provided by other on-site equipment. • Operate the equipment mindful of the residential uses nearby, especially during the nighttime hours. • Maintain respectful and orderly conduct among workers, including worker conversation noise during the nighttime hours. • Maintain the equipment properly to minimize extraneous noise due to squeaking or rubbing machinery parts, damaged mufflers, or misfiring engines. • Provide advance notice to nearby residents prior to starting work at each work site, with information regarding anticipated schedule, hours of operation and a Project contact person. • Provide a minimum 24-hour advance notice to residents within 250 feet of the production well site prior to nighttime work involving drilling, drilling-related activities, pumping tests, or truck deliveries. • Schedule work and deliveries to minimize noise-generating activities during nighttime hours at work sites (e.g., no deliveries or non-essential work). • Utilize a temporary noise barrier placed as close to the receptor (e.g., along the residential property line) or to the work site (e.g., as close as 15 to 20 feet from the drill rig or loudest generating activity area) as possible. • Utilize sound blankets. 				

EXHIBIT 1 (continued)

REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
NO-2	Project construction would result in excessive groundborne vibration.	<p>M-NO-2: Reduce Vibration Levels during Construction of Pipelines (Sites 3, 4, 12, 15, and 18 [Alternate])</p> <p>The SFPUC shall require that the construction contractor not use vibratory compaction equipment within 25 feet of structures adjacent to Sites 3, 4, 12, 15, and 18 (Alternate). Non-vibratory compaction or controlled low strength materials (CLSM) backfill may be used in lieu of vibratory compaction equipment at these locations.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM 	<ol style="list-style-type: none"> 1. Incorporate appropriate language into contract documents for no vibratory compaction equipment within 25 feet of structures adjacent to Sites 3, 4, 12, 15, and 18. 2. Monitor to ensure that the contractor(s) implements non-vibratory compaction at Sites 3, 4, 12, 15, and 18, report noncompliance, and ensure corrective action within timelines specified in contract. 	<ol style="list-style-type: none"> 1. Design 2. Construction
NO-3	Project construction would result in a substantial temporary increase in ambient noise levels.	<p>M-NO-3: Expanded Noise Control Plan (1, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17 [Alternate], 18 [Alternate], and 19 [Alternate])</p> <p>In addition to the requirements of Mitigation Measure M-NO-1 (Noise Control Plan) under Impact NO-1, the SFPUC will require that its construction contractor prepare and implement an Expanded Noise Control Plan to further reduce construction noise levels at nearby noise-sensitive land uses. The SFPUC will provide a copy of the completed Expanded Noise Control Plan to jurisdictions upon request. Construction noise shall not exceed the following performance standards as measured at the exterior of the closest sensitive receptor: If noise measurements are not permitted at the exterior of the sensitive receptor's location, the SFPUC shall take noise measurements and then estimate the noise level at the sensitive receptor by adjusting for the attenuation across the additional distance. If there is any conflict between Mitigation Measure M-NO-1 (Noise Control Plan) and Mitigation Measure M-NO-3 (Expanded Noise Control Plan), the most stringent requirement would be applicable.</p> <ul style="list-style-type: none"> • 70 dBA L_{eq} between the hours of 7:00 a.m. and 10:00 p.m., Monday through Friday at residences, senior care and religious facilities, and schools. • 50 dBA L_{eq} at residential type buildings during normal sleeping hours, which are considered to be 10:00 p.m. to 7:00 a.m. <p>The contractor will determine the specific methods to meet the performance standards given above. Specific measures that can be feasibly implemented to comply with these performance standards include, but are not limited to, those listed in Mitigation Measure M-NO-1 (Noise Control Plan) under Impact NO-1.</p> <p>For Sites 1, 3, 4, 9, 12, 14, 16, 18 (Alternate), and 19 (Alternate), the SFPUC shall offer hotel vouchers to residents who are subject to noise levels from well drilling and testing that exceed the performance standard of 50 dBA L_{eq} at the exterior of the residence for the period of the well drilling and pump testing that will occur during the nighttime hours.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB(qualified noise consultant) 3. SFPUC CMB/ Communications 4. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM 	<ol style="list-style-type: none"> 1. Incorporate appropriate language into contract documents including requirement for qualified noise consultant to prepare an expanded noise control plan for Sites 1, 3 through 5, and 9 through 19. 2. Ensure that the expanded noise control plan is prepared in accordance with the contract documents and includes noise performance standards of <ol style="list-style-type: none"> a) 70 dBA L_{eq} between the hours of 7:00 a.m. and 10:00 p.m., Monday through Friday at residences, senior care and religious facilities, and schools and <ol style="list-style-type: none"> b) 50 dBA L_{eq} at residential type buildings during normal sleeping hours, which are considered to be 10:00 p.m. to 7:00 a.m. 3. For Sites 1, 3, 4, 9, 12, 14, 16, 18, and 19, the SFPUC shall offer hotel vouchers to residents who are subject to noise levels from well drilling and testing that exceed the performance standard of 50 dBA L_{eq} at the exterior of the residence for the period of the well drilling and pump testing that will occur during the nighttime hours 4. Monitor to ensure that the contractor(s) implements noise control requirements, report noncompliance, and ensure corrective action within timelines specified in contract. 	<ol style="list-style-type: none"> 1. Design 2. Preconstruction 3. Preconstruction and Construction 4. Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
NO-5	Operation of the Project would result in exposure of people to noise levels in excess of local noise standards or result in a substantial permanent increase in ambient noise levels in the Project vicinity.	<p>M-NO-5: Operational Noise Control Measures (Sites 1, 5 [On-site Treatment], 7 [On-site Treatment], 9, 12, 18 [Alternate], and the Westlake Pump Station)</p> <p>The SFPUC shall incorporate noise controls that reduce noise levels from operation of the Project to meet the following performance standards:</p> <ul style="list-style-type: none"> For Sites 1, 5 (On-site Treatment), 9, 12, 18 (Alternate), and the Westlake Pump Station, operational noise levels shall be reduced to 50 dBA L_{eq} or less. For Site 7 (On-site Treatment), operational noise levels shall be reduced to 58 dBA L_{eq} or less. <p>To meet these performance standards, noise control measures, which could include the following or other equally effective measures, will be implemented, as needed. The designs for the enclosure buildings will be reviewed by a qualified acoustical expert¹ to confirm that the following measures have been appropriately incorporated into the final design documents and that they are sufficient to achieve the stipulated performance standard for each site:</p> <ul style="list-style-type: none"> Install sound-absorbing material on the interior ceiling and/or wall surfaces, as necessary, to control reverberant buildup within the enclosure building. Utilize standard construction methods to eliminate cracks and gaps at the wall-roof junction and at penetrations through the walls and roof. Install a gypsum board ceiling, or equivalent, to provide a sound insulating roof construction. Orient louvers away from sensitive receptors, where possible. Where it is not possible to orient louvers away from sensitive receivers, utilize sound attenuators or additional baffles that provide up to 20 dBA of transmission loss from inside to outside the building as needed to meet the performance standard. Use doors that are filled steel and fully weather-stripped. Do not allow unprotected ventilation openings through the building walls or roof. Control all ventilation sound transmission paths, as appropriate for the fan types and ventilation systems used. <p>¹ Qualifications shall include the following: A) Bachelor of Science or higher degree from a qualified program in engineering, physics, or architecture offered by an accredited university or college, and five years' experience in noise control engineering and construction noise analysis. B) Demonstrated substantial and responsible experience in preparing and implementing construction and operational noise control treatments and monitoring plans, calculating construction and operational noise levels, and overseeing the implementation of construction and operational noise abatement measures.</p>	<ol style="list-style-type: none"> SFPUC EMB SFPUC CMB 	<ol style="list-style-type: none"> SFPUC Water Enterprise, WRD (qualified acoustical expert) SFPUC BEM 	<ol style="list-style-type: none"> Incorporate design elements for Sites 1, 5, 7, 9, 12, and 18 to meet performance standards. Qualified acoustical expert (whose credentials have been verified) shall review design and confirm measures are appropriately incorporated into the final design documents Monitor to ensure that operational noise performance standards at Sites 1, 5, 7, 9, 12, and 18 are met. 	<ol style="list-style-type: none"> Design Post-Construction (prior to project closeout)
AIR QUALITY						
AQ-2	Emissions generated during construction activities would violate air quality standards and would contribute substantially to an existing air quality violation.	<p>M-AQ-2a: BAAQMD Basic Construction Measures (All Sites)</p> <p>The SFPUC shall post one or more publicly visible signs with the telephone number and person to contact at the SFPUC with complaints related to excessive dust or vehicle idling. This person shall respond to complaints and, if necessary, take corrective action within 48 hours. The telephone number and person to contact at the BAAQMD's Compliance and Enforcement Division shall also be provided on the sign(s) in the event that the complainant also wished to contact the applicable air district.</p>	<ol style="list-style-type: none"> SFPUC EMB SFPUC Communications/CMB SFPUC CMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM SFPUC BEM 	<ol style="list-style-type: none"> Ensure that the contract documents include specified dust control measures and exhaust control measures, including signage requirements. Designate project liaison responsible for developing and implementing 	<ol style="list-style-type: none"> Design Pre-construction/Construction Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>In addition, to limit dust, criteria pollutants, and precursor emissions associated with Project construction, the following BAAQMD-recommended Basic Construction Measures shall be included in all construction contract specifications for the proposed Project:</p> <ul style="list-style-type: none"> • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day; • All haul trucks transporting soil, sand, or other loose material off-site shall be covered; • All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited; • All vehicle speeds on unpaved areas shall be limited to 15 miles per hour; • All paving shall be completed as soon as possible after pipeline replacement work is finished; • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points; and • All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 			<p>procedures responding to complaints related to dust or vehicle idling. Monitor to ensure that the contractor implements measures in contract documents. Report noncompliance and ensure corrective action.</p> <p>3. Monitor to ensure that the contractor(s) implements dust control requirements, report noncompliance, and ensure corrective action within timelines specified in contract.</p>	
AQ-2 (cont.)	Emissions generated during construction activities would violate air quality standards and would contribute substantially to an existing air quality violation.	<p>M-AQ-2b: NO_x Reduction during Construction of Alternate Sites</p> <p>If one to three wells at Sites 1 through 16 are drilled but found to be unusable for any reason, and one to three well facilities are therefore constructed at alternate sites, the SFPUC shall reduce NO_x emissions by 20 percent during construction at the alternate site or sites. To meet this performance standard, the SFPUC shall develop and implement a plan demonstrating that the off-road equipment (i.e., equipment rated at more than 50 horsepower that is owned or leased by the contractor or subcontractors) to be used in constructing the wells and facilities at the alternate sites would achieve a fleet-wide average of 20 percent NO_x reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines (i.e., meeting U.S. EPA Tier 3 standards or later), low-emission diesel products, alternative fuels that have lower NO_x emissions, engine retrofit technology, after-treatment products, add-on devices, and/or other options as such become available.</p>	<p>1. SFPUC EMB 2. SFPUC EMB/CMB 3. SFPUC CMB</p>	<p>1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM</p>	<p>1. Ensure that the contract documents include specifications for a 20 percent reduction in NO_x emissions if one to three wells are drilled but unusable and alternate wells would be constructed at Sites 17, 18, and 19.</p> <p>2. If one to three wells are drilled but unusable and alternate wells would be constructed a plan to meet the NO_x emissions performance standard will be developed.</p> <p>3. Monitor to ensure that the contractor(s) implements measures identified in the plan to reduce NO_x emissions at Sites 17, 18, and 19, report noncompliance, and ensure corrective action.</p>	<p>1. Design/Construction 2. Pre-construction/Construction 3. Construction</p>
AQ-3	Project construction would expose sensitive receptors to substantial pollutant concentrations.	<p>M-AQ-3: Construction Health Risk Mitigation (Site 5 On-site Treatment)</p> <p>The SFPUC shall require the construction contractor to utilize, during the construction of Site 5 (On-site Treatment), off-road equipment (more than 50 horsepower) with late model engines meeting U.S. EPA Tier 4 (Interim), or utilize a combination of Tier 2 or Tier 3 engines with add-on devices that consist of level 3 diesel particulate filters.</p>	<p>1. SFPUC EMB 2. SFPUC CMB</p>	<p>1. SFPUC BEM 2. SFPUC BEM</p>	<p>1. Ensure that the contract documents include specified requirements for off-road equipment for Site 5.</p> <p>2. Monitor to ensure that the contractor utilizes off-road equipment at Site 5 as required. Report noncompliance and ensure corrective action.</p>	<p>1. Design 2. Construction</p>

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
UTILITIES AND SERVICE SYSTEMS						
UT-1	Project construction could result in potential damage to or temporary disruption of existing utilities during construction.	<p>M-UT-1a: Confirm Utility Line Information (All Sites)</p> <p>Prior to excavation and/or other ground-disturbing construction activities, the SFPUC or its contractor(s) shall locate overhead and underground utility lines, such as natural gas, electricity, sewer, telephone and waterlines, that may be encountered during excavation work. Pursuant to State law, the SFPUC or its contractor(s) shall notify USA North. Information regarding the size and location of existing utilities shall be confirmed before excavation and other ground-disturbing activities commence. These utilities shall be highlighted on all construction drawings. Utilities may be located by customary techniques such as geophysical methods and hand excavation.</p>	1. SFPUC EMB	1. SFPUC BEM	1. Coordinate final construction plans and specifications during the design phase and ensure utility lines are identified on all construction drawings. Ensure that the contract documents include the requirement that contractor coordinate and notify utility service providers.	1. Design
UT-1 (cont.)		<p>M-UT-1b: Safeguard Employees from Potential Accidents Related to Underground Utilities (All Sites) While any excavation is open, the SFPUC or its contractor(s) shall protect, support, or remove underground utilities as necessary to safeguard employees. As part of contractor specifications, the contractor(s) shall be required to provide updates on planned excavations for the upcoming week and to specify when construction will occur near any high-priority utility lines that are identified. At the beginning of each week when this work will take place, the SFPUC construction managers shall conduct meetings with contractor staff, as required by the California Occupational Safety and Health Administration (CalOSHA), to record all protective and avoidance measures regarding such excavations.</p>	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include applicable requirements to safeguard employees from potential accidents related to underground utilities. 2. Conduct weekly tailgate meetings with contractor prior to any work near high-priority utility lines, and record all protective and avoidance measures that will be implemented in such excavations. 3. Monitor to ensure that the contractor implements measures in contract documents and the protective and avoidance measures identified at tailgate meetings. Report noncompliance and ensure corrective action.	1. Design 2. Construction 3. Construction
UT-1 (cont.)		<p>M-UT-1c: Notify Local Fire Departments (All Sites)</p> <p>In the event that construction activities result in damage to high-priority utility lines, including leaks or suspected leaks, the SFPUC or its contractor(s) shall immediately notify local fire departments to protect worker and public safety.</p>	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM	1. Ensure that contract documents include the requirement that the contractor is to notify local fire departments in the event of damage to high-priority utility lines. 2. Obtain documentation from contractor of their notification to local fire departments if damage to a gas utility results in a leak or suspected leak, or whenever damage to any utility results in a threat to public safety.	1. Design 2. Construction
UT-1 (cont.)		<p>M-UT-1d: Emergency Response Plan (All Sites)</p> <p>Prior to commencing construction activities, the SFPUC shall develop an emergency response plan that outlines procedures to follow in the event of a leak or explosion resulting from a utility rupture. The emergency response plan shall identify the names and phone numbers of PG&E staff who would be available 24 hours per day in the event of damage or rupture of the high-pressure PG&E natural gas pipelines. The plan shall also detail emergency response protocols including notification, inspection and evacuation procedures; any equipment and vendors necessary to respond to an emergency, such as an alarm system; and</p>	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include requirement to prepare emergency response plan. 2. Ensure that contractor prepares the emergency response plan and verify compliance with requirements. 3. Monitor to ensure that contractor implements measures in contract	1. Design 2. Pre-construction 3. Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		routine inspection guidelines.			documents and emergency response plan. Report non-compliance, and ensure corrective action.	
UT-1 (cont.)		<p>M-UT-1e: Advance Notification (All Sites)</p> <p>The SFPUC or its contractor(s) shall notify all affected utility service providers in advance of Project excavation and/or other ground-disturbing activities. The SFPUC or its contractor(s) shall make arrangements with these entities regarding the protection, relocation, or temporary disconnection of services prior to the start of excavation and other ground-disturbing activities. The SFPUC or its contractor(s) shall coordinate with the appropriate utility service providers to ensure advance notification to residents, owners and businesses in the Project area of a potential utility service disruption two to four days in advance of construction. The notification shall provide information about the timing and duration of the potential service disruption.</p>	<p>1. SFPUC EMB 2. SFPUC CMB</p>	<p>1. SFPUC BEM 2. SFPUC BEM</p>	<p>1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers and to ensure advance notification to residents, owners and businesses in the Project area of a potential utility service disruption two to four days in advance of construction.</p> <p>2. Monitor to ensure that contractor implements measures in the contract documents. Report noncompliance, and ensure corrective action.</p>	<p>1. Design 2. Construction</p>
UT-1 (cont.)		<p>M-UT-1f: Protection of Other Utilities during Construction (All Sites)</p> <p>Detailed specifications shall be prepared as part of the design plans to include procedures for the excavation, support and fill of areas around subsurface utilities, cables and pipes. If it is not feasible to avoid an overhead utility line during construction, the SFPUC or its contractor(s) shall coordinate with the affected utility owner to either temporarily or permanently support the line, to de-energize the line while temporarily supporting the overhead line, or to temporarily re-route the line.</p>	<p>1. SFPUC EMB 2. SFPUC CMB</p>	<p>1. SFPUC BEM 2. SFPUC BEM</p>	<p>1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers.</p> <p>2. Monitor to ensure that contractor(s) implements measures in the contract documents. Report noncompliance, and ensure corrective action.</p>	<p>1. Design 2. Construction</p>
UT-1 (cont.)		<p>M-UT-1g: Ensure Prompt Reconnection of Utilities (All Sites)</p> <p>The SFPUC or its contractor(s) shall promptly notify utility providers to reconnect any disconnected utility lines as soon as it is safe to do so.</p>	<p>1. SFPUC EMB 2. SFPUC CMB</p>	<p>1. SFPUC BEM 2. SFPUC BEM</p>	<p>1. Ensure that the contract documents include the requirement for contractor(s) to notify utility service providers.</p> <p>2. Monitor to ensure that contractor implements measures in the contract documents. Report noncompliance, and ensure corrective action.</p>	<p>1. Design 2. Construction</p>
UT-1 (cont.)		<p>M-UT-1h: Avoidance of Utilities Constructed or Modified by Other SFPUC Projects (All Sites)</p> <p>The final construction drawings for the Project shall reflect any changes in utility locations, as well as the locations of any new utilities installed during construction of other SFPUC projects in San Mateo County whose disturbance areas overlap with the Project area.</p>	<p>1. SFPUC EMB</p>	<p>1. SFPUC BEM</p>	<p>1. Coordinate final construction plans and specifications during the design phase including coordinating any changes in utility locations, as well as the locations of any new utilities installed during construction of other SFPUC projects in San Mateo County. Ensure that the contract documents include modifications</p>	<p>1. Design</p>

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
UT-1 (cont.)		<p>M-UT-1i: Coordinate Final Construction Plans with Affected Utilities (All Sites)</p> <p>The SFPUC or its contractor(s) shall coordinate final construction plans and specifications with affected utility providers.</p>	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM	1. Provide construction plans and specifications to utilities. Ensure that the contract documents include the requirement for contractor(s) to notify affected utilities in advance of work near their facilities. 2. Monitor to ensure that contractor(s) implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
UT-4	Project construction could result in a substantial adverse effect related to compliance with federal, State, and local statutes and regulations pertaining to solid waste.	<p>M-UT-4: Waste Management Plan (All Sites)</p> <p>The SFPUC shall require the construction contractor(s) to prepare a Waste Management Plan identifying the types of debris that would be generated by the Project and how all waste streams would be handled within each jurisdiction. In accordance with the priorities of AB 939, the plan shall emphasize source reduction measures followed by recycling and composting methods to reduce the amount of waste being disposed of in landfills. The plan shall include actions to divert waste with disposal in a landfill in accordance with local ordinance requirements as follows:</p> <p><u>Daly City (Sites 1, 2, 5, 6, and the Westlake Pump Station)</u> For sites within Daly City, at least 60 percent of waste tonnage from construction and demolition shall be diverted from disposal through reuse or recycling. The maximum feasible amount of designated recyclable and reusable materials shall be salvaged prior to demolition. Construction and demolition debris is defined as discarded materials generally considered to be not water soluble and nonhazardous in nature, including, but not limited to: steel, copper, aluminum, glass, brick, concrete, asphalt material, pipe, gypsum, wallboard, and lumber; rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing, landscaping, and development operations for a construction project; and remnants of new materials, including, but not limited to: cardboard, paper, plastic, wood, and metal scraps.</p> <p><u>Unincorporated San Mateo County (Sites 3, 4)</u> For sites within unincorporated San Mateo County, salvage all or parts of a structure where practicable; recycle or reuse 100 percent of inert solids at approved facilities; direct source separating non-inert materials (e.g., cardboard and paper, wood, metals, green waste, new gypsum wallboard, tile, porcelain fixtures, and other easily recycled materials) to recycling facilities approved by the County, the remainder (but no more than 50 percent by weight or yardage) of which shall be taken to a facility for disposal.</p>	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include applicable measures including requirement to prepare a Waste Management Plan and submittal of required waste management documentation. 2. Ensure that contractor prepares a Waste Management Plan and verify applicable compliance with requirements for each site. 3. Monitor to ensure that contractor implements measures in a Waste Management Plan, including submittal of required waste management documentation. Report non-compliance, and ensure corrective action.	1. Design 2. Pre-construction 3. Construction
UT-4 (cont.)		<p><u>Colma (Sites 7, 8, and Site 17 [Alternate])</u> For sites within Colma, recycle 50 percent of the waste tonnage from any demolition project where the waste includes concrete and asphalt (or 15 percent where there is no concrete and/or asphalt); and recycle 50 percent of waste tonnage for new construction.</p> <p><u>South San Francisco (Sites 9, 10, 11, 12, 13, 18 [Alternate], and 19 [Alternate])</u> For sites within South San Francisco, recycle 100 percent of inert solids (i.e., asphalt, concrete, rock, stone, brick, sand, soil and fines), and recycle at least 50 percent of the remaining construction and demolition debris.</p> <p><u>San Bruno (Sites 14 and 15)</u> For sites within San Bruno, recover the maximum feasible amount of salvageable designated recyclable and reusable materials prior to demolition; divert 50 percent of construction and demolition debris from residential and commercial buildings.</p>				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p><u>Millbrae (Site 16)</u> For sites within Millbrae, recycle 50 percent of all waste generated for the Project by weight, with at least 25 percent achieved through reuse and recycling of materials other than source separated dirt, concrete, and asphalt.</p> <p>The plan shall be reviewed by the SFPUC, and upon Project completion, the contractor shall submit receipts to the SFPUC documenting achievement of the stated waste reuse, recycling, and disposal goals.</p>				
BIOLOGICAL RESOURCES						
BR-1	Project construction would adversely affect candidate, sensitive, or special-status species.	<p>M-BR-1a: Protection Measures during Construction for Special-status Birds and Migratory Passerines and Raptors (All Sites)</p> <p>The SFPUC shall conduct tree and shrub removal at the facility sites during non-breeding season (generally August 31 through February 28) for special status, migratory birds and raptors, to the extent feasible.</p> <p>If construction activities must occur during the breeding season for special-status birds (March 1 to August 30), the SFPUC shall retain a qualified wildlife biologist who is experienced in identifying birds and their habitat to conduct a pre-construction survey for nesting special-status birds and migratory passerines and raptors. The preconstruction surveys must be conducted within two weeks prior to the initiation of tree removals or pruning, grading, grubbing, structure demolition, or other construction activities scheduled during the breeding season (March 1 to August 30). If the biologist detects no active nesting or breeding activity by special-status or migratory birds or raptors, then work may proceed without restrictions. To the extent allowed by access, all active passerine nests identified within 100 feet and all active raptor nests identified within 250 feet of the limits of work shall be mapped.</p> <p>If migratory bird and/or active raptor nests are identified within 250 feet of a facility site or if an active passerine nest is identified within 100 feet of a facility site, a qualified biologist shall determine whether or not construction activities might impact the active nest or disrupt reproductive behavior. If it is determined that construction would not affect an active nest or disrupt breeding behavior, construction may proceed without any restriction.</p> <p>If the qualified biologist determines that construction activities would likely disrupt raptor breeding or passerine nesting activities, then the SFPUC shall establish a no-disturbance buffer around the nesting location to avoid disturbance or destruction of the nest site until after the breeding season or after a wildlife biologist determines that the young have fledged (usually late June through mid-July). The extent of these buffers would be determined by a wildlife biologist in consultation with CDFW and would depend on the species' sensitivity to disturbance (which can vary among species); the level of noise or construction disturbance; line of sight between the nest and the disturbance; ambient levels of noise and other disturbances; and consideration of other topographical or artificial barriers. The wildlife biologist shall analyze and use these factors to assist the CDFW in making an appropriate decision on buffer distances.</p>	<ol style="list-style-type: none"> SFPUC EMB SFPUC CMB (qualified biologist) SFPUC CMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM/CDFW SFPUC BEM 	<ol style="list-style-type: none"> Ensure that contract documents specify measures for protection of special status birds, migratory passerines and raptors. If tree removal is not completed during the nonbreeding season, then obtain and review resume or other documentation to verify consulting biologist's qualifications, consult with CDFW if necessary. Conduct surveys, mapping, and agency coordination. Place and maintain buffers, as needed. Document activities in monitoring logs. Monitor to ensure that the contractor implements measures in contract documents. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> Design Pre-construction/Construction Construction
BR-1 (cont.)	Project construction would adversely affect candidate, sensitive, or special-status species.	<p>M-BR-1b: Protection Measures for Special-status Bats during Tree Removal or Trimming (Sites 1, 3, 4, 7, 10, 11, 12, 15, and 16)</p> <p>The SFPUC will ensure that, prior to the removal of large trees scheduled during seasonal periods of bat activity (February 15 through April 15 and August 15 through October 30), a qualified bat biologist conducts a bat habitat assessment to determine the presence of suitable bat roosting habitat. No more than 30 days before removal of any large tree or snag, a biologist familiar with identification of bats and signs of bats will conduct a pre-construction survey for signs of bat activity. If tree removal or</p>	<ol style="list-style-type: none"> SFPUC EMB SFPUC CMB (qualified biologist) SFPUC CMB 	<ol style="list-style-type: none"> SFPUC BEM SFPUC BEM SFPUC BEM 	<ol style="list-style-type: none"> Ensure that contract documents specify measures for protection of special-status bats. Conduct surveys prior to large tree removal at Sites 1, 3, 4, 7, 10, 11, 12, 15, and 16. Exclude bats from suitable habitat, as described. Document 	<ol style="list-style-type: none"> Design Construction; no more than 30 days prior to the removal of any large

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>trimming is postponed or interrupted for more than 30 days from the date of the initial bat survey, the biologist will repeat the pre-construction survey.</p> <p>If a tree provides potentially suitable roosting habitat, but bats are not present, the SFPUC shall exclude bats by temporarily sealing cavities, pruning limbs, or removing the entire tree, in consultation with the qualified bat biologist. Trees and snags with cavities or loose bark that exhibit evidence of use by bats shall be scheduled for bat exclusion and/or eviction, conducted during appropriate seasons (i.e., February 15 through April 15 and August 15 through October 30) and supervised by the biologist.</p> <p>If the biologist determines or presumes bats are present, the biologist shall exclude the bats from suitable tree cavities by installing one-way exclusion devices. After the bats vacate the cavities, the biologist shall plug the cavities or remove the limbs. The construction contractor shall only remove trees after the biologist verifies that the exclusion methods have successfully prevented bats from returning, usually in seven to 10 days. To avoid impacts on non-volant (i.e., non-flying) bats, the biologist shall only conduct bat exclusion and eviction from February 15 through April 15 and from August 15 through October 30. After construction activities are complete, the biologist will remove the exclusion devices.</p>			<p>activities in monitoring logs.</p> <p>3. Monitor to ensure that the contractor implements measures required as a result of bat surveys. Report noncompliance and ensure corrective action.</p>	<p>tree or snag.</p> <p>3. Construction</p>
BR-1 (cont.)		<p>M-BR-1c: Protection Measures during Structure Demolition for Special-status Bats (Site 1)</p> <p>Not more than two weeks prior to building demolition at Site 1, a qualified biologist (i.e., one familiar with the identification of bats and signs of bats) shall survey the building for the presence of roosting bats or evidence of bats. If no roosting bats or evidence of bats are found in the structure, demolition may proceed. If the biologist determines or presumes bats are present, the biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the biologist shall close off the space to prevent recolonization. The construction contractor shall only demolish the building after the biologist verifies that the exclusion methods have successfully prevented bats from returning, usually in seven to 10 days. To avoid impacts on non-volant (i.e., non-flying) bats, the biologist shall only conduct bat exclusion and eviction from February 15 through April 15 and from August 15 through October 30.</p>	<p>1. SFPUC EMB</p> <p>2. SFPUC CMB (qualified biologist)</p> <p>3. SFPUC CMB</p>	<p>1. SFPUC BEM</p> <p>2. SFPUC BEM</p> <p>3. SFPUC BEM</p>	<p>1. Ensure that contract documents specify measures for protection of special-status bats at Site 1.</p> <p>2. Conduct surveys for bats prior to demolition at Site 1. Exclude bats from suitable habitat, as described. Document activities in monitoring logs.</p> <p>3. Monitor to ensure that the contractor implements measures required as a result of bat surveys. Report noncompliance and ensure corrective action.</p>	<p>1. Design</p> <p>2. Construction</p> <p>3. Construction</p>
BR-1 (cont.)	Project construction would adversely affect candidate, sensitive, or special-status species.	<p>M-BR-1d: Monarch Butterfly Protection Measures (Sites 1, 3, 7, 10, and 12)</p> <p>The SFPUC will ensure that, two weeks prior to removing or pruning large eucalyptus, Monterey pine or Monterey cypress trees that occur in a dense stand, a qualified biologist conduct surveys for monarch butterflies if the trees are to be removed or limbed between October 15 and March 1. If no congregations of monarch butterflies are present within the contiguous stand of dense trees, work may proceed without restriction.</p> <p>A pre-construction inspection is not needed for construction activities occurring between March 2 and October 14.</p> <p>If overwintering congregations of monarch butterflies are identified within the tree stand, work may not proceed until the butterflies have left the roosting site. No limbing or tree cutting shall occur in a contiguous stand of trees occupied by monarch butterflies. A qualified biologist shall determine when the butterflies have left and when work in the area may proceed.</p>	<p>1. SFPUC EMB</p> <p>2. SFPUC CMB (qualified biologist)</p> <p>3. SFPUC CMB</p>	<p>1. SFPUC BEM</p> <p>2. SFPUC BEM</p> <p>3. SFPUC BEM</p>	<p>1. Ensure that contract documents specify measures for protection of monarch butterflies at Sites 1, 3, 7, 10, and 12.</p> <p>2. Conduct surveys for monarch butterflies as required. Document activities in monitoring logs.</p> <p>3. Monitor to ensure that the contractor implements measures required as a result of monarch butterflies surveys. Report noncompliance and ensure corrective action.</p>	<p>1. Design</p> <p>2. Construction</p> <p>3. Construction</p>
BR-2	Project construction could adversely affect riparian habitat or other sensitive natural communities.	<p>M-BR-2: Avoid Disturbance to Riparian Habitat (Site 1)</p> <p>The SFPUC shall require its construction contractor to avoid the riparian habitat at Site 1. Prior to any ground disturbing activity, a qualified biologist shall map the location of the Central Coast riparian scrub habitat, and the construction contractor shall install temporary fencing to protect the habitat for the duration of construction.</p>	<p>1. SFPUC EMB</p> <p>2. SFPUC CMB (qualified biologist)</p>	<p>1. SFPUC BEM</p> <p>2. SFPUC BEM</p> <p>3. SFPUC BEM</p>	<p>1. Ensure that contract documents specify measures to avoid disturbance to riparian habitat at Site 1.</p> <p>2. A biologist (whose credentials have been verified) shall conduct mapping prior to</p>	<p>1. Design</p> <p>2. Construction</p> <p>3. Construction</p>

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
			3. SFPUC CMB		ground disturbing activities at Site 1. Document activities in monitoring logs. 3. Monitor to ensure that the contractor implements measures as required. Report noncompliance and ensure corrective action.	
BR-4	Project construction would conflict with local tree preservation ordinances.	<p>M-BR-4a: Identify Protected Trees (Sites 3, 4, 7, 10, 11, 12, 13, 14, 15, and 17 [Alternate])</p> <p>The SFPUC shall identify trees to be protected during construction activities. These trees shall be marked on construction plans and protected during construction activities according to requirements presented in Mitigation Measure M-AE-1b (see Section 5.3, Aesthetics for a description of the tree protection measures). For each protected tree that is removed as part of construction activities, replacement trees shall be planted according to local requirements, as stated in Mitigation Measure M-BR-4b (Protected Tree Replacement).</p>	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM	1. Ensure that contract documents specify measures to identify trees to be protected at Sites 3, 4, 7, 10 through 15, and 17, in accordance with applicable local requirements. 2. Monitor to ensure that the contractor implements measures as required. Report noncompliance and ensure corrective action.	1. Design 2. Construction
BR-4 (cont.)	Project construction would conflict with local tree preservation ordinances.	<p>M-BR-4b: Protected Tree Replacement (Sites 4, 7, 9, 12, 15, and 18 [Alternate])</p> <p>The SFPUC shall replace protected trees in accordance with the requirements specified in this mitigation measure and at the ratios specified in this measure for the jurisdiction where the trees to be removed are located. Protected non-native trees removed shall be replaced with native tree species determined suitable for the site by a qualified arborist, horticulturist, landscape architect, or biologist.</p> <p><i>Tree Replacement Requirements Common to All Jurisdictions</i></p> <ul style="list-style-type: none"> Trees shall be replaced within the first year after completion of construction, or as soon as possible in areas where construction has been completed, during a favorable time period for replanting, as determined by a qualified arborist, horticulturist, or landscape architect. Selection of replacement sites and installation of replacement plantings shall be supervised by a qualified arborist, horticulturist, landscape architect, or landscape contractor. Irrigation of trees during the initial establishment period (generally for two to four growing seasons) shall be provided as deemed necessary by a qualified arborist, horticulturist, landscape architect, or landscape contractor. Trees shall be planted at or in close proximity to removal sites, in locations suitable for the replacement species. The specialist shall work with the SFPUC to determine appropriate nearby off-site locations that are within the same jurisdiction from which the trees are removed if replanting within the well facility sites is precluded. A qualified arborist, horticulturist, landscape architect, or landscape contractor shall monitor newly planted trees at least twice a year for five years. Each year, any trees that do not survive shall be replaced and monitored at least twice a year for five years thereafter. 	1. SFPUC EMB 2. SFPUC CMB (arborist, horticulturist, or landscape architect) 3. SFPUC CMB 4. SFPUC Water Enterprise, WST	1. SFPUC BEM 2. SFPUC BEM/Local jurisdiction if off-site 3. SFPUC BEM 4. SFPUC Water Enterprise, WRD	1. Ensure that contract documents specify measures to replace protected trees at Sites 4, 7, 9, 12, 15, and 18. 2. An arborist, horticulturist, or landscape architect (whose credentials have been verified) shall determine the selection of species, location, and timing of plantings. Obtain any necessary permits and approvals for off-site plantings. Document in monitoring logs. 3. Monitor to ensure that the contractor implements measures as required. Report noncompliance and ensure corrective action. 4. Perform bi-annual tree replacement monitoring for at least 5 years.	1. Design 2. Pre-Construction/Construction 3. Construction 4. Post-Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
BR-4 (cont.)		<p><i>San Mateo County Tree Ordinance Replacement Requirements</i></p> <ul style="list-style-type: none"> For each significant/heritage tree removed during construction or lost due to construction-related impacts, a replacement tree shall be planted. Native trees shall be replaced with the same species, and nonnative trees shall be replaced with a native tree species determined suitable for the site by a qualified arborist, horticulturalist, or landscape architect. Each protected tree removed shall be replaced at a 1:1 ratio of a native variety that has the potential to reach a size similar to that of the removed trees. <p><i>Town of Colma Tree Replacement Requirements</i></p> <ul style="list-style-type: none"> Each protected tree removed shall be replaced at a 1:1 ratio. Native trees shall be replaced with the same species, and nonnative trees shall be replaced with a native tree species determined suitable for the site by a qualified arborist, horticulturalist, or landscape architect. <p><i>City of South San Francisco Tree Replacement Requirements</i></p> <ul style="list-style-type: none"> Each protected tree removed shall be replaced with three 24-inch-box sized or two 36-inch-box sized landscape trees. <p><i>City of San Bruno Tree Replacement Requirements</i></p> <ul style="list-style-type: none"> Tree replacement shall be a minimum of either two 24-inch box size trees, or one 36-inch box size tree, for each heritage tree removed. 				
BR-7	Operation of the Project could adversely affect sensitive habitat types associated with Lake Merced.	<p>M-BR-7: Lake Level Management for Water Level Increases for Lake Merced</p> <p>In addition to ongoing monitoring and evaluation of lake levels, as well as maintenance of the Lake-level Model so as to be able to evaluate what lake levels may have been without implementation of the Project based on the actual hydrology that occurs during Project implementation, as described in Mitigation Measure M-HY-9a (Lake Level Monitoring and Modeling for Lake Merced), the SFPUC shall implement corrective action if lake levels increase to 9 feet City Datum as an annual average due to the Project. Corrective action shall be taken to reduce the lake levels to 9 feet City Datum or less. These actions may include one of more of the following, which would result in lowering groundwater levels and thereby indirectly lowering lake levels:</p> <ul style="list-style-type: none"> Temporarily suspend in-lieu delivery of surface water supplies to Daly City so that Daly City would increase pumping from Daly City wells. Increase pumping from GSR wells at Sites 1 through 4, which are within 1.5 miles of Lake Merced. 	1. SFPUC Water Enterprise, WST/Daly City/ Operating Committee	1. SFPUC Water Enterprise, WRD	1. Conduct monitoring and evaluation of lake levels. Maintain the Lake-level model. Implement operation actions to reduce lake levels if lake levels increase to 9 feet City Datum as an annual average due to the Project.	1. Operation
BR-8	Operation of the Project could adversely affect wetland habitats and other waters of the United States associated with Lake Merced.	<p>M-BR-8: Lake Level Management for No-Net-Loss of Wetlands for Lake Merced</p> <p>In addition to ongoing monitoring, evaluation of lake levels, and maintenance of the Lake-level Model so as to be able to evaluate what lake levels may have been without implementation of the Project based on the actual hydrology that occurs during Project implementation, as described in Mitigation Measure M-HY-9a (Lake Level Monitoring and Modeling for Lake Merced), the SFPUC shall implement corrective action if lake levels exceed the range of lake level changes shown in Table 5.14-16 (Lake Merced Water Surface Elevation Range that Results in a Predicted No-Net-Loss of Wetlands) [MMRP table MMRP-1, attached], due to the Project (i.e., the right-hand column). Note that according to Mitigation Measure M-BR-7 (Lake Level Management for Water Level Increases for Lake Merced), Lake Merced lake levels due to the project would be prohibited from exceeding 9 feet City Datum, so some of the higher lake levels that would be acceptable relative to wetlands impacts as identified in Table 5.14-16 would not be acceptable relative to sensitive habitats. In addition, according to Mitigation Measure M-BR-9b (Lake level Management for Lake Merced), Lake Merced lake levels due to the Project would be prohibited from</p>	1. SFPUC Water Enterprise, WST/Daly City/ Operating Committee	1. SFPUC Water Enterprise, WRD	1. Conduct monitoring and evaluation of lake levels. Maintain the Lake-level model. Implement operation actions to reduce lake levels as identified in Table MMRP-1, attached.	1. Operation

EXHIBIT 1 (continued)

REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>decreasing below 0 feet City Datum, so some of the lower lake levels that would be acceptable relative to wetlands impacts identified in Table 5.14-16 would not be acceptable relative to water quality and associated beneficial uses.</p> <p>Corrective actions may include one or more of the following, which would result in the lowering of groundwater levels and thereby indirectly lowering lake levels:</p> <ul style="list-style-type: none"> • Suspend in-lieu delivery of surface water supplies to Daly City. Daly City would thus increase pumping from Daly City wells, which would lower groundwater levels in the vicinity of Lake Merced. • Increase pumping from GSR wells at Sites 1 through 4, which are within 1.5 miles of Lake Merced. 				
GEOLOGY AND SOILS						
GE-3	The Project would expose people or structures to substantial adverse effects related to the risk of property loss, injury, or death due to fault rupture, seismic groundshaking, or landslides.	<p>M-GE-3: Conduct Site-Specific Geotechnical Investigations and Implement Recommendations (All Sites)</p> <p>The SFPUC shall conduct a site-specific design-level geotechnical study at Site 11 to provide recommendations for protection from property loss, injury, or death from ground shaking or settlement. Similarly, if Site 18 (Alternate) is selected, the SFPUC shall conduct a site-specific design-level geotechnical study for the site.</p> <p>At all sites, the facilities shall be designed and constructed in conformance with the specific recommendations contained in design-level geotechnical studies. The recommendations made in the geotechnical studies shall be incorporated into the final plans and specifications and implemented during construction. The site-specific recommendations in the design-level geotechnical studies relative to ground shaking include the following measures:</p> <ul style="list-style-type: none"> • Site-specific seismic design parameters in accordance with the International Building Code Static Force Procedure; • Specified lateral earth pressures and seismic loading for retaining walls; • Earthwork recommendations for site preparation, excavations, use of engineered fill and utility trench/pipe backfill; and • Foundation recommendations for subgrade preparation, foundations systems, and floor slabs. <p>Site-specific recommendations in the design-level geotechnical studies relative to settlement include the following measures:</p> <ul style="list-style-type: none"> • Supporting structures at these sites on structurally rigid mat foundations with contact pressures in accordance with the bearing capacities identified in the geotechnical reports; • Post-tensioning to reinforce and increase the structural rigidity of grade beams and shallow footings; • Over-excavating artificial fill materials and loose granular soils and recompaction with moisture treated engineered fill to develop a mass of densified soil beneath the proposed well buildings; and • Using flexible pipe connections to accommodate dynamic settlements due to seismic loading. 	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC CMB 	<ol style="list-style-type: none"> 1. If Sites 11 and/or 18 are selected, conduct geotechnical studies and develop design recommendations. For all sites, incorporate design recommendations into construction plans and specifications. 2. Monitor to ensure that the contractor implements design recommendation as required. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> 1. Design 2. Construction
HYDROLOGY AND WATER QUALITY						
HY-1	Project construction activities would degrade water quality as a result of erosion or siltation caused by earthmoving activities or by the accidental release of hazardous construction chemicals during construction.	<p>M-HY-1: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan (All Sites)</p> <p>Consistent with the requirements of the NPDES General Permit for Storm Water Discharges Associated with Construction Activity, at sites where more than one acre of land disturbance would occur (Sites 3, 4, 5, 6, 7, 12, 13, and 14), the SFPUC or its contractor(s) shall develop a Storm Water Pollution Prevention Plan (SWPPP), submit a notice of intent to the SWRCB's Division of Water Quality and implement site-specific BMPs to prevent discharges of nonpoint-source pollutants in construction-related stormwater runoff into downstream water bodies.</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM 2. SFPUC BEM/SWRCB/Local jurisdictions 3. SFPUC BEM/RWQCB/CDFW/other local agencies 	<ol style="list-style-type: none"> 1. Ensure that contract documents require that the contractor design, install, and maintain stormwater controls and prepare a SWPPP or ESCP. 2. Review SWPPP to ensure that it complies with the requirements and submit to notice to SWRCB per the 	<ol style="list-style-type: none"> 1. Design 2. Pre-construction 3. Construction/Post Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>At sites where less than one acre of land disturbance would occur (Sites 1, 2, 8, 9, 10, 11, 15, 16, 17 Alternate, 18 Alternate, 19 Alternate, and the Westlake Pump Station), the SFPUC or its contractor(s) shall prepare and implement Erosion and Sediment Control Plans (ESCPs).</p> <p>Based on the location of the sites, the SFPUC shall provide the SWPPPs and ESCPs to applicable jurisdictions, including the County of San Mateo, San Mateo County Flood Control District, City of Daly City, Town of Colma, City of South San Francisco, City of San Bruno, and City of Millbrae.</p> <p>The SWPPPs and ESCPs shall include sufficient measures to address the overall construction of the Project and, at a minimum, construction contractors should all undertake the following measures, as applicable, to minimize any adverse effects on water quality:</p> <p>Scheduling</p> <ul style="list-style-type: none"> • Schedule construction to minimize ground disturbance during the rainy season. 			<p>Construction General Permit. Review ESCP to ensure that it complies with local jurisdiction requirements. Submit ESCP to local jurisdictions.</p> <p>3. Monitor to ensure the contractor implements the measures in the contract documents, and SWPPP/ESCP including reporting per the Construction General Permit. Ensure contractor performs post-construction BMPs. Report noncompliance to RWQCB, CDFW or other agencies as required and ensure corrective action.</p>	
HY-1 (cont.)		<ul style="list-style-type: none"> • Stabilize all disturbed soils as soon as possible following the completion of soil disturbing work in the Project area. • Stabilize soil with vegetation or physical means in the event rainfall is expected. • Install erosion and sediment control BMPs prior to the start of any ground-disturbing activities. <p>Erosion and Sedimentation</p> <ul style="list-style-type: none"> • Preserve existing vegetation in areas where no construction activity is planned or where construction activity will occur at a later date. • Stabilize and revegetate disturbed areas as soon as possible after construction by planting or seeding and/or using mulch (e.g., straw or hay, erosion control blankets, hydromulch, or other similar material). • Install silt fences or fiber rolls or implement other suitable measures around the perimeters of the construction zone, staging areas, temporary stockpiles, spoil areas, stream channels, and swales, as well as down-slope of all exposed soil areas and in other locations determined necessary to prevent offsite sedimentation. • Install temporary slope breakers during the rainy season on slopes greater than five percent where the base of the slope is less than 50 feet from a water body, wetland, or road crossing at spacing intervals required by the SWRCB Construction General Permit. • Use filter fabric or other appropriate measures to prevent sediment from entering storm drain inlets. • Detain and treat water produced by the dewatering of construction sites using sedimentation basins, sediment traps (when water is flowing and there is sediment), or other measures to ensure that discharges to receiving waters meet applicable water quality objectives. 				
HY-1 (cont.)		<p>Tracking Controls</p> <ul style="list-style-type: none"> • Grade and stabilize construction site entrances and exits to prevent runoff from the site and to prevent erosion. • Remove any soil or sediment tracked off paved roads during construction by employing street sweeping. 				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>Non-stormwater Control</p> <ul style="list-style-type: none"> • Keep construction vehicles and equipment clean; do not allow excessive buildup of oil and grease. • Check construction vehicles and equipment daily at startup for leaks and repair any leaks immediately. • Do not refuel vehicles and equipment within 50 feet of surface waters to prevent run-on and runoff and to contain spills. • Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility. • Contain fueling areas to prevent run-on and runoff and to contain spills. • Cover all storm drain inlets when paving or applying seals or similar materials to prevent the offsite discharge of these materials. <p>Waste Management and Hazardous Materials Pollution Control</p> <ul style="list-style-type: none"> • Remove trash and construction debris from the Project area regularly. Provide an adequate number of waste containers with lids or covers to keep rain out of the containers and to prevent trash and debris from being blown away during high winds. • Locate portable sanitary facilities a minimum of 50 feet from creeks or waterways. • Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the stormwater drainage system or receiving water. • Maintain sanitary facilities regularly. • Store all hazardous materials in an area protected from rainfall and stormwater run-on and prevent the offsite discharge of leaks or spills. • Inspect dumpsters and other waste and debris containers regularly for leaks and remove and properly dispose of any hazardous materials and liquid wastes placed in these containers. • Train construction personnel in proper material delivery, handling, storage, cleanup, and disposal procedures. 				
HY-1 (cont.)		<p>BMP Inspection, Maintenance and Repair</p> <ul style="list-style-type: none"> • Inspect all BMPs on a regular basis to confirm proper installation and function. • Inspect all stormwater BMPs daily during storms. • Inspect sediment basins, sediment traps and other detention and treatment facilities regularly throughout the construction period. • Provide sufficient devices and materials (e.g., silt fence, fiber rolls, erosion blankets, etc.) throughout Project construction to enable immediate repair or replacement of failed BMPs. • Inspect all seeded areas regularly for failures and remediate or repair as soon as feasible. 				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>Permitting, Monitoring, and Reporting</p> <ul style="list-style-type: none"> • Provide the required documentation for inspections, maintenance and repair requirements. • Monitor water quality to assess the effectiveness of control measures. • Maintain written records of inspections, spills, BMP-related maintenance activities, corrective actions and visual observations of any offsite discharge of sediment or other pollutants. • Notify the RWQCB and other agencies as required (e.g., California Department of Fish and Wildlife) if the criteria for turbidity, oil/grease, or foam are exceeded and undertake corrective actions. • Immediately notify the RWQCB and other agencies as required (e.g., California Department of Fish and Wildlife) of any spill of petroleum products or other organic or earthen materials and undertake corrective action. 				
HY-1 (cont.)		<p>Post-construction BMPs</p> <ul style="list-style-type: none"> • Revegetate all temporarily disturbed areas as required after construction activities are completed. • Remove any remaining construction debris and trash from the Project area and staging areas upon Project completion. • Phase the removal of temporary BMPs as necessary to ensure stabilization of the site. <p>At sites covered under the NPDES General Construction Permit, correct post-construction site conditions, as necessary, to comply with the SWPPP and any other pertinent RWQCB requirements.</p>				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HY-2	Discharge of groundwater could result in minor localized flooding, violate water quality standards and/or otherwise degrade water quality.	<p>M-HY-2: Management of Well Development and Pump Testing Discharges (All Sites, Except Westlake Pump Station)</p> <p>To address potential impacts on receiving water quality that could result during the construction period related to well development and pump testing, the SFPUC and its contractor shall: 1) prepare and implement a site-specific discharge plan; and 2) fully comply with NPDES requirements.</p> <p>The discharge plan shall specify how the water will be collected, contained, treated, monitored, and discharged to the vicinity storm drainage system or sanitary sewer system. Discharges to storm drains are subject to review and approval by the RWQCB. Based on the location of the sites, the SFPUC shall provide the discharge plans to applicable jurisdictions, including the County of San Mateo, San Mateo County Flood Control District, City of Daly City, Town of Colma, City of South San Francisco, City of San Bruno, and City of Millbrae. The discharge plan shall at a minimum:</p> <ul style="list-style-type: none"> • Identify methods and locations for collecting and handling water on site prior to discharge, determine treatment requirements, and determine the capacity of holding tanks. • Identify methods for treating water on site prior to discharge, such as filtration, coagulation, sedimentation settlement areas, oil skimmers, pH adjustment, and other BMPs. • Establish procedures and methods for maintaining and monitoring discharge operations to ensure that no breach in the process occurs that could result in a failure to achieve/maintain the applicable water quality objectives of receiving waters. • Identify discharge locations and include details regarding how the discharge will be conducted to minimize erosion and scour. <p>The proposed discharge is anticipated to be conditionally covered under San Mateo County’s municipal stormwater permit (Order No. 99-059, NPDES Permit No. CAS002992), contingent upon compliance with certain conditions (RWQCB 2009b, 2012). Prior to any discharge to a storm drainage system, the SFPUC and its contractor shall request a determination from the RWQCB as to the type of permit under which the Project effluent discharges will be regulated. Based on that determination, the SFPUC shall prepare and submit all required and relevant Project information so that the RWQCB can issue appropriate guidelines and requirements (e.g., numerical effluent limitations, monitoring and reporting requirements). Based on previous discussions with the RWQCB (RWQCB 2009a, 2012), anticipated conditions include, but would not be limited to:</p>	<ol style="list-style-type: none"> 1. SFPUC EMB 2. SFPUC CMB 	<ol style="list-style-type: none"> 1. SFPUC BEM/applicable local jurisdiction/RWQCB 2. SFPUC BEM 	<ol style="list-style-type: none"> 1. With RWQCB, determine permit type needed and applicable requirements. Ensure that contract documents require that the contractor prepare and implement a site specific Discharge Plan for well development and pump testing that meets requirements. Provide plan to applicable jurisdictions and/or RWQCB. 2. Monitor to ensure that the contractor implements measures in the Discharge Plan as required. Report noncompliance and ensure corrective action. 	<ol style="list-style-type: none"> 1. Design 2. Construction
		<ul style="list-style-type: none"> • The SFPUC shall notify affected stormwater agencies of the volume, rate, and location of the planned discharge at least 14 days before discharging. • The discharged water shall not exceed 50 NTU. Turbidity shall be monitored every 15 minutes during the first hour of operation of any sedimentation or filtration device used to meet discharge limitations and once every two hours thereafter. If turbidity limits are exceeded for more than two hours, the discharge shall be terminated until turbidity limits can be complied with. • The pH of the discharged water shall be within the range of 6.5 and 8.5 and pH shall be measured once per day during the discharge. • The discharged water shall not cause pollution, contamination, or nuisance. • The discharged water shall not cause scouring or erosion at the point of discharge of downstream from the discharge. • Self-Monitoring Reports shall be submitted no later than 30 days following the last day of each month in which the 				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

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		<p>discharges occur. These reports shall summarize turbidity measurements and approximate volumes of the discharges.</p> <p>The construction contractor(s) shall comply with all monitoring and reporting requirements established by the RWQCB for discharges to storm drainage system. Any failure to achieve/maintain established narrative or numeric water quality objectives shall be reported to the RWQCB and corrective action taken. Corrective action may include an increase in residence time in treatment features (e.g., longer holding time in settling tanks) and/or incorporation of additional treatment measures, which could include but are not limited to the addition of sand filtration prior to discharge.</p>				
HY-6	<p>Project operation would decrease the production rate of existing nearby irrigation wells due to localized groundwater drawdown within the Westside Groundwater Basin such that existing or planned land use(s) may not be fully supported.</p>	<p>Mitigation Measure M-HY-6: Ensure Irrigators' Wells Are Not Prevented from Supporting Existing or Planned Land Use(s) Due to Project Operation</p> <p>This mitigation measure is organized into four sections, as follows:</p> <ul style="list-style-type: none"> • Performance Standard • Method for Determining Whether Inability to Meet the Performance Standard at an Irrigator's Well Is Due to the Project • Mitigation Actions to be Undertaken to Meet the Performance Standard • Irrigation Well Monitoring and Reporting Program <p>Determinations required by this mitigation measure are subject to the concurrence of the San Francisco Planning Department's Environmental Review Officer (ERO) as identified below. The ERO may require the SFPUC to hire an independent expert to advise the ERO.</p> <p><i>Performance Standard:</i> The SFPUC shall ensure that existing irrigators' wells are not damaged, and that the production capacity at existing irrigators' wells is equivalent to either (1) the existing production capacity of the wells, or (2) is sufficient to meet peak irrigation demand at the existing and planned land uses, whichever is less, provided that any potential well damage or loss of capacity is determined to be caused by the Project.</p> <p>If overlying irrigators install new wells to support irrigation needs of existing and planned land uses, at the time any such new wells are installed, the SFPUC shall add the new wells to the Irrigation Well Monitoring and Reporting Program and through the monitoring program and in consultation with the irrigator, establish the baseline production capacity for the new wells and determine peak irrigation demand needed to support the existing and planned land uses. The SFPUC shall then ensure that the new irrigators' wells are not damaged, and that the production capacity at the new irrigators' wells is equivalent to either (1) the baseline production capacity of the wells, or (2) is sufficient to meet peak irrigation demand at the existing and planned land uses, whichever is less, provided that any potential well damage or loss of capacity is determined to be caused by the Project.</p> <p>The SFPUC shall ensure that the Performance Standard is met by: 1) undertaking actions under SFPUC control, such as redistributing pumping or reducing or ceasing pumping as described below in mitigation actions #1 and #2; or 2) making an SFPUC replacement water supply available to any potentially affected irrigator as described below in mitigation action #3, and 3) undertaking actions requiring agreement with irrigators, such as modifying irrigators' wells or irrigation systems as described below in mitigation actions #4 through #9. The SFPUC shall implement mitigation actions, individually or in combination, so that water supply provided to the land use is not interrupted.</p> <p>Prior to Project operation, the SFPUC, working with any irrigators willing to be consulted, shall identify a well interference groundwater impact level for each existing irrigation well, based on available monitoring data from existing irrigation wells and considering well characteristics. The well interference groundwater impact level shall be the lowest groundwater level that will avoid conflict with the Performance Standard, and it will be established prior to Project operation. The well interference groundwater impact levels will be subject to concurrence by the ERO. If monitoring data and extrapolated trends predict that</p>	<ol style="list-style-type: none"> 1. SFPUC Water Enterprise, WRD (certified hydrogeologist or professional engineer) 2. SFPUC Water Enterprise, WRD (certified hydrogeologist or professional engineer) 3. SFPUC EMB 4. SFPUC Water Enterprise, WRD 5. SFPUC Water Enterprise, WRD 6. SFPUC Water Enterprise, WRD 7. SFPUC Water Enterprise, WRD 	<ol style="list-style-type: none"> 1. SFPUC BEM/ERO (+ independent expert, if needed) 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM/ERO (+ independent expert, if needed) 5. SFPUC BEM/ERO (+ independent expert, if needed) /well owner 6. SFPUC BEM/ERO (+ independent expert, if needed) /well owner 7. SFPUC BEM/ERO (+ independent expert, if needed) /well/owner/San Mateo County [well permits] 	<ol style="list-style-type: none"> 1. Develop and implement an Irrigation Well Monitoring and Reporting Program. <ol style="list-style-type: none"> a. Contact irrigators 18 months or more before Project operation regarding program. b. Install flow meters and report flow meter and groundwater level data to well owner; daily results for 1 year; at least monthly thereafter during take periods and yearly during put and hold periods. c. Conduct pump tests and collect specified data on each well; report results to well owner d. Provide advance notice to well owner of Take periods. e. Continue monitoring for longer of 17 years or period from beginning of Project Operation through 5 take years. f. Submit monitoring reports to ERO; obtain ERO concurrence for any recommended revision to monitoring program. 2. Determine a well interference groundwater impact level for each existing irrigation well, based on monitoring data from the Irrigation Well Monitoring and Reporting Program. 3. Ensure that contract documents require replacement water supply connections at all existing irrigation well properties; install replacement water supply connects; implement appropriate mitigation for Mitigation Action #3 per Table MMRP-2. 4. Add any new irrigation wells to the Irrigation Well Monitoring and Reporting 	<ol style="list-style-type: none"> 1. Pre-Operation/ Operation (reporting monthly or yearly for at least 17 years) 2. Pre-Operation 3. Design/ Operation 4. Operation 5. Operation 6. Operation (provide replacement water within 24 hours of request until no longer required) 7. Operation

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

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		the well interference groundwater impact level would be reached within the ensuing six months due to Project operation, the SFPUC shall initiate implementation of one or more of the mitigation actions before the groundwater impact level is reached to allow sufficient time to have the most appropriate mitigation in place that would result in meeting the Performance Standard.			Program; implement program per Monitoring and Report Action #1.	
HY-6 (cont.)		Method for Determining Whether Inability to Meet the Performance Standard at an Irrigators' Well(s) Is Due to the Project: An irrigator may provide written notice, supported by an expert determination, that the Project is causing observed unanticipated well capacity effects; or the SFPUC may anticipate based on monitoring data that the Performance Standard will not be met at a future date based on Project operation. The SFPUC will use best efforts to provide a minimum of six months written notice to irrigators that monitoring shows a trend that the Performance Standard may not be met. The procedure for determining if the effect is due to the Project, and the SFPUC response, is as follows.			5. If monitoring shows Performance Standard may not be met within 6 months, notify well owner and provide replacement water or take other immediate mitigation actions and continue such action until permanent mitigation action is coordinated with the well owner and is in place.	
HY-6 (cont.)		<p>A. Presumption of Effect</p> <p>Any observed inability to meet the Performance Standard at an irrigation well(s) is assumed to be caused by the Project if: 1) it is temporally correlated with the onset of increased Project pumping; 2) it occurs in an area predicted (by this EIR or by the SFPUC's ongoing monitoring) to be affected by well interference; 3) static groundwater levels have dropped; 4) pumping groundwater levels have not dropped more than static groundwater levels (if pumping groundwater levels drop more than static groundwater levels, it could indicate the drop in production capacity is due to increased well inefficiency unrelated to the Project); and 5) no other obvious and substantiated reason exists for these effects.</p> <p>B. Information Required to Determine Effect</p> <p>To support the determination as to whether an observed loss of pumping capacity is due to the Project, the SFPUC shall develop, and share with irrigation well owners at least the following information:</p> <ul style="list-style-type: none"> • <i>Item 1. Reduction of pumping capacity is temporally correlated with the onset of increased Project pumping.</i> The SFPUC shall develop a graph that shows the pumping of Project and Partner Agency wells within 1.5 miles of the irrigator's well over time, compared to the production capacity of the irrigator's well over the same period. • <i>Item 2. Reduction of pumping capacity occurs in an area predicted to be affected by well interference.</i> The SFPUC shall calculate the cone of depression, using the same methodology as used in evaluating the impact in the EIR, at Project and Partner Agency wells within 1.5 miles of the irrigator's well, as well as at the irrigator's well. • <i>Items 3 and 4. Static groundwater levels have dropped and pumping groundwater levels have not dropped more than static water levels.</i> The SFPUC shall develop a graph showing the difference between static and pumping water levels at the irrigator's well over time. • <i>Item 5. Another substantiated reason exists for the inability to meet the Performance Standard.</i> If warranted, the SFPUC shall provide a written conclusion, based on verifiable evidence, that a reason other than the Project is causing the inability to meet the Performance Standard. 			<p>6. If required by well owner request, provide replacement water within 24 hours of request; determine if inability to meet irrigation needs is due to the project; continue providing replacement water until matter resolved or permanent mitigation action is coordinated with the well owner and in place.</p> <p>a. Prepare and report to well owner within 30 days site specific information and determination of whether project is causing effect.</p> <p>b. If SFPUC determines Project is not cause of effect, obtain ERO concurrence; provide 30-day notice of suspended delivery of replacement water.</p> <p>c. If well owner disputes suspended delivery, continue to provide replacement water until resolved by mediation or arbitration.</p> <p>7. If SFPUC determines Project is causing well interference effect, implement permanent mitigation action.</p> <p>a. Work with well owner to determine appropriate long-term action.</p> <p>b. Carry out or pay well owner to carry out mitigation action. If SFPUC carries out action, design and contract for work; implement any appropriate mitigation measures for Mitigation Actions #6, #7, #8, #9 per Table MMRP-2.</p>	

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
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HY-6 (cont.)		<p>C. Process for Responding to Written Notice from Irrigator</p> <ol style="list-style-type: none"> If an irrigator submits a written notice requesting the SFPUC replacement water supply where they believe that the Project is causing observed unanticipated well capacity effects, the SFPUC shall provide SFPUC replacement water within 24 hours and then determine whether the Project is causing the effect within 30 days of providing the SFPUC replacement water. If the SFPUC determines that the Project is not causing a conflict with the Performance Standard, an irrigator may object to the SFPUC determination within 30 days, and, if such an objection is received, the SFPUC shall make a final conclusion within 30 days of receipt of such objection. The determination whether or not the inability to meet the Performance Standard is due to the Project is subject to ERO concurrence. If the ERO concurs with the SFPUC's determination that the Project is not the cause of the effect, the SFPUC will provide the irrigator with 30 days' notice of the suspension of delivery of SFPUC replacement water supply, and all water previously delivered would be charged to the irrigator at the SFPUC retail rate. Any remaining dispute between the SFPUC and the irrigator may be resolved through voluntary mediation or arbitration; if the matter is submitted to mediation or arbitration, the SFPUC will continue to provide SFPUC replacement water until otherwise required by the mediation or arbitration. <p>D. SFPUC Response if Project is Causing Effect</p> <p>If the SFPUC determines in response to a claim by an irrigator that the Project is causing the effect or the SFPUC predicts the effect, after first considering mitigation actions #1 - 3, the SFPUC shall recommend one or a combination of mitigation actions #4 - 9 to the irrigator. The SFPUC shall work with the irrigator to identify the appropriate mitigation action(s) for the affected irrigation well. The SFPUC shall carry out (or pay the irrigator to carry out) the mitigation action(s). The SFPUC shall continue to provide the SFPUC replacement water supply until the agreed upon mitigation action(s) is completed.</p> <p>Mitigation Actions to be Undertaken to Meet the Performance Standard: Specific mitigation actions that may be required to ensure that the Performance Standard is met are listed below. In addition, the SFPUC may implement other, similar measures that the affected irrigator and the SFPUC agree will provide equally effective mitigation for well interference impacts. The determination that similar measures will provide equally effective mitigation is subject to ERO concurrence.</p> <p>Mitigation actions fall into the following three categories:</p> <p>A. Mitigation Actions under SFPUC Control</p> <p>Mitigation Action #1: Redistribute GSR pumping. The SFPUC would redistribute Project pumping from affected areas to other areas; however, in no case would redistribution be undertaken where the resulting groundwater levels would then decline to a level that would cause a significant well interference impact at another irrigation well. This mitigation action is expected to be an interim measure, implemented until such time as an alternate measure can be implemented that also mitigates the impact to less-than-significant levels without compromising Project objectives. The periodic analyses of data from the Irrigation Well Monitoring and Reporting Program would continue while this action is undertaken. The action would cease when the data analysis demonstrates that the Performance Standard is met without continued redistribution of GSR pumping, or, if an interim measure, until an alternative measure is in place.</p>			<p>c. Continue to provide replacement water as needed until permanent mitigation action is implemented.</p> <p>d. Obtain ERO approval for any unlisted mitigation action that will achieve Performance Standard.</p>	
HY-6 (cont.)		<p>Mitigation Action #2: Reduce GSR pumping. The SFPUC would reduce Project pumping (including a cessation in Project pumping) at wells in the vicinity of affected irrigation wells. This mitigation action is expected to be an interim measure, implemented until such time as an alternate measure can be implemented that also mitigates the impact to less-than-</p>				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
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		<p>significant levels without compromising Project objectives. The periodic analyses of data from the Irrigation Well Monitoring and Reporting Program would continue while this action is undertaken. The action would cease when the data analysis demonstrates that the Performance Standard is met without continued reduction of GSR pumping, or, if an interim measure, until an alternative measure is in place</p> <p>B. SFPUC Provision of a Replacement Water Supply</p> <p>Mitigation Action #3: Replace irrigation water source. As part of the Project and prior to Project operation, SFPUC will install for irrigators new metered supply connections of SFPUC water from the SFPUC’s regional water system or SFPUC will wheel SFPUC replacement water through the Cal Water distribution system to connections Cal Water provides to irrigators. Connections to the regional water system or distribution systems will consist of permanent below-ground connections.</p> <p>Under this Mitigation Measure M-HY-6, the SFPUC shall provide the SFPUC replacement water to irrigators under two circumstances: 1) if an irrigator provides written notice to the SFPUC supported by an expert determination that the Project is causing observed unanticipated well capacity effects; or 2) if the SFPUC monitoring data show that the Performance Standard will not be met and the SFPUC prefers to provide SFPUC replacement water in order to meet the Performance Standard. The irrigator’s expert determination will be a written professional opinion of a certified hydrogeologist or a professional engineer with expertise in groundwater hydrology, water supply wells, and water well technology. Under either of these circumstances, the SFPUC shall open the new standby supply connection to the irrigator to provide SFPUC water for irrigation to the irrigator. In the first instance where the SFPUC replacement water supply is provided in response to notice from an irrigator, the SFPUC shall continue to provide the SFPUC replacement water supply while it makes an initial determination regarding whether Project operation caused the observed effect and if required to do so by the mediation or arbitration in a case where it disputes whether the Project is causing the effect (as explained above under the heading, Method to Determine Whether Inability to Meet the Performance Standard at an Irrigators’ Well[s] Is Due to the Project). In the event the SFPUC determines that the Project is causing the effect, or if the SFPUC provides the SFPUC replacement water supply because its monitoring predicts an effect, the SFPUC shall continue to provide the SFPUC replacement water supply as needed until it can implement another mitigation action. The SFPUC estimates that the SFPUC replacement water supply would be provided on an interim basis for about one year or less, until an alternative measure is in place.</p> <p>If the SFPUC provides the replacement water on its own initiative or the irrigator requests the water and the Project is determined to have caused the effect, the SFPUC will charge for the water supply at the rate equivalent to the irrigator’s cost of groundwater production, as adjusted annually for inflation using the Consumer Price Index or other agreed-upon index. If the irrigator requests the water and the Project is subsequently determined to have not caused the effect, then the SFPUC will charge for the replacement water supply at a rate equivalent to the regular SFPUC rate.</p>				
HY-6 (cont.)		<p>C. Mitigation Actions Requiring Agreement with Irrigators</p> <p>Mitigation Action #4: Improve irrigation efficiency. The SFPUC would install or completely fund measures to reduce applied water demand through irrigation efficiency measures, such as installation of more efficient sprinkler heads or soil-moisture sensors.</p> <p>Mitigation Action #5: Modify irrigation operations. The SFPUC would install or completely fund measures to reduce applied water demand through modification of irrigation operation, such as the use of longer irrigation cycles to meet the same irrigation demand or revised scheduling of irrigation to respond to evapotranspiration data, as appropriate given the affected</p>				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

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		<p>land use.</p> <p>Mitigation Action #6: Lower pump in irrigation well. The SFPUC would lower the pump or completely fund lowering the pump in an irrigator’s well to accommodate water level fluctuations induced by Project pumping.</p> <p>Mitigation Action #7: Lower and change pump in irrigation well. The SFPUC would lower and replace or completely fund the lowering and replacement of the well pump using a more suitable pump for the conditions that are encountered in order to meet irrigation demand.</p> <p>Mitigation Action #8: Add storage capacity for irrigation supply. The SFPUC would add or completely fund storage (e.g., an above-ground tank with suitable shielding landscaping, if necessary) to offset reduced well capacity caused by Project operation. In such cases, the SFPUC shall obtain or pay the irrigator to obtain any necessary permits for the work.</p> <p>Mitigation Action #9: Replace irrigation well. The SFPUC would replace an irrigators’ well(s), remove above-ground pumping equipment for any replaced well(s) and properly close such wells in accordance with State and local law or completely fund the actions. The SFPUC or the irrigator would obtain well permits from the San Mateo County Department of Environmental Health. The replaced irrigation well will be included in the Irrigation Well Monitoring and Reporting Program and covered by the Performance Standard contained in this Mitigation Measure M-HY-6.</p>				
HY-6 (cont.)		<p>Irrigation Well Monitoring and Reporting Program: The SFPUC shall monitor and report short- and long-term changes in groundwater conditions and operations at irrigators’ wells. All monitoring and data collection will be conducted as defined in the Irrigation Well Monitoring and Reporting Program. The SFPUC will provide advance notice to irrigation well owners regarding the start of Project operations during Take periods.</p> <p>At least 18 months prior to start of Project operation, the SFPUC shall contact existing irrigators with information about the Irrigation Well Monitoring and Reporting Program. The monitoring program shall include the installation of a flow meter to allow for daily well production volumes to be recorded and a groundwater level transducer/data logger (a device for automatically detecting and recording groundwater levels) for measuring groundwater levels at the irrigators’ wells. Baseline monitoring of flow meter data and groundwater level data in the irrigators’ well shall be collected and reported to participating well owners as defined in the Irrigation Well Monitoring and Reporting Program. In addition to baseline monitoring of well production and groundwater levels, pumping tests at irrigators’ wells shall be conducted prior to Project operation to collect baseline data on pump and well performance, and results shall be reported to irrigators. The pumping tests shall collect data on well capacity and drawdown, well specific capacity, pump efficiency and head-capacity characteristics, sand content, and may include selected water quality parameters.</p> <p>The SFPUC shall also collect any existing information and data available regarding the irrigators’ well(s) from the irrigator, including any estimates or measurements of historical, existing, and planned land and water use (e.g., driller’s logs, water level data, pumping records, acres irrigated) to provide information upon which to evaluate the performance of the irrigators’ well(s) over time and to establish baseline operating conditions. When there is an opportunity to open an existing irrigator’s well (such as when a pump is removed by a well owner), the SFPUC may seek to conduct video log surveys in such wells to determine the condition of the well structure. The SFPUC may conduct periodic re-testing of a well as prompted by the need to evaluate performance throughout the life of the Project.</p> <p>Following the start of Project operations, if there is uncertainty or disagreement about whether the Project is responsible for a loss in production capacity at an irrigator’s well, the SFPUC shall undertake more frequent monitoring and/or testing and shall</p>				

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
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		<p>timely provide the well owner with all data, reports, and information collected concerning well production capacity.</p> <p>Data from the water level transducers/data loggers and flow meters shall be recorded daily during the first year. Following the first year of data collection, the frequency may be modified (e.g., as prompted by a need to evaluate pump and/or well performance to determine effects of the Project), but in no case will data collection and recording take place less frequently than once per month during Take Periods. The SFPUC shall provide participants with 14-day advance notice for site visit(s), which would be scheduled within a 48-hour window.</p> <p>Data shall be analyzed and reported to irrigators at a frequency identified in the Irrigation Well Monitoring and Reporting Program. Data analysis shall be conducted when production capacity can be compared to peak demand prior to the peak demand period, when pumping is underway during the beginning of the irrigation season, when groundwater levels will likely be lowest at the end of the peak irrigation season, and when production capacity of the well would be at its lowest.</p>				
HY-6 (cont.)		<p>The SFPUC's certified hydrogeologist or professional engineer with expertise in groundwater hydrology shall compile, analyze and report the collected data to participating irrigators within the timeframe identified in the Irrigation Well Monitoring and Reporting Program. In Project Put and Hold Periods, the SFPUC shall compile, analyze, and report the collected data to irrigators and the ERO at least once per year.</p> <p>Monitoring of all irrigators' wells shall continue during the period that is the longer of: 1) 17 years (twice the 8.5-year design drought cycle analyzed in the EIR); or 2) the period including the first five Take Years of the Project beginning at the initiation of Project operation. After this initial period of monitoring, the SFPUC, in consultation with the irrigators, shall evaluate the effectiveness of the Irrigation Well Monitoring and Reporting Program and determine if data collection, monitoring, and reporting frequencies and other procedures should be revised or eliminated. Proposed changes to the Program, including a reduction in the frequency of monitoring, will be subject to ERO concurrence.</p>				
HY-9	Project operation could have a substantial, adverse effect on water quality that could affect the beneficial uses of Lake Merced.	<p>M-HY-9a: Lake Level Monitoring and Modeling for Lake Merced</p> <p>The SFPUC shall implement lake level monitoring and modeling in accordance with the process described below. The SFPUC will conduct monitoring to detect changes in lake level and water quality, as well as groundwater-level elevations. Implementation of this measure shall be coordinated with the SFPUC's ongoing Lake Merced lake-level, water quality, and groundwater monitoring programs to document and maintain the database of these parameters throughout Project operations.</p> <p>The SFPUC shall continue to maintain the Lake-level Model so as to be able to evaluate what lake levels may have been without implementation of the Project based on the actual hydrology that occurs during Project implementation. As described below, the SFPUC shall use the model to determine the amount of lake-level change that is attributable to the Project rather than to hydrologic or other factors.</p>	1. SFPUC Water Enterprise, WST/WRD	1. SFPUC Water Enterprise, WRD	1. Maintain lake-level model and conduct lake level monitoring.	1. Pre-operation/ Operation
HY-9 (cont.)	Project operation could have a substantial, adverse effect on water quality that could affect the beneficial uses of Lake Merced.	<p>M-HY-9b: Lake Level Management for Lake Merced</p> <p>Prior to beginning operation of the Project, the SFPUC shall implement this lake level management program as follows:</p> <ul style="list-style-type: none"> • If lake levels are within the range that would occur without the Project based on maintenance of the Lake-level Model, no corrective action shall be required. • If lake levels are below the range that would have occurred without the Project (Table MMRP-1), corrective action shall be implemented in time to prevent lake levels from declining as a result of Project-related pumping below 0 feet City Datum or 	1. SFPUC Water Enterprise, WST	1. SFPUC Water Enterprise, WRD	1. Implement lake level management program. Implement corrective actions to reduce or supplement lake levels as provided in Table MMRP-1, attached.	1. Pre-operation/ Operation

EXHIBIT 1 (continued)
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			Responsible Party	Reviewing and Approval Party		
		<p>the level that would occur without the Project, whichever is lower. One or both of the following corrective actions shall be implemented:</p> <ul style="list-style-type: none"> – Redistribute pumping to decrease Project pumping rates in the vicinity of Lake Merced or decrease the overall Project pumping rate. However, in no case would redistribution be undertaken where groundwater levels would decline more than from the Project as originally predicted by modeling. – Augment lake levels through the addition of supplemental water (such as potable water that is dechloraminated at the Lake Merced Pump Station, stormwater from the Vista Grande Drainage Canal, recycled water, or stormwater diverted from other development in the Lake Merced watershed), if available. 				
HY-14	Project operation may have a substantial adverse effect on groundwater depletion in the Westside Groundwater Basin over the very long term.	<p>M-HY-14: Prevent Groundwater Depletion</p> <p>The SFPUC, working in conjunction with the GSR Operating Committee, shall develop and adopt an SFPUC Storage Account monitoring program that will determine the amount of water available for extraction from the SFPUC Storage Account and develop accounting rules that will account for losses from the Basin due to leakage, consistent with the terms of the Operating Agreement between the SFPUC and the Partner Agencies. The SFPUC shall develop the SFPUC Storage Account monitoring program to determine the balance in the SFPUC Storage Account based on actual experience operating in the Westside Groundwater Basin as proposed under the GSR Project. The SFPUC Storage Account monitoring program will use data from metered SFPUC in-lieu water deliveries to the Partner Agencies and regularly measured changes in groundwater elevations during a series of Put and Hold Years to determine the volume of stored water. Rules to account for losses in groundwater storage will be based on generally accepted principles of groundwater management. The following is an example of a methodology that the SFPUC, in coordination with the Partner Agencies, could use for determining the amount of water available for extraction taking into account losses from the Basin due to leakage:</p>	<ol style="list-style-type: none"> 1. SFPUC Water Enterprise, WRD/GSR Operating Committee 2. SFPUC Water Enterprise, WST 3. SFPUC Water Enterprise, WRD/GSR Operating Committee 	<ol style="list-style-type: none"> 1. SFPUC Water Enterprise, WRD 2. SFPUC Water Enterprise, WRD 3. SFPUC Water Enterprise, WRD 	<ol style="list-style-type: none"> 1. In conjunction with GSR Operating Committee, develop and implement an SFPUC Storage Account monitoring program 2. Monitor groundwater levels through monitoring network. 3. Determine amount of water in storage account while accounting for losses. 	<ol style="list-style-type: none"> 1. Pre-operation 2. Operation (record daily, collect quarterly, compile annually) 3. Operation
HY-14 (cont.)		<p>Part A: For calculation of increases in the SFPUC Storage Account due to in-lieu deliveries and decreases in the SFPUC Storage Account due to Project pumping.</p> <p>A1. On an annual basis, the SFPUC would account for additions to the SFPUC Storage Account by calculating the amount of supplemental water it delivers to Partner Agencies.</p> <p>A2. On an annual basis, the SFPUC and the Partner Agencies would account for the amount of Project pumping that occurs.</p> <p>A3. The SFPUC would calculate a running total of the volume of water in the SFPUC Storage Account (before accounting for losses due to leakage) using data from A1 and A2 above.</p>				
HY-14 (cont.)		<p>Part B: For calculation of decreases in the SFPUC Storage Account due to leakage from the Westside Groundwater Basin.</p> <p>B1. The SFPUC would use its monitoring network to record on a daily frequency, collect on a quarterly frequency, and compile on an annual basis, groundwater level measurements from its monitoring wells. This information would be used in item B4 below.</p> <p>B2. The SFPUC would subdivide the Westside Groundwater Basin into areas (subareas) which have similar geologic and groundwater level responses and similar influence on groundwater storage and calculate the areal extent of each subarea. (Note: subdividing the Westside Basin into subareas allows for a more accurate estimate of storage changes.)</p>				

EXHIBIT 1 (continued)

REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
		<p>B3. The SFPUC would assign each of the subareas a storage coefficient value derived from short-term aquifer testing and interpretation of aquifer characteristics under longer-term recharge and pumping conditions.</p> <p>B4. The SFPUC would multiply changes in groundwater levels that occur during Hold Years in each subarea by the aquifer's storage coefficient value and areal extent of each subarea to quantify the change in aquifer storage that has occurred. This change in storage, if reflective of a decline in groundwater levels, would be equivalent to the "loss" that occurs in that subarea due to Basin leakage.</p> <p>B5. The SFPUC would calculate the sum of each subarea's change in storage, which would equal the total groundwater depletion that has occurred during Hold Years. The SFPUC would then subtract the total from the SFPUC Storage Account to derive an SFPUC Storage Account value that accounts for losses due to leakage from the Westside Groundwater Basin.</p>				
HAZARDS AND HAZARDOUS MATERIALS						
HZ-2	The Project would result in a substantial adverse effect related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during construction.	<p>HZ-2a: Preconstruction Hazardous Materials Assessment (All Sites)</p> <p>Within three months prior to construction, the SFPUC shall retain a qualified environmental professional to conduct a regulatory agency database review to update and identify hazardous materials sites within 0.25 mile of a well facility site and to review appropriate standard information sources to determine the potential for soil or groundwater contamination at the project sites. Should this review indicate a high likelihood of encountering contamination at the proposed facility sites, follow-up sampling shall be conducted to characterize soil and groundwater quality prior to construction to provide necessary data for the site health and safety plan (Mitigation Measure M-HZ-2b) and hazardous materials management plan (Mitigation Measure M-HZ-2c). If needed, site investigations or remedial activities shall be performed at facility sites in accordance with applicable laws and regulations.</p>	1. SFPUC CMB (environmental professional)	1. SFPUC BEM	1. An environmental professional (whose credentials have been verified) shall conduct a regulatory agency database review to update and identify hazardous materials sites within 0.25 mile of each selected well site, shall determine the potential for soil or groundwater contamination at the selected well sites, and shall perform follow-up analysis as required in this measure. Document findings in a report or technical memo to SFPUC.	1. Pre-Construction, within 3 months.
HZ-2 (cont.)	The Project would result in a substantial adverse effect related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during construction.	<p>M-HZ 2b: Health and Safety Plan (All Sites)</p> <p>The construction contractor shall, prior to construction, prepare a site-specific health and safety plan in accordance with federal OSHA regulations (29 CFR 1910.120) and Cal-OSHA regulations (8 CCR Title 8, Section 5192) to address worker health and safety issues during construction. The health and safety plan shall identify the potentially present chemicals, health and safety hazards associated with those chemicals, all required measures to protect construction workers and the general public from exposure to harmful levels of any chemicals identified at the site (including engineering controls, monitoring, and security measures to prevent unauthorized entry to the work area), appropriate personal protective equipment, and emergency response procedures. The health and safety plan shall designate qualified individuals responsible for implementing the plan and for directing subsequent procedures in the event that unanticipated contamination is encountered.</p>	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include the requirement for preparing a health and safety plan. 2. Ensure that contractor(s) prepares and submits a health and safety plan and verify that it includes information cited in contract documents. 3. Monitor to ensure that the contractor(s) implements measures in the contract documents and health and safety plan. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Construction
HZ-2 (cont.)	The Project would result in a substantial adverse effect related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials	<p>M-HZ-2c: Hazardous Materials Management Plan (All Sites)</p> <p>The contractor shall, prior to construction, prepare a hazardous materials management plan that specifies the method for handling and disposal of both chemical products and hazardous materials during construction and contaminated soil and groundwater, should any be encountered during construction. Contract specifications shall mandate full compliance with all applicable local, State, and federal regulations related to identifying, transporting, and disposing of hazardous materials, including hazardous building materials (i.e., asbestos containing materials, lead-based paint, and electrical equipment) and any hazardous wastes encountered in excavated soil or groundwater. The contractor shall provide the SFPUC with copies of hazardous waste manifests documenting that disposal of all hazardous materials has been performed in accordance with the</p>	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC BEM/San Mateo County, if hazardous materials management plan is required 3. SFPUC BEM	1. Ensure that contract documents include requirements for preparing a hazardous materials management plan. 2. Ensure that contractor(s) prepares and submits to SFPUC and San Mateo County a hazardous materials management plan and verify that it complies with requirements cited in contract documents.	1. Design 2. Construction 3. Construction

EXHIBIT 1 (continued)
REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT (CASE NO. 2008.1396E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
	into the environment during construction.	<p>law.</p> <p>If contaminated soil or groundwater is encountered, the SFPUC shall require the construction contractor to prepare and implement a construction Soil and Groundwater Management Plan. The contractor shall submit the Plan to the SFPUC and the San Mateo County Department of Health Services, Groundwater Protection Program, for review and approval. Elements of the plan shall include:</p> <ul style="list-style-type: none"> • Measures to address hazardous materials and other worker health and safety issues during construction, including the specific level of protection required for construction workers. • Provisions for excavation of soil, stockpiling, dust, and odor control measures. • Measures to prevent off-site migration of contaminated soil and groundwater. • Location and final disposition of all soil and groundwater removed from the site. • All other necessary procedures to ensure that excavated materials are stored, managed, and disposed of in a manner that is protective of human health and in accordance with applicable laws and regulations. 			3. Monitor to ensure that the contractor(s) implements measures in the contract documents and hazardous materials management plan. Report noncompliance, and ensure corrective action.	

CCSF = City and County of San Francisco
SFPUC = San Francisco Public Utilities Commission (CCSF)
BEM = Bureau of Environmental Management (SFPUC)
EMB = Engineering Management Bureau (SFPUC)
CMB = Construction Management Bureau (SFPUC)
WST = Water Supply and Treatment, Water Enterprise (SFPUC)
WRD = Water Resources Division, Water Enterprise, (SFPUC)
EP = San Francisco Planning Department, Environmental Planning Division (CCSF)
ERO = Environmental Review Officer (CCSF – EP)
VA = US Department of Veterans Affairs
CDFW = California Department of Fish and Wildlife
SWRCB = State Water Resources Control Board
RWQCB = Regional Water Quality Control Board

**TABLE MMRP-1
LAKE MERCED WATER SURFACE ELEVATION RANGE FOR AVOIDANCE OF
SIGNIFICANT SURFACE WATER INTERACTION EFFECTS^a**

Water Surface Elevation Without the Project (feet City Datum)	Corresponding Allowable Project-Related Water Surface Elevation Range (feet City Datum)			Allowable Increment of Change as a Result of Project	Trigger Level for Additional Actions (feet City Datum)
	Wetlands	Water Quality	Combined Range ^b		
13	13 to -10	0 to 13	0 to 13	Up to 13 feet of decline	0
12	4 to 12	0 to 12	4 to 12	Up to 8 feet of decline	4
11	9 to 11	0 to 11	9 to 11	Up to 2 feet of decline	9
10	9 to 10	0 to 10	9 to 10	Up to 1 foot of decline	9
9	8 to 9	0 to 9	8 to 9	Up to 1 foot of decline	8
8	7 to 8	0 to 8	7 to 8	Up to 1 foot of decline	7
7	4 to 7	0 to 7	4 to 7	Up to 3 feet of decline	4
6	5 to 6	0 to 6	5 to 6	Up to 1 foot of decline	5
5	4 to 5; -6 to -10	0 to 5	4 to 5	Up to 1 foot of decline	4
4	3 to 4; -5 to -10	0 to 4	3 to 4	Up to 1 foot of decline	3
3	2 to 3; -5 to -10	0 to 3	2 to 3	Up to 1 foot of decline	2
2	1 to 2; -4 to -10	0 to 2	1 to 2	Up to 1 foot of decline	1
1	0 to 1; -3 to -10	0 to 1	1	Up to 1 foot of decline	0
0	0 to -10	0	0	No decline permitted	0
-1	-1 to -10	-1	-1	No decline permitted	-1
-2	-2 to -10	-2	-2	No decline permitted	-2
-3	-3 to -10	-3	-3	No decline permitted	-3
-4	-4 to -10	-4	-4	No decline permitted	-4
-5	-5 to -10	-5	-5	No decline permitted	-5
-6	-6 to -10	-6	-6	No decline permitted	-6
-7	-7 to -10	-7	-7	No decline permitted	-7
-8	-8 to -10	-8	-8	No decline permitted	-8
-9	-9 to -10	-9	-9	No decline permitted	-9
-10	-10	-10	-10	No change; lake would be dewatered as a result of climatic conditions	-10

^a The water surface elevation values represent the mean annual water surface elevation. Lake Merced water levels vary seasonally due to hydrologic and climatic conditions; therefore, an annual range in water surface elevation from about 1 foot above and below the mean is assumed; for example, an elevation of 6 feet City Datum, as seen in the table, actually represents a range in water surface elevation between of 5 and 7 feet City Datum.

^b The combined range is the maximum and minimum mean annual water surface elevation that would avoid net loss of wetlands and substantial adverse effects on water quality.

SOURCE: ESA (wetlands information derived from San Francisco Groundwater Supply Project EIR, Appendix C tables)

**TABLE MMRP-2
MITIGATION MEASURES APPLICABLE TO
MITIGATION ACTIONS 3, 6, 7, 8, AND 9 OF MITIGATION MEASURE HY-6**

Mitigation Measure HY-6 Mitigation Actions	GSR Project Mitigation Measures Applicable to secondary impacts M-HY-6 Mitigation Actions
Mitigation Action #3: Replace Irrigation Water Source	Mitigation Measure M-AE-1a: Site Maintenance
	Mitigation Measure M-AE-3a: Implement Landscape Screening
	Mitigation Measure M-NO-1: Noise Control Plan
	Mitigation Measure M-AQ-2a: BAAQMD Basic Construction Measures
	Mitigation Measure M-TR-1: Traffic Control Plan
	Mitigation Measure M-CR-2: Discovery of Archaeological Resources
	Mitigation Measure M-CR-3: Suspend Construction Work if a Paleontological Resource is Identified
	Mitigation Measure M-CR-4: Accidental Discovery of Human Remains
	Mitigation Measure M-UT-4: Waste Management Plan
	Mitigation Measure M-UT-1a: Confirm Utility Line Information
	Mitigation Measure M-UT-1b: Safeguard Employees from Potential Accidents Related to Underground Utilities
	Mitigation Measure M-UT-1c: Notify Local Fire Departments
	Mitigation Measure M-UT-1d: Emergency Response Plan
	Mitigation Measure M-UT-1e: Advance Notification
	Mitigation Measure M-UT-1f: Protection of Other Utilities during Construction
	Mitigation Measure M-UT-1g: Ensure Prompt Reconnection of Utilities
	Mitigation Measure M-UT-1h: Avoidance of Utilities Constructed or Modified by Other SFPUC Projects
Mitigation Measure M-UT-1i: Coordinate Final Construction Plans with Affected Utilities	
Mitigation Measure M-BR-1a: Protection Measures during Construction for Special status Birds and Migratory Passerines and Raptors	
Mitigation Action #3: Replace Irrigation Water Source (continued)	
	Mitigation Measure M-BR-1b: Protection Measures for Special-status Bats during Tree Removal or Trimming
	Mitigation Measure M-BR-1c: Protection Measures during Structure Demolition for Special-status Bats

Mitigation Measure HY-6 Mitigation Actions	GSR Project Mitigation Measures Applicable to secondary impacts M-HY-6 Mitigation Actions
	Mitigation Measure M-BR-4a: Identify Protected Trees
	Mitigation Measure M-BR-4b: Protected Tree Replacement
	Mitigation Measure M-GE-3: Conduct Site-Specific Geotechnical Investigations and Implement Recommendations
	Mitigation Measure M-HY-1: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan
	Mitigation Measure M-HZ-2a: Preconstruction Hazardous Materials Assessment
	Mitigation Measure M-HZ-2b: Health and Safety Plan
	Mitigation Measure M-HZ-2c: Hazardous Materials Management Plan
Mitigation Action #6: Lower Pump in Irrigation Well	Mitigation Measure M-AE-1a: Site Maintenance Mitigation Measure M-TR-1: Traffic Control Plan Mitigation Measure M-HY-1: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan
Mitigation Action #7: Lower And Change Pump in Irrigation Well	Mitigation Measure M-AE-1a: Site Maintenance Mitigation Measure M-TR-1: Traffic Control Plan Mitigation Measure M-GE-3: Conduct Site-Specific Geotechnical Investigations and Implement Recommendations Mitigation Measure M-HY-1: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan
Mitigation Action #8: Add Storage Capacity for Irrigation Supply	Mitigation Measure M-AE-1a: Site Maintenance Mitigation Measure M-AE-3a: Implement Landscape Screening Mitigation Measure M-CR-2: Discovery of Archaeological Resources Mitigation Measure M-CR-3: Suspend Construction Work if a Paleontological Resource is Identified Mitigation Measure M-CR-4: Accidental Discovery of Human Remains Mitigation Measure M-TR-1: Traffic Control Plan Mitigation Measure M-NO-1: Noise Control Plan

Mitigation Measure HY-6 Mitigation Actions	GSR Project Mitigation Measures Applicable to secondary impacts M-HY-6 Mitigation Actions
	Mitigation Measure M-AQ-2a: BAAQMD Basic Construction Measures Mitigation Measure M-UT-4: Waste Management Plan Mitigation Measure M-UT-1a: Confirm Utility Line Information Mitigation Measure M-UT-1b: Safeguard Employees from Potential Accidents Related to Underground Utilities Mitigation Measure M-UT-1c: Notify Local Fire Departments Mitigation Measure M-UT-1d: Emergency Response Plan Mitigation Measure M-UT-1e: Advance Notification Mitigation Measure M-UT-1f: Protection of Other Utilities during Construction Mitigation Measure M-UT-1g: Ensure Prompt Reconnection of Utilities Mitigation Measure M-UT-1h: Avoidance of Utilities Constructed or Modified by Other SFPUC Projects Mitigation Measure M-UT-1i: Coordinate Final Construction Plans with Affected Utilities Mitigation Measure M-BR-1a: Protection Measures during Construction for Special status Birds and Migratory Passerines and Raptors Mitigation Measure M-BR-1b: Protection Measures for Special-status Bats during Tree Removal or Trimming
Mitigation Action #8: Add Storage Capacity for Irrigation Supply (continued)	Mitigation Measure M-BR-1c: Protection Measures during Structure Demolition for Special-status Bats Mitigation Measure M-BR-4a: Identify Protected Trees Mitigation Measure M-BR-4b: Protected Tree Replacement Mitigation Measure M-HY-1: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan Mitigation Measure M-HZ-2a: Preconstruction Hazardous Materials Assessment Mitigation Measure M-HZ-2b: Health and Safety Plan Mitigation Measure M-HZ-2c: Hazardous Materials Management Plan

Mitigation Measure HY-6 Mitigation Actions	GSR Project Mitigation Measures Applicable to secondary impacts M-HY-6 Mitigation Actions
Mitigation Action #9: Replace Irrigation Well	Mitigation Measure M-AE-1a: Site Maintenance
	Mitigation Measure M-AE-3a: Implement Landscape Screening
	Mitigation Measure M-CR-2: Discovery of Archaeological Resources
	Mitigation Measure M-CR-3: Suspend Construction Work if a Paleontological Resource is Identified
	Mitigation Measure M-CR-4: Accidental Discovery of Human Remains
	Mitigation Measure M-TR-1: Traffic Control Plan
	Mitigation Measure M-NO-1: Noise Control Plan
	Mitigation Measure M-AQ-2a: BAAQMD Basic Construction Measures
	Mitigation Measure M-UT-4: Waste Management Plan
	Mitigation Measure M-UT-1a: Confirm Utility Line Information
	Mitigation Measure M-UT-1b: Safeguard Employees from Potential Accidents Related to Underground Utilities
	Mitigation Measure M-UT-1c: Notify Local Fire Departments
	Mitigation Measure M-UT-1d: Emergency Response Plan
	Mitigation Measure M-UT-1e: Advance Notification
	Mitigation Measure M-UT-1f: Protection of Other Utilities during Construction
Mitigation Action #9: Replace Irrigation Well (continued)	Mitigation Measure M-UT-1g: Ensure Prompt Reconnection of Utilities
	Mitigation Measure M-UT-1h: Avoidance of Utilities Constructed or Modified by Other SFPUC Projects
	Mitigation Measure M-UT-1i: Coordinate Final Construction Plans with Affected Utilities
	Mitigation Measure M-BR-1a: Protection Measures during Construction for Special status Birds and Migratory Passerines and Raptors
	Mitigation Measure M-BR-1b: Protection Measures for Special-status Bats during Tree Removal or Trimming
Mitigation Measure M-BR-1c: Protection Measures during Structure Demolition for Special-status Bats	
Mitigation Measure M-BR-4a: Identify Protected Trees	

<p>Mitigation Measure HY-6 Mitigation Actions</p>	<p>GSR Project Mitigation Measures Applicable to secondary impacts M-HY-6 Mitigation Actions</p>
	<p>Mitigation Measure M-BR-4b: Protected Tree Replacement</p>
	<p>Mitigation Measure M-HY-1: Develop and Implement a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan</p>
	<p>Mitigation Measure M-HZ-2a: Preconstruction Hazardous Materials Assessment</p>
	<p>Mitigation Measure M-HZ-2b: Health and Safety Plan</p>
	<p>Mitigation Measure M-HZ-2c: Hazardous Materials Management Plan</p>