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MITIGATION MONITORING AND REPORTING PROGRAM FOR THE HERCULES INTERMODAL TRANSIT CENTER

..... STATE CLEARINGHOUSE #2009112087

Prepared by:



JUNE 2011

INTRODUCTION

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to the requirements of California Public Resource Code Section 21081.6, to ensure compliance with mitigation measures required in the Draft Environmental Impact Report/Draft Environmental Impact Statement for the Hercules Intermodal Transit Center Project in the City of Hercules. CEQA requires the adoption of a mitigation monitoring program when mitigation measures have been identified that would reduce or avoid significant environmental impacts. The law states that the monitoring program shall be designed to ensure compliance during project implementation.

The MMRP is intended for use by City staff, responsible and participating agencies, and mitigation monitoring personnel during Project implementation. The intent of the MMRP is to ensure effective implementation and enforcement of adopted mitigation measures. The MMRP consists of a compliance checklist that identifies the adopted mitigation measures, entity responsible for their implementation and monitoring, performance criteria used to evaluate mitigation measure implementation, and space to note the date of compliance completion. The mitigation measures in this MMRP are incorporated into the Project.

RESPONSIBILITY AND AUTHORITY

The City of Hercules as the CEQA lead agency is responsible for ensuring that the mitigation measures are implemented. The City reserves the right to hire technical experts and professionals to help in evaluating compliance. These may include but are not limited to biologists, archaeologists, and planning professionals. The City and/or its contractor will have final oversight authority over mitigation monitoring and will maintain an administrative record of all mitigation and implementation tasks performed.

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Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
Parking					
<p>Measure TRANS-3 (Alternative 1 only) The 150-space surface parking lot proposed under Alternative 1 shall be expanded or alternative parking capacity, such as shared or off-site parking, shall be identified to accommodate the expected demand of 189 park-and-ride vehicles during afternoon peak hours. Alternatively, measures to reduce parking demand, such as bus or shuttle service from the Hercules ITC or remote lots, shall be implemented.</p>	<p>Prior to the start of operations at the Hercules ITC</p>	<p>During operation of the Hercules ITC.</p>	<p>City of Hercules</p>	<p>Provide sufficient parking for users of the Hercules ITC.</p>	
<p>Measure TRANS-4 Develop and implement a traffic safety plan in coordination with the City. The construction contractor shall develop a plan for traffic safety assurance for the local roadways in the project vicinity. The contractor shall submit the plan to the City Public Works Department for approval review before the initiation of construction-related activity that could adversely affect traffic on local roadways. The plan shall include the following elements:</p> <ul style="list-style-type: none"> ○ Posting warnings about the potential presence of slow-moving vehicles; ○ Using traffic control personnel when appropriate; ○ Scheduling truck trips outside of peak morning and evening traffic periods to 	<p>Prior to construction activities</p>	<p>Throughout construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Submit traffic safety plan to the City and implement elements during construction. Roadways are kept clear of construction debris, dirt, and mud. Road ways damaged during construction are repaired.</p>	

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<p>the extent feasible;</p> <ul style="list-style-type: none"> ○ Placing and maintaining barriers and installing traffic control devices necessary for safety, as specified in Caltrans’s Manual of Traffic Controls for Construction and Maintenance Works Zones and in accordance with City requirements; ○ Maintaining routes for passage of emergency response vehicles through roadways affected by construction activities. ○ Training construction personnel in appropriate safety measures as described in the plan, and implementing the adopted plan. ○ Assessing damage to roadways used during construction and repairing all potholes, fractures, or other damages. ○ Maintaining emergency access during construction. Notifying and consulting with emergency service providers and undertaking measures necessary to maintain emergency access and facilitate the passage of emergency vehicles on city streets. 					
<p>Measure TRANS-5 Final design of the Hercules ITC project shall provide bicycle parking spaces to further encourage bicycle access to the site. The trip</p>	Final design of the Hercules ITC	Completion of final design and during construction	City of Hercules, design engineer, and/or architect, primary construction	Provide 40 bicycle parking spaces at the Hercules ITC and bicycle lanes on the	

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<p>generation and mode of access analysis estimates that 34 bicycle riders would board the train, and therefore, it would be appropriate to provide roughly 40 bicycle parking spaces at the Hercules ITC to meet the expected demand and provide some additional parking for high volume days. Additionally, the current draft design includes 12 bicycle storage lockers.</p> <p>The final design should also provide for bicycle lanes along the future John Muir Parkway extension.</p>			contractor	John Muir Parkway extension	
Cultural Resources					
<p>Measure CULT-1a</p> <p>Prior to construction, construction personnel shall be briefed regarding what to do in the event buried cultural materials are encountered. If cultural materials (artifacts, shell, bones, dark soil, etc.) are uncovered, work shall be stopped temporarily at the discovery location, and within a 100-foot-wide buffer zone around it. The City, or its agent, shall be immediately notified. The City will retain a qualified archaeologist who will examine, document, and evaluate the find. The archaeologist shall then consult with appropriate agencies to development mitigation measures to implement prior to resumption of further construction at the discovery point. The archaeologist shall oversee implementation of these mitigation measures once they have been determined.</p>	Prior to any ground breaking activities	Throughout the construction period	City of Hercules and primary construction contractor	Finds of undocumented cultural materials are reported and protected them until evaluated by a qualified archaeologist. Recommendations of qualified archaeologist are implemented.	

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<p>Measure CULT-1b</p> <p>(Track Option B only) <u>Ballast and sub-ballast excavation and installation.</u> The excavation to install ballast for Track Option B will not exceed 24 inches deep below the existing grade. An excavation of this depth is expected to avoid any encounter with the buried archaeological deposit.</p> <p><u>Railroad drainage ditch placement.</u> Typically the UPRR requires a 4-foot deep drainage ditch adjacent to the toe of the ballast. If a ditch that deep was constructed, it would be expected to adversely affect the top of the buried archeological deposit. Excavation of such a ditch will be avoided by instead installing a concrete trapezoidal channel along the new track. Emplacement of this type of ditch will require an excavation approximately twelve inches below the existing grade, which is sufficiently shallow to avoid the archaeological deposits. The concrete drainage channel will be constructed over the location where the site is known to occur, based on observations of its location made during installation of a fiber optic line in 1999, and for a distance of at least 50 feet beyond it.</p> <p><u>Utility relocation adjustments:</u> There are six existing buried utilities that will need to be rerouted to accommodate Track Option B. These include fiber optic ducts owned by MCI, Quest, Comcast, and Level 3, and two fuel oil</p>	<p>Prior to ground disturbing activities at the known archaeological resource</p>	<p>Throughout the construction period</p>	<p>City of Hercules, design engineer (in coordination with UPRR, MCI, Quest, Comcast, Level 3, Kinder Morgan and Shell Oil), and primary construction contractor</p>	<p>Excavation for ballast installation will not exceed 24 inches in depth. A concrete trapezoidal channel will be used for drainage along the new track instead of a typical drainage ditch.</p> <p>Implement one of 2 utility relocation plans to avoid the known archaeological deposit.</p>	

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<p>lines owned by Kinder Morgan and Shell Oil. One of two possible utility relocation plans will be implemented to avoid effects to the archaeological deposit.</p> <ol style="list-style-type: none"> 1. Rerouting. With permission of the utility owners, existing fiber optic and fuel oil lines will be rerouted by circumventing the area where the buried site was encountered. The utilities will be moved to a corridor along Bay Trail, which is south of, and at least three feet higher than, the soil surface at the location of the buried archaeological site. The utilities will be placed in trenches dug approximately 3 feet deep. Since the Bay Trail is 3 feet higher than the surface where the buried archaeological deposit is located, an encounter with archaeological deposits is not expected along Bay Trail. To avoid disturbance to the site, the currently buried utilities will be abandoned in place in the location where the buried site was originally encountered. 2. Directional Drilling. The alternative approach will be to abandon existing utilities in place and reinstall them beneath the archaeological deposit. Directional drilling will be used to reroute the utilities at a minimum depth of 16 feet deep. At this depth it is unlikely that archaeological deposits will be encountered. This method was used successfully during installation of 					

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<p>the Level 3 fiber optic line in 1999.</p> <p>3. Existing Utility Removal. Fuel lines will be abandoned in place and may need to be filled with slurry upon abandonment. Fiber optic ducts may be removed in the vicinity of the archaeological site if burial depth is less than three feet. If buried at a depth of greater than three feet in the vicinity of the archaeological deposit, ducts will be left in place to avoid any further disturbance to the deposit that may result from duct removal.</p> <p><u>Monitoring.</u> To encourage successful avoidance, both an archaeological and tribal monitor will be present during construction within 100 feet of the known location of the archaeological deposit. In the event archaeological deposits are exposed, construction at the find location will be stopped and new measures will be designed and implemented in consultation with the SHPO and Tribes.</p>					
<p>Measure CULT-2</p> <p>Prior to construction, construction personnel shall be briefed regarding procedures to follow in the event buried human remains are encountered. Once encountered, work should stop immediately at the discovery point, and within a 100-foot-wide buffer zone around it. The City, or its agent, shall be immediately notified. The Contra Costa County coroner shall be contacted immediately to examine and</p>	<p>If any human remains or cultural materials are discovered during ground disturbing activities</p>	<p>Prior to and during construction</p>	<p>City of Hercules and primary construction contractor</p>	<p>Finds of potential human remains are reported and protected until evaluated by the coroner. Potential human remains are treated in accordance with direction received</p>	

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<p>evaluate the find. The procedures presented in CEQA Guidelines, Section 15064.5(e)(1) will be followed. If the coroner determines that the remains are Native American, the City will contact the Native American Heritage Commission in accordance with Health and Safety Code Section 7050.5, and PRC 5097.98. The City shall insure that the discovery site and buffer zone are not damaged further until the City has consulted with the mostly likely descendants regarding their recommendations for treatment.</p>				<p>from the county coroner and from the NAHC and Native American representatives, as appropriate.</p>	
<p>Measure CULT-3 Prior to construction, construction personnel shall be briefed regarding what to do in the event buried cultural or paleontological materials are encountered. If paleontological materials (bones, shells, leaf prints, etc.) are uncovered, work shall be stopped temporarily at the discovery location, and within a 100 foot wide buffer zone around it. The City, or its agent, shall be immediately notified. The City will retain a qualified paleontologist who will examine, document, and evaluate the find. The paleontologist shall then consult with appropriate agencies to develop procedures to implement prior to resumption of further construction at the discovery point. The paleontologist shall oversee implementation of these procedures once they have been determined.</p>	<p>If paleontological materials are found during ground-disturbing activities</p>	<p>Throughout construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Finds of undocumented paleontological materials are reported and protected until evaluated by a qualified paleontologist. Recommendations of by a qualified paleontologist are implemented.</p>	

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Visual Resources					
<p>Measure VAR-2 The City shall require the contractor to remove construction debris and dispose of it at a licensed facility on a daily basis. In the event daily disposal is not determined to be practical, it must be stored on site as far from residential receptors as feasible and be screened from view. The contractor would also be required to remove any debris, mud or other soils from the site that was deposited on public roadways by construction-related traffic. Construction equipment and crew parking areas are to be staged in an orderly manner and as far as possible from existing residences. Site conditions are to be left in a clean and orderly manner at the end of each working day.</p>	At initiation of construction	Throughout construction period	City of Hercules and primary construction contractor	Maintain roadways free from construction related debris, mud, and soil. Construction site conditions should be clean and orderly at the end of each working day.	
<p>Measure VAR-3 Prior to the approval of the final project design plans, the project applicant shall submit a Final Lighting Plan for review and approval by the City Planning Commission. The Final Lighting Plan shall be in compliance with the General Plan, the WDMP, and all other applicable City codes, as required by City Planning authorities. The Final Lighting Plan shall specify reasonable measures to minimize light spillover and glare from the completed facility, such as screened / hooded lighting, automatic dimmers, or strategically placed landscaping.</p>	Prior to final design approval	During final lighting plan review	City of Hercules, design engineer, and primary construction contractor	Comply with City codes and use methods to minimize light spillover and glare.	

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Air Quality					
<p>Measure AIR-1a During construction of the proposed project, the contractors shall implement the following control measures from Table 2 of the BAAQMD CEQA Guidelines to control fugitive dust emissions from excavation:</p> <p>Basic Control Measures:</p> <ul style="list-style-type: none"> • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction site. • Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at the construction site. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. <p>Enhanced Control Measures:</p> <ul style="list-style-type: none"> • Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This shall apply to both inactive and active sites, during workdays, weekends, holidays, and windy conditions. • Hydro seed or apply (non-toxic) soil 	<p>Prior to start of any construction or ground disturbing activities</p>	<p>Throughout construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Implement all BAAQMD basic and enhanced measures as appropriate to control fugitive dust.</p>	

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<p>stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).</p> <ul style="list-style-type: none"> • Enclose, cover, water daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). • Limit traffic speeds of hauling and non-earth moving equipment on unpaved roads to 15 mph and earth moving equipment to 10 mph. • Install wind fencing and phase grading operations, where appropriate, and operate water trucks to stabilize unpaved surfaces under windy conditions. • Install sandbags or erosion control measures to prevent silt runoff to public roadways. • Replant vegetation in disturbed areas as quickly as possible. 					
<p>Measure AIR-1b During construction of the proposed project, in order to reduce emissions and TACs from construction equipment exhaust, the developer shall implement all feasible Best Available Control Technologies (BACTs), which may include the following:</p> <ul style="list-style-type: none"> • Use alternative fuel or ultra-low sulfur fuel for construction equipment, as feasible; • Employ catalyst-equipped diesel construction equipment and other add-on emission control measures, as feasible; • Minimize equipment idling time to a maximum of 5 minutes, or other appropriate 	<p>Prior to start of any construction or ground disturbing activities</p>	<p>Throughout the construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Implement BACTs and maintain construction equipment in good order to reduce emissions.</p>	

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limit; <ul style="list-style-type: none"> • Limit the hours of operation of heavy equipment and/or the amount of equipment in use; • Ensure that all construction equipment used on the project is maintained in good working order and properly tuned according to manufacturers' specifications; and • Implement periodic spot checks by construction managers to ensure that emission control mitigations are maintained 					
Noise and Vibration					
Measure NOI-3 <ul style="list-style-type: none"> • Ensure that construction activities (including the loading and unloading of materials and truck movements) are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and between the hours of 9:00 a.m. and 5:00 p.m. on weekends or holidays. • Restrict pile driving to the hours of 8:00 a.m. to 5:00 p.m. to ensure that driving occurs when residents are more likely to be away from home or able to leave if necessary to avoid noise effects. • Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment. • Prohibit unnecessary idling of internal combustion engines. • Utilize "quiet" models of air compressors and 	Prior to start of construction or any ground disturbing activity near noise sensitive receptors	Throughout the construction period	City of Hercules and primary construction contractor	Construction equipment is properly maintained and equipped with mufflers. Noise levels near noise sensitive receptors including occupied dwellings, are reduced to the extent feasible.	

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<p>other stationary noise sources where technology exists.</p> <ul style="list-style-type: none"> • Locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction project area. • Pre-drill foundation pile holes to minimize the number of impacts required to seat the pile. • Where feasible, construct solid plywood fences between the construction noise sources and adjacent noise-sensitive land uses to reduce offsite propagation of construction noise. • Route construction-related traffic along major roadways and as far as feasible from sensitive receptors. • Residences or noise-sensitive land uses adjacent to construction sites shall be notified of the construction schedule in writing. • Designate a “construction liaison” that would be responsible for responding to any local complaints about construction noise. The liaison would determine the cause of the noise complaints (e.g., starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem. • Conspicuously post a telephone number for the liaison at the construction site. 					

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Biological Resources					
<p>Measure BIO-1 Preconstruction surveys for CRLF would be conducted in the project site approximately two weeks prior to the initiation of construction activities to ensure that CRLF is not actively using the project site as a dispersal corridor. Preconstruction surveys would be conducted by a qualified biologist familiar with all life stages of the frog and would cover all aquatic habitats on the project site suitable for CRLF dispersal. Prior to conducting the preconstruction surveys, USFWS would be notified of the intent to conduct CRLF preconstruction surveys and the names and qualifications of surveyors. Surveys will not commence until approval is received by USFWS. Preconstruction survey findings will be reported to the California Natural Diversity Data Base (CNDDDB).</p> <p>If any life stage of CRLF (e.g., egg mass, tadpole, juvenile, or adult) is detected within the project site during surveys, USFWS will be notified regarding the presence of the CRLF. A plan will be developed in consultation with USFWS to relocate the CRLF to the nearest suitable location.</p> <p>If no CRLF are found in the project site during preconstruction surveys or if CRLF are found and relocated in consultation with USFWS, temporary exclusionary fencing may be installed in Refugio Creek in consultation with</p>	<p>Prior to start of construction or ground disturbing activities</p>	<p>Throughout construction within Refugio Creek</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys and monitor in accordance to USFWS requirements. Report pre-construction survey findings to CNDDDB.</p>	

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<p>USFWS to prevent CRLF from dispersing into the project site from upstream.</p> <p>Construction personnel would participate in a USFWS-approved worker environmental awareness program. A qualified biologist would inform all construction personnel about the life history of CRLF and its potential presence in the project area and explain the state and federal laws pertaining to protecting this species and its habitat. Construction personnel would be informed of the presence of a biological monitor and receive instruction regarding reporting requirements if a CRLF is found during construction.</p> <p>A biological monitor would be present during all construction activities within Refugio Creek. The biological monitor will have the authority to stop construction activities if a CRLF is found within the construction area. If a CRLF is found in the project site during construction, work will immediately cease in the vicinity of the CRLF and USFWS will be notified. At the approval of USFWS, the monitor will relocate the CRLF to a suitable location outside of the construction area. If relocation of the CRLF is not permitted, construction activities in the vicinity of the frog will cease until it has passively dispersed away from the construction area.</p>					
<p>Measure BIO-2</p> <p>Fairy shrimp surveys were conducted in winter 2009/2010 within suitable habitats for VPFS.</p>	NA	NA	City of Hercules and primary construction contractor	Conduct additional surveys as necessary in accordance to	NA

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<p>No VPFS were detected during surveys. Additional surveys may be required by the USFWS if construction is delayed. However, at this time, no further mitigation would be necessary.</p>				<p>USFWS requirements.</p>	
<p>Measure BIO-3 If construction begins during the breeding season (January 15 to August 31), a USFWS approved biologist will conduct a preconstruction survey of California cordgrass tidal marsh habitat for California clapper rail prior to any construction activities occurring within 500 feet of those habitats. The survey will include searching all accessible California cordgrass tidal marsh habitats in and within 500 feet of the project site for California clapper rail. The surveys shall be conducted within two weeks prior to the commencement of construction activities. If California clapper rail is not found, no further avoidance and minimization measures are necessary. Detection of California clapper rail will be reported to the USFWS and CDFG and findings will be submitted to the California Natural Diversity Database. If California clapper rail is detected, construction activities will be avoided within 700 feet of identified clapper rail locations and occupied California cordgrass tidal marsh habitat until USFWS and CDFG are consulted regarding appropriate avoidance measures and permission is granted by USFWS and CDFG to commence work.</p>	<p>Prior to start of construction or ground disturbing activities</p>	<p>Throughout the construction within 500 feet of California cordgrass tidal marsh habitat</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys and monitor in accordance to USFWS requirements. Report pre-construction survey findings to CNDDDB.</p>	

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<p>Preconstruction survey(s) will be re-conducted as specified above if a lapse in construction activities of two weeks or more occurs at any time during the breeding season such that no more than two weeks will have elapsed between the last survey and the commencement of construction activities. Preconstruction survey findings will be reported to the CNDDDB.</p>					
<p>Measure BIO-4 A USFWS approved biologist will conduct a preconstruction survey of the northern coastal salt marsh habitat in the project site prior to any construction activities occurring within 500 feet of those habitats. If salt marsh harvest mice are found in or adjacent to the project site during preconstruction surveys, USFWS and CDFG will be notified of the finding and consultation will be initiated. Construction activities within 500 feet of the northern coastal salt marsh will be delayed until consultation has been completed with USFWS. Preconstruction survey findings will be reported to the CNDDDB.</p> <p>If any areas with pickleweed habitat or vegetation within 50 feet from the edge of pickleweed habitat need to be cleared for project activities, vegetation will be removed only with non-mechanized hand tools (i.e. trowel, hoe, rake, and shovel). No motorized equipment, including weed whackers or lawn mowers, will be used to remove this vegetation. Vegetation will be removed under the</p>	<p>Prior to start of construction or ground disturbing activities</p>	<p>Throughout the construction within 500 feet of northern coastal salt marsh habitat.</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys and monitor in accordance to USFWS requirements. Report pre-construction survey findings to CNDDDB.</p>	

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<p>supervision of a qualified biologist approved by USFWS and CDFG. If a mouse of any species is observed within the areas being removed of vegetation, USFWS and CDFG will be notified. Unless otherwise approved by USFWS and CDFG, the mouse will be allowed to leave on its own. Vegetation removal may begin when no mice are observed, or with USFWS and CDFG approval, and will start at the edge farthest from the salt marsh and work its way toward the salt marsh. This method of removal provides cover for salt marsh harvest mouse and allows them to move toward the salt marsh on their own volition as vegetation is removed.</p> <p>Visqueen fencing will be installed between areas of salt marsh harvest mouse habitat and work sites immediately following vegetation removal and before excavation activities begin to prevent entry of the mice into cleared areas. The fencing will be trenched into the ground and backfilled to prevent mice from moving under the fencing. Fence stakes will face toward the work site and away from pickleweed habitat. The final design and proposed location of the fencing will be submitted to USFWS and CDFG for review and approval prior to placement. The qualified biologist will have the ability to make field adjustments to the location of the fencing based on site-specific habitat conditions.</p> <p>A qualified biologist or site manager will monitor site fencing as follows:</p>					

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<ul style="list-style-type: none"> • Periodically throughout each day during which work is conducted within 300 feet of the fence; • At least twice per week during clear weather; and • Within 24 hours after a storm. <p>Maintenance of the fencing will be conducted as needed throughout the work period. Any necessary repairs to the fencing will be completed within 24 hours of the initial observance of damage. Work will not continue within 300 feet of the damaged fencing until the fence is repaired and the site is surveyed by a qualified biologist to ensure that salt marsh harvest mice have not entered the work area.</p> <p>Prior to initiation of work each day during all vegetation removal; the construction of the exclusion fencing; and all work within 300 feet of tidal or pickleweed habitats, the qualified biologist will thoroughly inspect the work area and adjacent habitat areas to determine if salt marsh harvest mouse or other special-status species are present in these areas. The qualified biologist will remain on-site while work activities that meet one of the criteria above are being conducted. The qualified biologist will have the authority to stop work if necessary to protect salt marsh harvest mouse or other special-status species.</p> <p>Construction personnel would participate in a</p>					

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<p>USFWS-approved worker environmental awareness program. A qualified biologist would inform all construction personnel about the life history of salt marsh harvest mouse and its potential presence in the project area and explain the state and federal laws pertaining to protecting this species and its habitat. Construction personnel would be informed of the presence of a biological monitor and receive instruction regarding reporting requirements if a salt marsh harvest mouse is found during construction.</p>					
<p>Measure BIO-5 If construction begins during the breeding season (February 1 to August 31), a CDFG approved biologist will conduct a preconstruction survey of pickleweed tidal marsh habitat for California black rail prior to any construction activities occurring within 500 feet of those habitats. The survey will be conducted according to CDFG guidelines and will include searching all accessible pickleweed tidal marsh habitats in and within 500 feet of the project site for California black rail. The surveys shall be conducted within two weeks prior to the commencement of construction activities. Preconstruction survey findings will be reported to the CNDDDB.</p> <p>If California black rail is not found, no further avoidance and minimization measures would be necessary. If California black rail is found, the biologist will note whether or not a nest was</p>	<p>Prior to start of construction or ground disturbing activities</p>	<p>Throughout the construction within 500 feet of northern pickleweed tidal marsh habitat.</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys and monitor in accordance to CDFG requirements. Report pre-construction survey findings to CNDDDB.</p>	

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<p>observed and record the behavior of the bird(s) (e.g., exhibiting courtship/nesting behavior, foraging, etc.). If California black rail is observed nesting or is determined by the biologist to be potentially intending to utilize the habitat for nesting, construction activities will be delayed within 500 feet of the pickleweed tidal marsh where the bird(s) is found and CDFG will be notified of the finding. Work will not commence within 500 feet of pickleweed tidal marsh occupied by California black rail until CDFG is consulted regarding appropriate avoidance measures and permission is granted by CDFG to commence work.</p> <p>Preconstruction survey(s) will be re-conducted as specified above if a lapse in construction activities of two weeks or more occurs at any time during the breeding season such that no more than two weeks will have elapsed between the last survey and the commencement of construction activities.</p>					
<p>Measure BIO-6 Preconstruction bat surveys shall be conducted to inspect inside culverts under the railroad tracks and trees within the willow riparian habitat. If no roosting bats are found, no further mitigation would be necessary. Preconstruction survey findings will be reported to the CNDDDB. If bats are detected within a roost at the time of construction, excluding any bats from roosts will be accomplished by a bat specialist prior to the onset of any construction activities.</p>	<p>Prior to start of construction or ground disturbing activities</p>	<p>None if no roosting bats are found. Use exclusionary devices if bats are found.</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys and report pre-construction survey findings to CNDDDB.</p>	

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<p>Exclusionary devices, such as plastic sheeting, plastic or wire mesh, can be used to allow for bats to exit but not re-enter any occupied roosts. Expanding foam and plywood sheets can be used to prevent bats from entering unoccupied roosts.</p>					
<p>Measure BIO-7 Preconstruction surveys for San Pablo vole and salt marsh wandering shrew will be conducted simultaneously with salt marsh harvest mouse surveys. If these species are detected, CDFG will be contacted regarding appropriate measures to relocate them out of the work area or protect occupied habitat in conjunction with salt marsh harvest mouse avoidance measures. Preconstruction survey findings will be reported to the CNDDDB.</p> <p>Exclusionary fencing installed for salt marsh harvest mouse would also prevent these species from entering the project site. The salt marsh harvest mouse biological monitor will also report the presence of any San Pablo voles or salt marsh wandering shrews observed during construction activities to CDFG, and appropriate avoidance measures will be implemented prior to commencement of construction activities adjacent to occupied habitat.</p>	<p>Prior to start of construction or ground disturbing activities</p>	<p>Throughout the construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys simultaneously with salt marsh harvest mouse surveys (Measure BIO-4) following CDFG requirements. Report pre-construction survey findings to CNDDDB.</p>	
<p>Measure BIO-8 If feasible, ground disturbing activities (e.g., clearing and grubbing) in and within 500 feet of</p>	<p>Prior to start of ground disturbing activities</p>	<p>Re-conduct surveys if there is a lapse in construction</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys in accordance to</p>	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>suitable nesting habitat for sensitive bird species should commence outside of the breeding season (September 1 to January 14). If birds began nesting in and within 500 feet of the project site after construction commenced, it could be assumed that they were not disturbed by construction activities.</p> <p>If ground disturbing activities (e.g., clearing and grubbing) begin during the breeding season (January 15 to August 31), a qualified biologist will conduct a nesting bird survey in and within 500 feet of the project site for Cooper's hawk, tricolored blackbird, northern harrier, white-tailed kite, salt marsh common yellowthroat, San Pablo song sparrow, Alameda song sparrow, osprey, burrowing owl, and other migratory birds and nesting birds. The pre-construction surveys shall be conducted within two weeks prior to the commencement of construction activities. If no nesting birds are found, then no further avoidance and minimization measures are necessary. If nesting birds are found, the locations of the nests and/or nesting territories will be mapped and appropriate avoidance measures will be determined in consultation with CDFG to protect the nesting birds during construction. Preconstruction survey findings will be reported to the CNDDDB.</p> <p>Preconstruction survey(s) will be re-conducted as specified above if a lapse in construction activities of two weeks or more occurs at any</p>		activities of 2 weeks or more		CDFG requirements. Report pre-construction survey findings to CNDDDB.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
time during the breeding season such that no more than two weeks will have elapsed between the last survey and the commencement of construction activities.					
<p>Measure BIO-9</p> <p>Temporary orange fencing will be erected around the perimeter of Northern Coastal Salt Marsh and Coastal Brackish Marsh habitats that will not be impacted by construction activities, delineating them as environmentally sensitive areas. Environmentally sensitive area fencing will be used that does not prohibit the potential movement of sensitive wildlife species, including, but not limited to, the salt marsh harvest mouse, the San Pablo vole, the salt marsh wandering shrew, the California clapper rail, and the California black rail into or out of these marsh habitats. Signs will be placed on the fencing clearly stating that it is a sensitive habitat and that it is to be avoided during construction.</p> <p>All construction personnel will receive training notifying them of the environmentally sensitive areas on the project site and the potential for these areas to support special-status species.</p> <p>Construction personnel and equipment will not be allowed to enter the environmentally sensitive areas on the project site. Storage of materials and equipment will not be allowed within 100 feet of environmentally sensitive areas.</p>	Prior to start of ground disturbing activities	Throughout the construction period	City of Hercules and primary construction contractor	Implement USACE and BCDC permit requirements.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>Prior to commencement of construction activities that have the potential to impact the Northern Coastal Salt Marsh and Coastal Brackish Marsh, a permit will be obtained from the USACE and the BCDC for fill and/or disturbance of this habitat. All permit conditions will be followed. Suitable compensatory mitigation for impacts to Northern Coastal Salt Marsh and Coastal Brackish Marsh will be determined in conjunction with the USACE and BCDC and implemented to ensure no net loss of Northern Coastal Salt Marsh occurs.</p>					
<p>Measure BIO-10 A valid preconstruction eelgrass survey will be completed during the period of active growth of eelgrass (typically March through October). The preconstruction survey will be completed prior to the beginning of construction and shall be valid until the next period of active growth. Preconstruction survey findings will be reported to the CNDDDB. If any eelgrass is identified in the project area, post-construction eelgrass surveys will be conducted to determine if any eelgrass was adversely impacted. The survey will be prepared in consultation with CDFG and/or NMFS. If any eelgrass has been impacted, the impacted eelgrass will be mitigated for in consultation with CDFG and/or NMFS (e.g., at a ratio of 1.2:1).</p>	<p>Prior to start of ground disturbing activities</p>	<p>If eelgrass is identified in pre-construction survey, conduct post-construction survey</p>	<p>City of Hercules and primary construction contractor</p>	<p>Conduct pre-construction surveys in accordance to CDFG and NMFS requirements. Report pre-construction survey findings to CNDDDB.</p>	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>Measure BIO-11</p> <p>A permit will be obtained from the USACE and the BCDC prior to impacting the intertidal mudflats. All permit conditions will be followed. Suitable compensatory mitigation will be determined in conjunction with the USACE and BCDC and implemented in order to replace and/or enhance the functions and values lost due to impacting special aquatic sites during implementation of the proposed project.</p>	<p>Prior to start of construction</p>	<p>Monitor permit conditions throughout the construction period</p>	<p>City of Hercules (in coordination with USACE and BCDC) and the primary construction contractor</p>	<p>Implement USACE and BCDC permit requirements.</p>	
<p>Measure BIO-12</p> <p>In order to prevent the introduction of non-native cordgrass and/or other non-native aquatic plant species to the project site, the following measures will be implemented:</p> <ul style="list-style-type: none"> • All construction equipment to be utilized in or adjacent to the intertidal mudflats and salt marsh habitats shall be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the project site. • If any borrow soil or other stockpiled material (e.g., rock slope protection) to be placed in or adjacent to the intertidal mudflats and salt marsh habitats is transported to the project site from an offsite location, it shall be inspected for the presence of noxious weeds or invasive plants. • If noxious weeds or invasive plants are 	<p>Prior to start of construction</p>	<p>Throughout the construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Thoroughly clean equipment used in or near intertidal mudflats and salt marsh habitats to prevent transfer of noxious weeds or invasive plants.</p>	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>present in imported materials, the contractor shall remove approximately five inches of the surface of the material from the borrow site before transporting to the project site.</p> <ul style="list-style-type: none"> • Before removal, this material will be chemically or mechanically treated to kill the existing noxious weeds and invasive plants, and will not be used for the project without approval. 					
Fisheries and Aquatic Resources					
<p>Measure BIO-13 Implementation of Mitigation Measure WR-1 and the following measures will be followed during dredging in San Pablo Bay to reduce turbidity.</p> <p>In-water construction and dredging activities will occur during the window of June through November, to minimize effects on listed species and their habitat.</p> <p>Sampling and testing for contaminants will be conducted in potential dredging locations in San Pablo Bay prior to the onset of dredging activities (per USEPA and USACE requirements). If sediments to be dredged are contaminated such that their re-suspension may adversely affect listed species or their habitat, NMFS and CDFG will be consulted.</p> <p>Bankward slopes of the dredged area will be slanted to acceptable side slopes (e.g., 3:1) to prevent sloughing.</p>	Prior to start of construction	During dredging of San Pablo Bay	City of Hercules and primary construction contractor	Conduct construction activities according to USEPA and USACE requirements.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>Measure BIO-16 Implementation of a Spill Prevention and Response Plan designed to minimize the potential for chemical spills and seepage, would reduce the potential impact to a less than significant level. Additionally, all maintenance materials (i.e., oils, grease, lubricants, antifreeze, and similar materials) will be stored at off-site areas. If these materials are required during construction activities, then they will be placed in a designated area at a minimum of 100 feet away from Refugio Creek and San Pablo Bay. Regular maintenance of construction vehicles and equipment will also be performed to ensure they are in working order throughout the construction period. On-site vehicle maintenance will only be allowed within maintained staging areas that are away from sensitive resource areas.</p>	<p>Prior to start of construction or any ground disturbing activities</p>	<p>Throughout the construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Prepare and submit a Spill Prevention and Response Plan to the San Francisco RWQCB and implement elements during construction.</p>	
<p>Measure BIO-17 Dredging activities in San Pablo Bay will be conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt. This work window also will minimize potential impacts to other fish and aquatic species by minimizing the timing of dredging to June through November.</p>	<p>Prior to start of construction</p>	<p>Throughout construction period in San Pablo Bay</p>	<p>City of Hercules and primary construction contractor</p>	<p>Limit dredging to June through November.</p>	
<p>Measure BIO-18 Pile driving will be conducted “in the dry,” minimizing any potential impacts to fishes and</p>	<p>Prior to start of construction pile driving activities</p>	<p>Throughout construction pile driving activities</p>	<p>City of Hercules and primary construction contractor</p>	<p>Implement and monitor measures to reduce underwater noise below</p>	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>marine mammals to less than significant levels. Avoidance and minimization measures to be employed to reduce underwater noise levels to less than significant levels will be developed in consultation with NMFS, but may include some or all of the following:</p> <ul style="list-style-type: none"> • Use of a cofferdam; • Use of a vibratory pile driver when feasible; • Use of a percussion hammer; • Use of a cushioning block between the hammer head and pile; • Driving piles during slack tides while currents are comparatively slower; • If marine mammals are observed within 1,000 feet of the project, allowing them to completely exit the project area before pile driving resumes; • Restricting pile driving to the June to November 30 work window to protect anadromous salmonids and longfin smelt; and • Use of a qualified biologist to monitor pile installation to ensure that the sound minimizing techniques are effective in maintaining sound waves below established thresholds. 				thresholds required by NMFS.	
<p>Measure BIO-19 Sampling and testing for contaminants will be conducted in potential construction/dredging locations in San Pablo Bay prior to the onset of dredging activities. Dredging activities in San Pablo Bay will be</p>	Prior to start of dredging activities in San Pablo Bay	Throughout construction period in San Pablo Bay	City of Hercules and primary construction contractor	Test sediments to determine presence of contaminants of concern. Limit dredging to June through	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt. This work window also will minimize potential impacts to other fish and aquatic species by minimizing the time period of dredging to June through November.				November.	
Measure BIO-20 In-water construction activities in San Pablo Bay and dredging activities in San Pablo Bay will be conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt.	Prior to start of dredging activities in San Pablo Bay	Throughout construction period in San Pablo Bay	City of Hercules and primary construction contractor	Limit dredging to June through November.	
Measure BIO-23 Temporary impacts to phytoplankton production due to increases in turbidity would be avoided/minimized through the use of construction best management practices (BMPs) to reduce the potential for increases in turbidity (e.g., use of silt curtains or methods to protect from disturbance).	Prior to start of dredging activities in San Pablo Bay	Throughout construction period in San Pablo Bay	City of Hercules and primary construction contractor	Implement BMPs to reduce increases in turbidity to the extent feasible	
Measure BIO-24 Dredging activities will only occur during the window of June through November, minimizing potential impacts on herring spawning activities.	Prior to start of dredging activities in San Pablo Bay	Throughout construction period in San Pablo Bay	City of Hercules and primary construction contractor	Limit dredging to June through November.	
Measure BIO-25 Construction activities within wetlands and other waters of the U.S. will be limited to the	Prior to start of construction or ground disturbing activities	Throughout construction period	City of Hercules and primary construction contractor	Implement USACE and BCDC permit requirements. No net loss of	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>extent feasible.</p> <p>Prior to commencement of construction activities that have the potential to impact the wetlands or other waters of the U.S., a permit will be obtained from the USACE and BCDC for fill and/or disturbance of this habitat. All permit conditions will be followed. Suitable compensatory mitigation for impacts to wetlands and other waters of the U.S. will be determined in conjunction with the USACE and implemented to ensure no net loss of wetlands occurs.</p>				wetlands.	
Water Resources					
<p>Measure WR-1a</p> <p>Prior to dredging San Pablo Bay and Refugio Creek, a Sampling and Analysis Plan (SAP) detailing sediment sampling and analysis will be submitted to the San Francisco Bay Dredged Material Management Office (DMMO), which includes representatives from the USACE, RWQCB, BCDC, USEPA, and other resource agencies. If the results of the SAP indicate that water quality will not be impacted by dredging, a consolidated Dredging – Dredge Material Reuse/Disposal permit would be issued by the USACE. The permit will cover both Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act and is functionally equivalent to a RWQCB Report of Waste Discharge. If contaminated sediment is encountered, further sediment characterization</p>	Prior to dredging of San Pablo Bay and Refugio Creek	Pre-construction of dredging	City of Hercules and primary construction contractor	Conduct sampling and implement USACE requirements.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
and a sediment removal plan (including upland disposal or beneficial reuse) will be required to protect water quality.					
<p>Measure WR-1b Dredging would result in some suspension of sediments. If impacted sediments are to be dredged in Refugio Creek and/or San Pablo Bay, impacts to water quality could be minimized through the use of the following Best Management Practices (BMPs):</p> <ul style="list-style-type: none"> • Use of silt curtains, which prevent suspended sediment from migrating out of the immediate project area; • Dredging only on low or incoming tide; • Hydraulic or closed clamshell dredging to reduce the generation of suspended sediments; • Shunting, which involves pumping of the free water in a sediment holding barge to the bottom of the water body, which reduces turbidity; and • Employment of an independent, certified, on-board dredging inspector to ensure compliance with permit conditions. <p>Monitoring will be conducted during dredging to allow for the following:</p> <ul style="list-style-type: none"> • Measurement of the efficiency of contaminated sediment removal; • Determination of dredged volumes; 	Prior to start of dredging activities	Throughout dredging activities	City of Hercules and primary construction contractor	Implement BMPs and monitor to minimize suspension of sediments.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<ul style="list-style-type: none"> • Measurement of sediment resuspension at the dredge site; and • Checking performance of barriers and other controls. <p>These are commonly used BMPs that have been accepted by the RWQCB as significantly reducing the impacts to water quality from sediment resuspension. A CWA Section 401 Water Quality Certification is required from the RWQCB for dredging permits.</p>					
<p>Measure WR-2</p> <p>Impacts to surface water from erosion are expected to be minimal during construction. Erosion will be controlled in accordance with an approved Erosion Control Plan. In addition, all construction activities will be performed in accordance with the California National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities, 2009-0009-DWQ (effective July 1, 2010), requiring the implementation of BMPs to control sediment and other pollutants mobilized from construction activities.</p> <p>BMPs may include, but would not be limited to:</p> <ul style="list-style-type: none"> • Excavation and grading activities in areas with steep slopes or directly adjacent to open water shall be scheduled for the dry season only (April 15 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall and 	<p>Prior to start of construction or any ground disturbing activities</p>	<p>Throughout the construction period</p>	<p>City of Hercules and primary construction contractor</p>	<p>Complete and submit SWPPP and Notice of Intent (NOI) to the San Francisco RWQCB.</p> <p>Implement all identified BMPs and maintained such that erosion from stormwater runoff is minimized to the extent practicable and feasible.</p>	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>surface runoff.</p> <p>If excavation occurs during the rainy season, storm runoff from the construction area shall be regulated through a storm water management/erosion control plan that shall include temporary onsite silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work stops due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow would be controlled, such as the temporary silt basins. Sediment basins/traps shall be located and operated to minimize the amount of off-site sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location onsite, away from concentrated flows, or removed to an approved disposal site.</p> <p>Temporary erosion control measures shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, appropriate erosion control measures shall be placed upstream adjacent to the water body.</p> <p>Erosion protection shall be provided on all cut-and-fill slopes. Revegetation shall be facilitated by mulching, hydroseeding, or other methods</p>					

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>and shall be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15).</p> <p>BMPs selected and implemented for the project shall be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary. Effective mechanical and structural BMPs that would be implemented at the project site include the following:</p> <ul style="list-style-type: none"> • Mechanical storm water filtration measures, including oil and sediment separators or absorbent filter systems such as the Stormceptor® system, can be installed within the storm drainage system to provide filtration of storm water prior to discharge. • Vegetative strips, high infiltration substrates, and grassy swales can be used where feasible throughout the development to reduce runoff and provide initial storm water treatment. • Roof drains shall discharge to natural surfaces or swales where possible to avoid excessive concentration and channelization of storm water. • Permanent energy dissipaters can be included for drainage outlets. • The water quality detention basins can be designed to provide effective water quality 					

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>control measures including the following:</p> <ul style="list-style-type: none"> ○ Maximize detention time for settling of fine particles; ○ Establish maintenance schedules for periodic removal of sedimentation, excessive vegetation, and debris that may clog basin inlets and outlets; ○ Maximize the detention basin elevation to allow the highest amount of infiltration and settling prior to discharge. <p>Hazardous materials such as fuels and solvents used on the construction sites shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents will be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. A stockpile of spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities.</p> <p>Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.</p> <p>These measures will be developed and described in the SWPPP that is prepared before construction begins.</p>					

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>Measure WR-5 New facilities (railroad tracks, railroad bridge, and culverts) should be designed to minimize flooding (through the use of retaining wall, levees, and/or construction on fill). Flood hazard warnings should be posted and flood evacuation plans should be developed. Construction and design should also account for the maximum flood level so that facilities are built above the mark.</p>	Prior to completion of final design	Final design, construction, and operation	City of Hercules, design engineer, and primary construction contractor	Incorporate measures to minimize flooding and flood hazard warnings in final design.	
<p>Measure WR-6 Operation of the Hercules ITC will be in conformance with the California NPDES General Permit for Storm Water Discharges Associated with Industrial Activities. In accordance with this permit, a SWPPP would be developed, and BMPs would be implemented to control pollutants in stormwater discharges. Permanent stormwater control measures may include detention basins, vegetated swales, buffer strips, and/or infiltration basins. To eliminate surface runoff from the new parking areas, either gravel or permeable pavement would be used so that rainwater could permeate into underlying soil.</p>	Prior to completion of final design and start of ground disturbing activities	Final design and throughout the construction period	City of Hercules and primary construction contractor	Implement SWPPP elements and identified BMPs to minimize contaminants from entering drainage system to the extent practicable and feasible.	
Geology					
<p>Measure GEO-1 A site-specific geotechnical investigation shall be required for this project. The project will conform to provisions of current building codes</p>	Prior to completion of final design	During completion and approval final design	City of Hercules, design engineer, and primary construction contractor	Final design to meet with seismic design standards and requirements in the	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>and to the recommendations of the geotechnical investigations performed for the proposed project. Facilities shall be designed and constructed at a minimum to “Essential Structure” standards as well as the seismic design requirements for ground shaking specified in the Uniform Building Code for Seismic Zone 4. Additionally, to satisfy the provisions of the 2007 CBC, these facilities shall be designed to withstand ground motions equating to approximately a 500-year return period (10 percent probability of exceedance in 50 years). For design purposes, site-specific ground motions shall be calculated for the chosen project site.</p>				Uniform Building Code for Seismic Zone 4.	
<p>Measure GEO-3 Design-level analyses of the liquefaction hazard shall be required for the project. Specifically, a program of site-specific exploratory borings and accompanying laboratory testing will be required to delineate any potentially liquefiable materials underneath proposed facilities. These geotechnical investigations will also be required for consideration prior to foundation design. Potentially liquefiable deposits will either have to be removed or engineered (dewatered or densified) to reduce their liquefaction potential. This has been performed with success within areas of liquefaction risk in the Bay Area. For example, densified fill materials in areas of Foster City and Redwood Shores survived the 1989 M_w 6.9 Loma Prieta earthquake without</p>	Prior to completion of final design	During completion and approval final design	City of Hercules, design engineer, and primary construction contractor	Conduct design-level liquefaction hazard analysis and incorporate results in the final design.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
liquefying (Benuska 1990 <i>as cited in</i> URS 2003). The commercial and residential developments situated on these areas of engineered fill suffered no major structural damage during the earthquake.					
<p>Measure GEO-4</p> <p>A number of approaches are available to mitigate total and differential settlement associated with compressible Bay Mud. One or more of these shall be implemented in the design and construction of the proposed Hercules ITC structures, in compliance with the recommendations of the design-level geotechnical report:</p> <ul style="list-style-type: none"> • Careful grading design that incorporates anticipated total and differential settlements. This generally requires use of minimal fill thickness wherever practical, careful estimation of future settlements, and proper settlement monitoring during construction. • Surcharging to eliminate or reduce total and differential settlement. Surcharging can be staged to allow reusing import fills in various areas, depending on the project phasing. • Use of deep foundations that derive support below the Bay Mud. This generally involves driven concrete piles commonly used for heavy structures. <p>The project alternative selected should depend on the approach selected, the ability to phase developments and allow settlement to occur</p>	Prior to completion of final design	During completion and approval final design	City of Hercules, design engineer, and primary construction contractor	Implement one or more methods, as appropriate, to mitigate settlement associated with compressible Bay Mud in the final design.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
prior to construction, and the potential future settlement as identified in the design-level geotechnical report that could adversely impact structures and related site improvements.					
Hazardous Materials					
Measure HAZ-1a The construction contractor shall develop a project-specific Health and Safety Plan that includes a project-specific contingency plan for hazardous materials and waste operations. This plan shall be submitted to and approved by the City before construction activities are allowed to proceed. The Health and Safety Plan, applicable to all grading and excavation activities, shall establish policies and procedures to protect workers and the public from potential hazards posed by hazardous wastes. The Health and Safety Plan shall be prepared according to federal and state OSHA regulations.	Prior to start of construction	Throughout the construction period	City of Hercules and primary construction contractor	Prepare and implement the plan according to OSHA requirements.	
Measure HAZ-1b If affected or potentially affected soil and/or sediments are encountered during construction activities (grading and excavation), these materials would be excavated, stockpiled, and characterized to evaluate appropriate reuse or disposal alternatives. Confirmation of materials, sample characterization of stockpile materials using analytical data, and soil reuse/disposal plans would be submitted to the City for review and acceptance.	In the event contaminated soils and/or sediments are encountered during ground disturbing activities	Throughout the construction period	City of Hercules and primary construction contractor	Excavate, stockpile, and characterize potentially contaminated soil and/or sediments and evaluate appropriate disposal for City review. Implement City decision.	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
<p>Measure HAZ-1c The construction contractor shall develop a Spill Prevention and Response Plan and provide copies to all contractors working on the proposed project. At least one copy shall be made available at the project site with the construction manager at all times. The purpose of the Spill Prevention and Response Plan is to provide construction managers, environmental compliance monitors, and regulatory agencies with a detailed description of hazardous materials management, spill prevention, and spill response/cleanup measures associated with the construction of the proposed project.</p>	Prior to start of construction	Throughout the construction period	City of Hercules and primary construction contractor	Prepare and submit Spill Prevention and Response Plan to the San Francisco RWQCB and implement elements of the plan during construction.	
<p>Measure HAZ-1d Construction contractors and employees shall immediately control the source of any leak and contain any spill using appropriate spill containment and countermeasures. If required by any regulatory agency, contaminated media shall be collected and disposed of at an offsite facility approved to accept such media. In addition, all precautions required by the RWQCB for the project's NPDES General Permit for Stormwater Discharges Associated with Construction Activity would be taken to ensure that no hazardous materials enter the nearby waterways.</p>	Prior to start of construction	Throughout the construction period	City of Hercules and primary construction contractor	Implement all identified BMPs and maintain them such that contaminants are isolated from drainages to the extent practicable and feasible.	
Public Services					
<p>Measure PUB SVC-1 Prior to the start of construction activities, the</p>	Prior to start of construction	Throughout the construction period	City of Hercules and primary	Develop construction	

Mitigation Measure	Initiate Mitigation	Monitoring Frequency	Responsible Party for Verifying Compliance	Performance Criteria	Date Compliance Completed
City shall consult with the emergency service providers who have jurisdiction in the immediate vicinity of the Hercules ITC site to develop a Construction Emergency Response Access Plan that would identify appropriate routes and access points that would be available to police and fire services to use during the construction phase.	activities		construction contractor	emergency response access plan in consultation with emergency service providers and implement plan elements during construction.	