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**APPENDIX D – MITIGATION MONITORING AND REPORTING PROGRAM**

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# Water Line Replacement under Pilarcitos Creek at Strawflower Village Mitigation Monitoring and Reporting Program

October 2021

The California Environmental Quality Act (CEQA) and the CEQA Guidelines require Lead Agencies to adopt a program for monitoring the mitigation measures required to avoid the significant environmental impacts of a project. This Mitigation Monitoring and Reporting Program (MMRP) ensures that mitigation measures imposed by the Coastside County Water District (District) are completed at the appropriate time in the development process.

The mitigation measures identified in the Initial Study/Mitigated Negative Declaration for the Water Line Replacement under Pilarcitos Creek at Strawflower Village are listed in this MMRP along with the party responsible for monitoring implementation of the mitigation measure, the milestones for implementation and monitoring, and a signoff that the mitigation measure has been implemented.

<b>MITIGATION MONITORING AND REPORTING PROGRAM WATER LINE REPLACEMENT UNDER PILARCITOS CREEK</b>			
<b>Mitigation Measure</b>	<b>Implementation Schedule</b>	<b>Monitoring Agency</b>	<b>Sign-Off</b>
<b>BIO-1:</b> All vegetation removal and construction-related ground disturbance shall occur at minimum 15 ft above the top of the creek bank and within developed or park areas. A qualified biologist will monitor all drilling operations to ensure impacts to sensitive species and habitat are avoided.	During construction	Coastside County Water District	
<b>BIO-2:</b> Proposed Project activities shall occur between September 1 and February 14 in order to avoid potential impacts during the nesting season. If Project activities are conducted during the nesting season (February 15 – August 31), a pre-construction nesting bird survey shall be performed no more than 14 days prior to initial ground disturbance to avoid impacting active nests. If the survey identifies any active nests, an exclusion buffer shall be established for protection of the nest. Buffer distances shall vary based on species and conditions at the site, but typically range from 25 up to 500 ft. The buffer shall be maintained until all young have fledged or until the nest fails, or otherwise becomes inactive. Buffers may be reduced from established levels if supported with nest monitoring by a qualified biologist indicating that work activities are not adversely impacting the nest.	Prior to and during construction	Coastside County Water District	
<b>BIO-3:</b> The following measures shall be implemented to avoid impacts to California red-legged frog, San Francisco garter snake, western pond turtle, and steelhead: <ul style="list-style-type: none"> <li>• The Project has been designed and shall be implemented in such a way to avoid and minimize the risk of spills and frac-outs, as evaluated in the Preliminary Design Report (Appendix F) for this Project. Although the risk of frac-outs was identified as low, the HDD contractor shall prepare a Frac-out and Surface Spill Prevention Plan, based on information contained in the HDD Specifications section 02413, prepared by EKI and dated April 2021. The Frac-out Plan shall be prepared prior to construction. The plan shall address the potential risks and modes of frac-outs</li> </ul>	Prior to and during construction	Coastside County Water District	

**MITIGATION MONITORING AND REPORTING PROGRAM  
WATER LINE REPLACEMENT UNDER PILARCITOS CREEK**

Mitigation Measure	Implementation Schedule	Monitoring Agency	Sign-Off
<p>and frac-out prevention and detection. The plan shall include a project description, including site description, existing conditions, relevant permit requirements, and HDD design and operations, and shall at a minimum include the following information.</p> <ul style="list-style-type: none"> <li>○ Calculations of maximum allowable and minimum required drilling fluid pressures, and the critical downhole pressure that would cause hydrofracture.</li> <li>○ Measures describing training of personnel regarding frac-out monitoring procedures, equipment, materials, and procedures in place for the prevention, containment, cleanup, and disposal of drilling fluids.</li> <li>○ Pre-construction measures such as lining the entry pit with an impervious flexible membrane, creating an earth berm, or erecting silt fence around the drilling fluid mixing and pumping areas, and erecting silt fences between the drilling staffing areas and sensitive areas.</li> <li>○ Identifying the personnel on site during the entire HDD installation process with responsibility for detecting whether surface returns have occurred and how they will conduct the monitoring.</li> <li>○ Monitoring of drilling pressures to ensure that they are maintained at a minimum level necessary to maintain fluid circulation and do not exceed those pressures that may penetrate the ground.</li> <li>○ Monitoring of fluid returns at the exit and entry pit to determine if fluid circulation has been lost.</li> <li>○ The Contractor shall measure and record the drilling fluid viscosity and density at least two times per shift or once every 150 feet of advancement, whichever is more</li> </ul>			

**MITIGATION MONITORING AND REPORTING PROGRAM  
WATER LINE REPLACEMENT UNDER PILARCITOS CREEK**

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<p>frequent, with at least two hours between readings, using a calibrated Marsh funnel or rheometer/rotating viscometer, and a mud balance. These records shall be maintained and provided daily to the Engineer.</p> <ul style="list-style-type: none"> <li>• Protocols to be followed if there is a loss of circulation or other indication of frac-out are described below. <ul style="list-style-type: none"> <li>○ Immediately respond to detection of a frac-out by stopping drilling operations and pulling back the drill head to relieve pressure.</li> <li>○ Implement procedures to contain terrestrial returns (e.g., by an earth berm, installation of materials to contain the fluid, or other method).</li> <li>○ Implement procedures to contain returns into a waterway or sensitive area (e.g., installation of sandbags or a standpipe or barrel tall enough to exceed the water level and sealed at the base).</li> <li>○ Implement procedures for clean-up and disposal of frac-out materials.</li> <li>○ Include an on-site materials list to manage and control drilling fluid surface releases, such as heavy weight plastic gravel filled and sealed bags, splash boards, 5-gallon hard plastic pails, wide heavy-duty push brooms, flat blade and round-nose shovels, silt fence and t-posts or straw bales, chicken wire or connecting material to tie off the perimeter of a dewatering structure, absorbent pads to use with plastic sheeting for placement beneath motorized equipment, straw wattles, portable pumps, hoses, vacuum trailers or trucks, silt fence or screens.</li> <li>○ If a frac-out event occurs, the qualified biological monitor present during drilling operations shall be</li> </ul> </li> </ul>			

**MITIGATION MONITORING AND REPORTING PROGRAM  
WATER LINE REPLACEMENT UNDER PILARCITOS CREEK**

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<p>consulted to minimize disturbance to sensitive species and habitat during any immediate response and containment actions. Following containment, a qualified biologist shall document any adverse impact to sensitive habitat or species to help inform whether remedial actions may be warranted. If remedial actions are warranted, in consultation with the City and any relevant regulatory agencies, a mitigation plan will be developed with the proposed remedial actions and measurable performance standards to ensure adversely affected habitat is restored to pre-construction conditions or better. The mitigation plan will be submitted to the City of Half Moon Bay and any relevant regulatory agencies within 30 days of the event for review and approval. The City and relevant regulatory agencies shall inspect and approve any remedial actions taken by the Lead Agency to respond to the frac-out event.</p>			
<p><b>BIO-4:</b> To avoid impacts to the San Francisco dusky-footed woodrat, a pre-construction survey shall be conducted to search for stick nests in suitable habitats adjacent to the work area. Nest structures shall be avoided by Project work or access routes by a minimum of 5 ft. If avoidance is not feasible, the nest structure shall be dismantled by a qualified biologist. Nest material would be moved to suitable adjacent areas that shall not be disturbed. If young are encountered during the dismantling process, the material would be placed back on the nest and remain undisturbed for a minimum of two weeks to give the young enough time to mature and leave on their own accord. After the young have left the nest, the nest dismantling process would begin again.</p>	<p>Prior to and during construction</p>	<p>Coastside County Water District</p>	
<p><b>BIO-5:</b> The following general avoidance measures shall be implemented in the vicinity of stream and riparian habitat:</p>	<p>Prior to and during construction</p>	<p>Coastside County Water District</p>	

**MITIGATION MONITORING AND REPORTING PROGRAM  
WATER LINE REPLACEMENT UNDER PILARCITOS CREEK**

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<ul style="list-style-type: none"> <li>• Plastic monofilament netting (erosion control matting or wrapping around wattles), or similar material in any form shall not be used on the Project in order to avoid entangling, strangling, or trapping California red-legged frog, San Francisco garter snake, or western pond turtle.</li> <li>• Prior to the start of groundbreaking activities, all construction personnel shall receive training on special-status species and their habitats by a qualified biologist. The importance of these species and their habitat shall be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the Project. A list of trained personnel shall be maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.</li> <li>• No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Proposed Project Area.</li> <li>• Any fueling and maintenance of equipment shall be conducted off-site and at least 50 ft from any designated ESHA, which includes Pilarcitos Creek and the associated riparian vegetation adjacent to the creek.</li> <li>• When working within 50 ft of sensitive areas (e.g., adjacent to riparian habitat), wildlife exclusion fencing shall be installed and maintained around the perimeter of work areas. Exclusion fencing shall enclose any staged materials, equipment staging areas, work areas or access routes. Fencing shall be placed in areas which would prevent San Francisco garter snake and California red-legged frog from entering equipment or materials overnight. Once work in that area has been completed, exclusion fencing shall be removed as soon as possible. Exclusion fencing shall additionally</li> </ul>			

MITIGATION MONITORING AND REPORTING PROGRAM WATER LINE REPLACEMENT UNDER PILARCITOS CREEK			
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<p>be of a size and material that will not cause entrapment of California red-legged frog.</p> <ul style="list-style-type: none"> <li>• Construction activities shall not start until 30 minutes after sunrise and shall cease 30 minutes before sunset.</li> <li>• No holes or trenches shall be left open overnight. The contract documents will require that all trenches are backfilled or plated during non-working hours.</li> </ul>			
<p><b>CULT-1:</b> The District or its contractor shall conduct pre-work training so that in the event that soil disturbance uncovers buried archaeological deposits, workers are aware of what a buried deposit might look like and what they need to do.</p> <p>In keeping with the CEQA guidelines, if previously unidentified cultural resources or archaeological remains are uncovered, work at the place of discovery shall be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include but are not limited to obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).</p> <p>The following actions are promulgated in Public Resources Code 5097.98 and Health and Human Safety Code 7050.5 and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location shall be halted in the vicinity of the find, and the</p>	<p>Prior to construction and in the event that cultural resources or archaeological remains are uncovered.</p>	<p>Coastside County Water District</p>	

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county coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the coroner determines the remains are Native American and prehistoric, the coroner shall contact the Native American Heritage Commission. The Native American Heritage Commission shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.			
<p><b>HAZ-1:</b> During construction activities, the construction contractor shall implement the following BMPs to prevent wildlife hazards:</p> <ul style="list-style-type: none"> <li>• Staging areas, welding areas, or areas slated for development using spark producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. The contractor shall keep these areas clear of combustible materials in order to maintain a firebreak.</li> <li>• No smoking, open flames, or welding shall be allowed in refueling or service areas.</li> <li>• Service trucks shall be provided with fire extinguishers. A minimum of two fire extinguishers shall be kept on site during proposed project construction.</li> <li>• Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order</li> </ul>	During construction	Coastside County Water District	
<p><b>NOISE-1:</b> The District shall incorporate the following practices, in addition to those listed in the project description, into the construction documents to be implemented by the project contractor:</p> <ul style="list-style-type: none"> <li>• Notify businesses, residences, and noise-sensitive land uses adjacent to construction sites of the construction schedule in writing. Designate the District’s construction manager as responsible for responding to any local complaints about construction noise. The construction manager shall determine the</li> </ul>	Prior to and during construction	Coastside County Water District	

**MITIGATION MONITORING AND REPORTING PROGRAM  
WATER LINE REPLACEMENT UNDER PILARCITOS CREEK**

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<p>cause of the noise complaints (for example starting too early, or a bad muffler) and institute reasonable measures to correct the problem. Conspicuously post telephone numbers for the construction manager, the City, and the District at the construction site.</p> <ul style="list-style-type: none"> <li>• Maximize the physical separation between noise generators and noise receptors. Such separation includes, but is not limited to, the following measures: <ul style="list-style-type: none"> <li>○ Use heavy-duty mufflers for stationary equipment;</li> <li>○ Locate stationary equipment to minimize noise impacts on the community; and</li> <li>○ Minimize backing movements of equipment.</li> </ul> </li> <li>• Impact equipment (e.g., jack hammers and pavement breakers) shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers shall be used on other equipment. Other quieter procedures, such as drilling rather than using impact equipment, shall be used whenever feasible.</li> <li>• Prohibit unnecessary idling of internal combustion engines.</li> </ul>			
<p><b>TRAFFIC-1:</b></p> <ul style="list-style-type: none"> <li>• Local emergency services shall be notified prior to construction to inform them that traffic delays may occur, and also of the proposed construction schedule.</li> <li>• The District shall require the contractor to provide for passage of emergency vehicles through the proposed Project Area at all times.</li> <li>• The District shall require the contractor to maintain access to all residences during project construction.</li> </ul>	<p>Prior to and during construction</p>	<p>Coastside County Water District</p>	