1 Summary

1.1 Introduction

This environmental impact report (EIR) evaluates the potential for significant environmental impacts from the Newell Creek Pipeline (NCP) Improvement Project (Proposed Project). This summary highlights the major areas of importance in the environmental analysis for the Proposed Project, as required by Section 15123 of the California Environmental Quality Act (CEQA) Guidelines. It also provides a brief description of the Proposed Project, alternatives to the Proposed Project, and areas of controversy known to the City of Santa Cruz (City). In addition, this chapter provides a table summarizing: (1) the potential environmental impacts that would occur as the result of the Proposed Project; (2) the level of impact significance before mitigation; (3) the proposed mitigation measures that would avoid or reduce significant environmental impacts; and (4) the level of impact significance after mitigation measures are implemented.

1.2 Project Overview

The Proposed Project consists of replacement of 8.75 miles of the existing NCP with a new 24-inch ductile iron or polyvinyl chloride (PVC) pipeline. The pipeline generally would be installed within existing road pavement, road right-of-way (ROW), which includes road pavement and unpaved shoulders adjacent to the paved road, and/or existing City easements. In order to focus the environmental review on specific locations along the 8.75-mile pipeline, the alignment was separated into a northern segment and a southern segment; these segments were further delineated into specific sections as described below.

The proposed northern NCP segment from the Newell Creek Access Road Bridge just south of Newell Creek Dam to the Felton Booster Pump Station (FBPS) generally follows the existing NCP alignment. There are six distinct sections that comprise the northern segment, generally named for the roads in proximity to the pipe or other notable features nearby: Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, San Lorenzo Way, and Felton Booster Pump Station.

The proposed southern NCP segment from the FBPS to the Graham Hill Water Treatment Plant (GHWTP) generally includes a new pipeline alignment along Graham Hill Road, except where it already exists in Graham Hill Road between the southern edge of Henry Cowell State Park and the GHWTP. The new pipe would replace the existing pipe that is located within Pipeline Road in Henry Cowell Redwoods State Park. The southern segment is comprised of two sections, Graham Hill Road North and Graham Hill Road South.

Other components of the Proposed Project include cathodic protection and installation and/or replacement of minor appurtenances, such as air release valves and isolation valves. Once the new pipeline is installed and the interconnections are made, the existing NCP generally would be abandoned in place.

Three pipeline sections have been identified for replacement in the near term: two sections along Graham Hill Road, comprising the entire southern segment that would replace the existing pipe through Henry Cowell Redwoods State Park in a new alignment, and the Brackney North section in the northern segment. The engineering design phase for these sections is underway. For the remainder of the pipeline alignment, a

conservative project scenario is assumed, which includes installation of the new pipeline within specified construction disturbance corridors.

Standard construction practices would be implemented by the City or its contractors during construction of the Proposed Project to avoid or minimize erosion and water quality degradation, protect sensitive species and habitat, reduce potential impacts to cultural resources, and reduce air quality and noise impacts. Upon completion of construction, construction sites would be revegetated and/or restored, and disturbed roadways where trenching occurred to install the pipeline would be repaved in accordance with County requirements.

The Proposed Project is scheduled to be constructed in phases over multiple years from approximately late 2022/early 2023 to 2032. The Brackney North, Graham Hill Road North, and Graham Hill Road South pipe sections would be constructed first, with an estimated construction schedule of about 24 months for the Graham Hill Road sections and approximately 9 months for the Brackney North section, including pipeline installation, road repaving, abandonment of the existing NCP, and post-construction revegetation where needed. The remainder of the pipeline sections are expected to be constructed by 2032.

A full description of all project components is provided in Chapter 3, Project Description, of this EIR.

1.3 Impact Summary

Table 1- on page 1-5 below provides a complete list of the Proposed Project's environmental impacts, including the level of significance before and after mitigation, based on the analysis and conclusions presented in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures. Significant and unavoidable impacts have been identified in this EIR related to temporary construction noise associated with pipe installation as listed in Table 1- (see Impact NOI-2). For information regarding how the alternatives to the Proposed Project, as identified in Section 1.4, Alternatives to the Proposed Project, would address these same environmental impacts, see Table 6-3 in Chapter 6, Alternatives.

1.4 Alternatives to the Proposed Project

CEQA Guidelines Section 15126.6 requires that an EIR describe and evaluate alternatives to the Proposed Project that feasibly attain most of the basic objectives of the project and would avoid or substantially lessen any of the significant effects of the project. As most identified impacts of the Proposed Project relate to the actual construction of various project and programmatic infrastructure components, the alternatives selected consider no or reduced infrastructure components. The following alternatives are evaluated in Chapter 6, Alternatives:

- **No Project Alternative** – The No Project Alternative is required by CEQA and consists of the circumstances under which the Proposed Project does not proceed
- **Alternative 1A** – Alternative Pipe Alignment: Quail Hollow Road in the northern segment as shown on Figure 6-2
- **Alternative 1B** – Alternative Pipe Alignment: Mount Hermon Road in the southern segment as shown on Figure 6-2
- **Alternative 2** – Brackney North Pipe Section Alternative Construction Methods

Table 6-3 in Chapter 6, Alternatives, presents a comparison of project impacts between the Proposed Project and the alternatives. The No Project Alternative would reduce or avoid impacts to some environmental resources. Alternative 1A would avoid significant impacts related to geology (GEO-2), hazardous materials (HAZ-3), and hydrology (HYDRO-1). Other significant impacts would remain the same as with the Proposed Project, except that biological resource impacts (BIO-1A, BIO-1B, BIO-2) and paleontological resource impacts (GEO-4) could increase in severity over the Proposed Project. However, Alternative 1A would reduce impacts associated with noise impacts (NOI-2) from significant unavoidable to less than significant with mitigation. Alternative 1B would lessen significant impacts related to some biological resources (BIO-1A, BIO-3-jurisdictional wetlands) and paleontological impacts (GEO-4), but impacts would continue to be significant, requiring mitigation as with the Proposed Project. Other significant impacts would remain the same as the Proposed Project, except that some biological resource impacts (BIO-1B, BIO-2) and hazardous materials impacts (HAZ-3) could increase in severity over the Proposed Project. Alternative 2 would not avoid or substantially reduce any identified significant impacts.

Overall, of the alternatives considered, Alternative 1A would eliminate or reduce the severity of more identified significant impacts than the other alternatives reviewed and also attain most of the project objectives. Therefore, Alternative 1A is considered the environmentally superior alternative of the CEQA alternatives reviewed.

1.5 Known Areas of Controversy

The City of Santa Cruz, as the Lead Agency, has identified areas of concern based on the EIR Notice of Preparation (NOP), which is included in Appendix A. In response to the NOP, one letter of comment was received from one public agency. One public scoping meeting was held on February 2, 2021 to receive public comments on the scope of the EIR's analyses. Due to restrictions from the Covid-19 pandemic[1], a virtual public scoping meeting was held, and the corresponding presentation about the Proposed Project was posted on the City's website at http://www.cityofsantacruz.com/waterenvdocs. No comments regarding the scope of EIR analysis were received at the scoping meeting.

The written comments received in response to the NOP have been taken into consideration in the preparation of this EIR for comments that address environmental issues. The comments concern cultural resources and recommendations for cultural resources studies and outreach to Native American tribes. All substantive environmental issues raised in the comment letters received in response to the NOP have been addressed or otherwise considered during preparation of this Draft EIR. There are no areas of known controversy regarding the Proposed Project.

[1] Due to the Shelter-In-Place Order issued on March 16, 2020 by the County of Santa Cruz in response to the 2019 novel coronavirus disease (COVID-19) pandemic, the meeting was held on the phone for remote participation. Notice of this meeting, how to attend the virtual meeting, and how to access the materials online was sent to the City's mailing list in advance of the scoping meeting. This notice was posted on the City's website, the City Hall campus notice board, and on the project site, and it was sent to the same distribution list as the NOP (excluding the State Clearinghouse and the County Clerk).

1.6 Issues to be Resolved

CEQA Guidelines Section 15123 requires the EIR summary to identify "issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." This EIR has presented mitigation measures and project alternatives, and the City Council will consider the Final EIR when considering the Proposed Project. In considering whether to approve the Proposed Project, the City Council will take into consideration the environmental consequences of the Proposed Project with mitigation measures and project alternatives, as well as other factors related to feasibility. The City Council will also consider the extent to which the project alternatives, would meet the underlying purposes of the Proposed Project and whether the alternatives would meet the City's specific project objectives.

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Air Quality			
Impact AIR-1: Criteria Pollutant Emissions. The Proposed Project would result in emissions of criteria pollutants, but would not exceed adopted thresholds of significance, violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	Less than Significant	None	Less than Significant
Impact AIR-2: Exposure of Sensitive Receptors. The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	None	Less than Significant
Impact AIR-3: Result in Other Emissions (Odors) Adversely Affecting a Substantial Number of People. The Proposed Project would not result in other emissions that would adversely affect a substantial number of people.	Less than Significant	None	Less than Significant
Impact AIR-4: Cumulative Air Quality Impacts. The Proposed Project emissions, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to air quality, and the Proposed Project's contribution would not be cumulatively considerable.	Less than Significant	None	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Biological Resources			
Special-Status Plant Species. The Proposed Project could have a substantial adverse effect on special-status plant species during construction.	Potentially Significant	**MM BIO-1: Project Siting (Applicable to all Proposed Project sections).** The City shall protect the specific locations of any sensitive biological resources, including special-status plants, special-status wildlife, sensitive vegetation communities and habitat areas, and jurisdictional aquatic resources, that are outside of but adjacent to construction work areas to minimize disturbance to these resources. These locations shall be identified prior to construction and impacts to such resources will be avoided and minimized through placement of protective measures, such as fencing, staking and/or flagging to prevent equipment or workers from temporarily encroaching within these areas. Warning signs shall be posted on the temporary fencing to alert workers not to proceed beyond the fence, including the following language: "Notice: Sensitive Habitat Area. Do Not Enter." The specific locations of sensitive biological resources to be protected will be identified by a qualified biologist and protective measures will be installed prior to the commencement of construction. No ground disturbing activities will occur outside existing developed areas and maintained road rights-of-way (ROW) to avoid and minimize impacts to special-status plants, special-status wildlife, sensitive vegetation communities, sensitive habitats, and aquatic resources. **MM BIO-2: Special-Status Plant Surveys (Applicable to all Proposed Project sections).** To identify special-status plants or plant patches to be avoided under MM BIO-1, a qualified botanist shall survey Proposed Project work areas not covered in 2021 surveys in accordance with standard protocols (CNPS 2001, CDFW 2018, USFWS 2000) prior to construction. The botanist shall also revisit the 2021 botanical survey area to confirm the absence of special-status plants from any direct impact areas (e.g., staging areas,	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		excavation footprints) included in final construction drawings (areas outside direct impact areas that were surveyed in 2021 would not need to be rechecked). The botanist or another qualified biologist with native plant identification training shall be present on site during the placement of protective fencing, staking, and/or flagging so that plants and their root zones are adequately protected from construction activities. **MM BIO-3: Special-Status Plant Compensation.** If any special-status plant occurrences are found in future surveys and cannot be avoided, a plan focused on compensating for impacts to these species shall be developed by the City prior to construction and implemented. This plan shall be a component of the project's overall Habitat Mitigation and Monitoring Plan described in MM BIO-10 and include the following elements: a. Description and quantification of special-status plant occurrences that would be impacted by the project; b. Identification and evaluation of on- or off-site areas for preservation of existing special-status plant occurrences or propagation of new occurrences using seeds from impacted occurrences; c. Analysis of appropriate and viable planting or propagation techniques, seed-collection techniques, and seeding rates for impacted species; d. A description of specific performance standards, including a required replacement ratio and minimum success standard of 1:1 for impacted individuals or populations; e. A monitoring and reporting program to ensure mitigation success; and	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		f. A description of adaptive management and associated remedial measures to be implemented in the event that performance standards are not achieved.	
Impact BIO-1B: Special-Status Wildlife Species. The Proposed Project could have a substantial adverse effect on special-status wildlife species during construction.	Potentially Significant	**MM BIO-1** (as shown in Impact BIO-1A) and the following measures. **MM BIO-4: Sandhills Species Wildlife Protection and Compensation (Applicable to Proposed Project Newell Creek Road, Glen Arbor, Graham Hill Road North and Graham Hill Road South sections).** Direct temporary impacts to suitable Sandhills habitat for the Mount Hermon June beetle and/or Zayante band-winged grasshopper (and individuals) shall be addressed through either the Section 7 or Section 10(a)(1)(B) process under the federal Endangered Species Act (ESA) of 1973, as amended. Alternatively, the City may seek concurrence with USFWS that implementation of appropriate avoidance and minimization measures set forth in the existing O&M HCP would ensure approved levels of incidental take are not exceeded due to project activities. Compensatory mitigation for the temporary loss of suitable habitat (and individuals) shall be provided at a minimum 1:1 ratio or at other ratios as determined through consultation with USFWS. The City has available acreage at its existing Bonny Doon mitigation site which provides high quality Mount Hermon June Beetle habitat, per the Low-Effect HCP issued for GHWTP activities; this site may be utilized to compensate for any temporary impacts to Mount Hermon June Beetle resulting from the Proposed Project. Once the take authorization has been provided for the Proposed Project, if necessary, relevant conservation measures shall be implemented. **MM BIO-5: Mount Hermon June Beetle Protection (Applicable to Proposed Project Newell Creek Road, Glen Arbor, Graham Hill Road North and Graham Hill Road South sections).** To reduce potential impacts to Mount Hermon June Beetle, exposed soils disturbed in areas of Zayante soils shall be covered during the active breeding season (May 15 through August 15) between the hours of 7pm and	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		7am daily. All exposed soils shall be covered by tarps, plywood, erosion control fabric, or other suitable impervious material. This will prevent adult males from burrowing into the exposed soils and subsequently being injured or killed by soil disturbance. **MM BIO-6: Conduct Special-Status Amphibian and Reptile Species Survey and Monitoring (Applicable to Proposed Project Newell Creek Road, Glen Arbor Road, and Graham Hill Road North sections).** A pre-construction survey for Santa Cruz black salamander, California giant salamander, and western pond turtle shall be conducted within 48 hours prior to the initiation of ground disturbance in suitable habitat for these species (i.e., damp upland areas near/adjacent to existing aquatic features associated with creeks, and the wetted portion of creeks). The survey area shall include all suitable habitat within work areas, plus a 50-foot buffer. Following the survey, the contractor, under the direction of a qualified biologist, shall install wildlife exclusion fencing (WEF) along the boundary of the work area containing suitable habitat to prevent special-status amphibians and reptiles from entering the work area. WEF must be trenched into the soil at least 4 inches in depth, with the soil compacted against both sides of the fence for its entire length, and must have intermittent exit points. Turn-arounds shall be installed at access points to direct amphibians and reptiles away from gaps in the fencing. A daily pre-construction sweep for wildlife within all staging and work areas shall be conducted and a qualified biologist shall inspect WEF at least weekly when work is conducted within suitable habitat. If any individuals of Santa Cruz black salamander, California giant salamander or western pond turtle are observed during the pre-construction survey or construction, their location(s) shall be recorded and they should be allowed to move out of the area on their own. Alternatively, they shall be moved to the nearest appropriate habitat outside of the work area by a qualified	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		biologist with applicable regulatory approvals to capture, handle, and translocate these species. To avoid entrapment of special-status as well as common amphibian and reptiles during construction, any trenches or pits measuring 1 foot or greater in depth that must be left open at the end of a day's construction activities shall be either covered or encircled with WEF, or the end of any open walls shall be ramped at an approximate 2:1 slope to allow any wildlife that enters the excavation to escape. A qualified biologist may approve the use of an alternative method to prevent ingress or entrapment. **MM BIO-7: Conduct San Francisco Dusky-Footed Woodrat Survey and Relocation (Applicable to Proposed Project Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, and Graham Hill Road North sections).** A pre-construction survey to locate woodrat middens shall be conducted by a qualified biologist no more than 14 days prior to the onset of construction activities. The survey area shall include all suitable habitat within the work areas, plus a 50-foot buffer. Woodrat middens found shall be photographed, mapped and flagged with high visibility flagging tape or fenced for avoidance. If middens are found and complete avoidance is not feasible, the following measures shall be implemented after obtaining approval from CDFW to avoid and reduce impacts on San Francisco dusky-footed woodrat: a. A qualified biologist shall dismantle the nest by hand to allow for adult San Francisco dusky-footed woodrat individuals to escape (this work shall be conducted outside of the breeding season for this species which is April through June);	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		b. If young are observed during the dismantling process, the qualified biologist shall stop work for a minimum of 24 hours to allow the adult woodrats to relocate their young; c. Once the nest is determined to be vacant, the dismantling process shall be completed and the nest materials shall be collected and moved to another suitable location nearby and outside of the construction footprint to allow for nest reconstruction; and d. Where feasible, piles of cut vegetation and slash generated by project clearing and grubbing activities shall be left outside of, but near the work area, to provide refuge for woodrats that may become displaced by project activities. **MM BIO-8: Conduct Preconstruction Nesting Bird Surveys (Applicable to Proposed Project Graham Hill Road North section and any section where tree or vegetation removal is proposed).** Vegetation removal activities shall be conducted outside the bird nesting season (February 1 through August 31) as much as possible to avoid direct impacts to nesting birds. For construction and vegetation removal activities occurring during the nesting season, an avian nesting survey of the work areas and contiguous habitat within 300 feet of all impact areas must be conducted for protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 14 days prior to the start of vegetation removal or construction activities. Once construction has started, if there is a break in activities that exceeds 14 days, then another avian nesting survey shall be conducted. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the species' sensitivity to disturbance. The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The no disturbance	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		buffer shall be demarcated in the field with flagging and stakes or construction fencing as determined appropriate by the biologist. **MM BIO-9: Conduct Preconstruction Roosting Bat Survey (Applicable to Proposed Project Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, and Graham Hill Road North sections).** To the extent practicable, tree removal should occur outside peak bat activity timeframes when young or overwintering bats may be present, which generally occurs from March through April and August through October, to ensure protection of potentially occurring bats and their roosts within work areas. Additionally, daily restrictions on the timing of any construction activities should be limited to daylight hours to reduce disturbance to roosting (and foraging) bat species. Additionally, a visual bat survey should be conducted within 30 days prior to the removal of any trees and commencement of construction activities. The survey should include a determination on whether any active bat roosts are present on or within 50 feet of the project work areas. If a non-breeding and non-wintering bat colony is found, the individuals shall be evicted under the direction of a qualified biologist to ensure their protection and avoid unnecessary harm. If a maternity colony or overwintering colony is found within the work areas, then the qualified biologist shall establish a suitable construction-free buffer around the location. The construction-free buffer shall remain in place until the qualified biologist determines that the nursery is no longer active. **MM BIO-10: Biological Construction Monitoring (Applicable to all sections with off-pavement ground disturbance).** A qualified biologist shall monitor vegetation removal and initial ground disturbing construction activities for off-pavement work and conduct periodic monitoring inspections for all other construction activities. The monitor shall check any installed WEF (MM BIO-6) and buffers for any active	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		nesting birds (MM BIO-7) encountered at least once a week, and if nesting birds are determined to be present, shall verify when the young have fledged before commencement of construction activities in proximity to the nest. The biologist shall have stop-work authority in the event that a protected species is found within the active construction footprint. During construction, the biological monitor shall keep a daily observation log and a photo log to describe monitoring activities, remedial actions, non-compliance, and other issues and actions taken. These logs shall be kept on-site or tracked in a digital database and made available for inspection by agency personnel.	
Impact Bio-2: Sensitive Vegetation Communities. The Proposed Project could have a substantial adverse effect on sensitive vegetation communities and habitats during construction.	Potentially Significant	**MM BIO-1** (as shown in Impact BIO-1A) and the following measures. **MM-BIO-11: Sensitive Vegetation Communities Compensation (Applicable to Proposed Project Newell Creek Road, Glen Arbor Road, Graham Hill Road North, and Graham Hill Road South sections).** Direct temporary impacts to sensitive vegetation communities shall be mitigated via a combination of on-site and off-site measures. On-site measures shall include rehabilitation for areas temporarily impacted at a 1:1 mitigation ratio. All areas temporarily impacted shall be returned to conditions similar to those that existed prior to grading and/or ground-disturbing activities. It is anticipated that a one-time restoration effort at the completion of the project followed by monitoring and invasive weed removal for a minimum of 3 years would adequately compensate for the direct temporary impacts to these vegetation communities. A Habitat Mitigation and Monitoring Plan shall be prepared and implemented to compensate for the loss of all sensitive vegetation communities (see below). Rehabilitation and enhancement activities with Zayante soils will be revegetated with plants native to the Sandhills habitat (on Zayante soils), such as sticky monkeyflower (*Mimulus aurantiacus*), deer weed (*Lotus scoparius*), and silver bush lupine. These native plants	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		will provide suitable habitat conditions for special-status species that might eventually colonize the temporarily impacted portion of the impact area. These revegetated areas will not include any landscape elements that degrade habitat for the special-status species, including mulch, bark, weed matting, rock, aggregate, or turf grass. The Habitat Mitigation and Monitoring Plan shall detail the habitat restoration activities and shall specify the criteria and standards by which the revegetation and restoration actions will compensate for impacts of the Proposed Project on sensitive vegetation communities and shall at a minimum include discussion of the following: a. The rehabilitation and enhancement objectives, type, and amount of revegetation to be implemented taking into account enhanced areas where non-native invasive vegetation is removed and replanting specifications that take into account natural regeneration of native species when applicable. b. The specific methods to be employed for revegetation. c. Success criteria and monitoring requirements to ensure vegetation community restoration success. d. Remedial measures to be implemented in the event that performance standards are not achieved.	
Impact BIO-3: Jurisdictional Aquatic Resources. The Proposed Project would not have a substantial adverse effect on jurisdictional wetlands, but could have a substantial adverse effect on jurisdictional non-wetland waters during construction that would result in both temporary and permanent impacts.	Potentially Significant	**MM BIO-1** (as shown in Impact BIO-1A) and the following measures. **MM BIO-12: Aquatic Resource Avoidance.** Future refinements to the Proposed Project shall avoid jurisdictional aquatic resources regulated by the U.S. Army Corps of Engineers, Regional Water Control Board, and California Department of Fish and Wildlife, to the maximum extent practicable. As described in MM BIO-1, where feasible and appropriate, all jurisdictional aquatic resources not	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		directly affected by construction activities will be avoided and protected by establishing staking, flagging or fencing between the identified construction areas and aquatic resources to be avoided. **MM BIO-13: Aquatic Resource Compensation.** For any unavoidable impacts to jurisdictional aquatic resources, the City shall ensure that there is no net loss of such resources. This shall be accomplished by providing compensatory mitigation at a minimum ratio of 1:1 for temporary impacts and 2:1 for permanent impacts, or at other ratios as determined through negotiations with the regulatory agencies. A project-specific mitigation plan shall be developed for submittal to the U.S. Army Corps of Engineers, Regional Water Control Board, and/or California Department of Fish and Wildlife, as appropriate, through their respective regulatory permitting processes, and implemented. The mitigation plan shall specify the criteria and standards by which the mitigation will compensate for impacts of the Proposed Project and include discussion of the following: a. The mitigation objectives and type and amount of mitigation to be implemented; b. The location of the proposed mitigation site(s) (within the San Lorenzo River watershed, if possible); c. The methods to be employed for mitigation implementation (jurisdictional aquatic resource establishment, re-establishment, enhancement, and/or preservation); d. Success criteria and a monitoring program to ensure mitigation success; and e. Adaptive management and remedial measures in the event that performance standards are not achieved.	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact BIO-4: Wildlife Movement. The Proposed Project would not substantially degrade the quality or interfere with the use of a wildlife corridor or migratory route, or otherwise impede wildlife movement or use of native wildlife nursery sites.	Less than Significant	None	Less than Significant
Impact BIO-5: Cumulative Biological Resources Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to biological resources.	Less than Significant	None	Less than Significant
Cultural Resources and Tribal Cultural Resources			
Impact CUL-1: Historical (Built Environment Resources) Construction of the Proposed Project would not result in a substantial adverse change in the significance of historical built environment resource.	Less than Significant	None	Less than Significant
Impact CUL-2: Archaeological Resources and Human Remains. Construction of Proposed Project would not cause a substantial adverse change in the significance of unique archaeological resources or historical resources of an archaeological nature, and/or disturb human remains.	Less than Significant	None	Less than Significant
Impact CUL-3: Tribal Cultural Resources. Tribal Cultural Resources. Construction of the Proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource.	Less than Significant	None	Less than Significant
Impact CUL-4: Cumulative Cultural Resource and Tribal Cultural Resource Impacts. Construction of the Proposed Project, in combination with past, present, and reasonably foreseeable future development, would	Less than Significant	None	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
not result in a significant cumulative impact related to cultural resources and tribal cultural resources.			
Energy			
ENE-1: Result in Wasteful, Inefficient or Unnecessary Consumption of Energy Resources. The Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources.	Less than Significant	None	Less than Significant
ENE-2: Conflict with an Applicable Renewable Energy or Energy Efficiency Plan. The Proposed Project would not result in conflicts with or otherwise obstruct a state or local plan for renewable energy or energy efficiency.	Less than Significant	None	Less than Significant
ENE-3: Cumulative Energy Impacts. The Proposed Project, in combination with past, present and reasonably foreseeable future development, would not result in a significant cumulative impact related to energy.	Less than Significant	None	Less than Significant
Geology and Soils			
Impact GEO-1: Seismic Hazards. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death resulting from seismic ground shaking or seismic-related ground failure, including liquefaction.	Less than Significant	None	Less than Significant
Impact GEO-2: Unstable Geologic Unit or Soils. The Proposed Project could potentially cause adverse effects involving landslides or be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Proposed Project, and	Potentially Significant	**MM GEO-1: HDD Geologic Monitoring (Applicable to Brackney North section).** A California Certified Engineering Geologist (CEG) or Registered Geotechnical Engineer (RGE) shall monitor horizontal directional drilling (HDD) operations for potential ground subsidence or soil collapse along the HDD alignment. In the event that ground subsidence or soil collapse is observed, HDD operations shall cease pending completion of remedial measures. Remedial measures	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
potentially result in on- or off-site landslide, slope failure/instability, subsidence, or collapse.		shall include adjustments to drilling operations to preclude additional ground failure, as well as remedial measures to repair the area of ground failure. **MM GEO-2: HDD Inadvertent Fluid Return Plan (Applicable to Brackney North section).** An inadvertent fluid return contingency plan shall be prepared and implemented, including measures for training, monitoring, worst-case scenario evaluation, equipment and materials, agency notification and prevention, containment, clean up, and disposal of released drilling mud. Site-specific contingency measures shall be developed for the proposed HDD alignment, taking into consideration terrain, access, resource sensitivities, and proximity of suitable areas for staging inadvertent fluid return equipment. Preventative measures would include incorporation of recommendations by a geotechnical engineer, based on geotechnical investigations, to determine the most appropriate drilling mud mixture and drilling pressures. Drilling pressures shall be closely monitored by a CEG or RGE such that those pressures do not exceed pressures required to penetrate the rock formation. Monitoring by a minimum of two monitors, which could include the CEG or RGE, shall occur throughout drilling operations to ensure swift response in the event of inadvertent fluid return. In the event of inadvertent fluid return and if containment becomes necessary, containment shall be accomplished through construction of temporary berms/dikes and use of silt fences, straw bales, absorbent pads, straw wattles, and plastic sheeting. Any required clean up shall be accomplished with plastic pales, shovels, and portable pumps. The inadvertent fluid return contingency plan shall be submitted to the City for review and approval.	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact GEO-3: Expansive Soil. The Proposed Project would potentially be located on expansive soil, as defined by the 2019 California Building Code, but would not create substantial direct or indirect risks to life or property.	Less than Significant	None	Less than Significant
Impact GEO-4: Paleontological Resources. The Proposed Project could potentially directly or indirectly destroy a unique paleontological resource or site during construction. However, the Proposed Project would not directly or indirectly destroy a unique geological feature.	Potentially Significant	**MM GEO-3: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring (Applicable to Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, and Graham Hill Road North sections).** Prior to commencement of any trenching activity on site, the City shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Proposed Project. The PRIMP shall be consistent with the SVP (2010 or most current version) guidelines and outline requirements for preconstruction meeting attendance and worker environmental awareness training; paleontological monitoring as required based on geological mapping, construction plans, and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils); reporting; and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on site during all trenching and other significant ground-disturbing activities (including augering) in previously undisturbed, Lompico Sandstone, Monterey Formation, and Santa Margarita Sandstone deposits, as defined by the PRIMP. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.	
Impact GEO-5: Cumulative Geologic Hazards. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to geology and soils.	Less than Significant	None	Less than Significant
Impact GEO-6: Cumulative Paleontological Resources Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to paleontological resources.	Less than Significant	None	Less than Significant
Greenhouse Gas Emissions			
Impact GHG-1: Greenhouse Gas Emissions. The Proposed Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than Significant	None	Less than Significant
Impact GHG-2: Conflict with an Applicable Greenhouse Gas Reduction Plan. The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than Significant	None	Less than Significant
Impact GHG-3: Cumulative Greenhouse Gas Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would result in a significant cumulative impact related to greenhouse gas emissions, but the Proposed Project's contribution to this impact would not be cumulatively considerable.	Less than Significant	None	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Hazards and Hazardous Materials			
Impact HAZ-1: Routine Transport, Use, or Disposal of Hazardous Materials. The Proposed Project would require use and transportation of petroleum products and small quantities of hazardous materials but would not result in a significant hazard to the public or environment.	Less than Significant	None	Less than Significant
Impact HAZ-2: Reasonably Foreseeable Upset or Accident Conditions. The Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than Significant		Less than Significant
Impact HAZ-3: Hazardous Emissions Near Schools. The Proposed Project would handle hazardous materials, petroleum products, and associated waste within 0.25 mile of existing schools but would not result in a significant hazard to the occupants of those schools.	Less than Significant	None	Less than Significant
Impact HAZ-4: Hazardous Materials Sites. The Proposed Project would be located adjacent to sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.	Potentially Significant	**MM HAZ-1: Hazardous Materials Management.** Prior to initiation of Project construction, the City shall complete soil sampling within the proposed pipeline route, adjacent to the former Santa Cruz Lumber Yard site at 5843 Graham Hill Road, and in the Brackney Road and Rose Acres Lane neighborhoods, including the Brackney North and Brackney South pipeline sections. Soil samples shall be collected to a depth of 3 feet below ground surface and analyzed for California Administrative Manual (CAM) (i.e., California Title 22) metals. In the event that Title 22 metals are detected at concentrations in excess of regulatory action levels, as determined by the California Department of Toxic Substances Control (DTSC) and/or Santa Cruz County Environmental Health Division, a Soil Management Plan shall	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		be developed that requires potential metals-impacted soils to be segregated and sampled to determine proper disposal options (i.e., hazardous versus nonhazardous landfill) or reuse (e.g., trench backfill). The City shall direct the contractor to consult with an industrial hygienist to determine the appropriate level of personal protective equipment (PPE), if any, that would be required for construction personnel during handling of potential metals-contaminated soil. The contractor shall implement the recommendations by the industrial hygienist to minimize potential exposure of construction personnel to metals concentrations in sediments during construction. All recommendations shall be completed in accordance with Occupational Safety and Health Administration (OSHA) Training Requirements (29 CFR 1910.132 and 1910.134, Subpart I – Personal Protective Equipment).	
Impact HAZ-5: Cumulative Hazardous Materials Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to: 1) routine transport, use, disposal, or accidental release of hazardous materials, 2) hazardous emissions or hazardous materials use within 0.25 mile of an existing or proposed school, or 3) hazardous materials sites compiled pursuant to Government Code Section 65962.5.	Less than Significant	None	Less than Significant
Hydrology and Water Quality			
Impact HYD-1: Surface Water Quality Standards and Waste Discharge Requirements. Construction and operation of the Proposed Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality, except for potential inadvertent	Potentially Significant	**MM GEO-2** (as shown in Impact GEO-2	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
release of drilling fluids in the Brackney North pipe section. In addition, the Proposed Project would not conflict with or obstruct implementation of a water quality control plan related to surface water.			
Impact HYD-2: Alteration of Drainage Patterns. The Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation on or off site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows.	Less than Significant	None	Less than Significant
Impact HYD-3: Cumulative Water Quality Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to water quality or alteration of drainage patterns.	Less than Significant	None	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Noise			
Impact NOI-1: Substantial Permanent Increase in Ambient Noise Levels. Operation of the Proposed Project would not result in generation of a substantial permanent increase in ambient noise levels during long-term operation in the vicinity the project components.	Less than Significant		Less than Significant
Impact NOI-2: Substantial Increase in Ambient Noise Levels in Excess of Standards. Construction of the Proposed Project would result in generation of a substantial temporary increase in ambient noise levels in the vicinity of some Proposed Project pipe sections in excess of applicable standards established in local general plans or noise ordinances. Operation of the Proposed Project would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the Proposed Project in excess of applicable standards.	Significant	**MM NOI-1: Construction Noise (Applies to all segments).** The Proposed Project shall implement the following measures related to construction noise: • Restrict construction activities and use of equipment that have the potential to generate significant noise levels (e.g., use of concrete saw, mounted impact hammer, jackhammer, rock drill, etc.) to between the hours of 8:00 AM and 5:00 PM, unless specifically identified work outside these hours is authorized by the City's Water Director as necessary to allow for safe access to a construction site, safe construction operations or efficient construction progress, such as required by the HDD pullback operations for the Brackney North segment. • Construction activities requiring operations continuing outside of the standard work hours of 8:00 AM and 5:00 PM (e.g., HDD operations for the Brackney North and Brackney South sections) shall locate noise generating equipment as far as possible from noise-sensitive receptors, and/or within an acoustically rated enclosure (meeting or exceeding Sound Transmission Class [STC] 27), shroud or temporary barrier as needed to limit the propagation of sound into the surrounding areas in excess of the 60 dBA nighttime (10:00 PM to 8:00 AM) criteria at the nearest sensitive receptor. Noisy construction equipment, such as aboveground conveyor systems, and impact tools will likely require location within such an	Significant and Unavoidable for Brackney North and Brackney South and Less than Significant for other pipe sections

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		acoustically rated enclosure, shroud or barrier to meet the above criteria. Impact tools, in particular, shall have the working area/impact area shrouded or shielded whenever possible, with intake and exhaust ports on power equipment muffled or suppressed. • Use of temporary or portable, application-specific noise shrouds, barriers or enclosures shall be required to shield nearby noise-sensitive receptors from equipment and operations that have the potential to generate noise levels in excess of the 75 dBA daytime (8:00 a.m. to 10:00 p.m.) criteria, as measured at nearby sensitive receptors. This generally corresponds with a distance of 125 feet from construction activities to the nearest sensitive receptor, however site-specific factors will need to be taken into consideration, such as the specific construction equipment mix, and intervening structures or topography that may result in associated noise reductions below the acceptable daytime noise threshold. • Portable and stationary site support equipment (e.g., generators, compressors, and cement mixers) shall be located as far as possible from nearby noise-sensitive receptors. • Construction equipment and vehicles shall be fitted with efficient, well-maintained mufflers that reduce equipment noise emission levels at the project site. Internal-combustion-powered equipment shall be equipped with properly operating noise suppression devices (e.g., mufflers, silencers, wraps) that meet or exceed the manufacturer's specifications. Mufflers and noise suppressors shall be properly maintained and tuned to ensure proper fit, function, and minimization of noise. • Construction equipment shall not be idled for extended periods of time (i.e., 5 minutes or longer) in the immediate vicinity of noise-sensitive receptors.	

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact NOI-3: Groundborne Vibration. Construction of the Proposed Project would result in the potential generation of excessive groundborne vibration or groundborne noise levels.	Less than Significant	**None**	Less than Significant
Impact NOI-4: Cumulative Noise Impacts. Construction and operation of the Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to noise and vibration.	Less than Significant	None	Less than Significant
Transportation			
Impact TRA-1: Conflict with Program, Plan, Ordinance, or Policy Addressing the Circulation System. Construction and operation of the Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	Less than Significant	None	Less than Significant
Impact TRA-2: Vehicle Miles Traveled. Construction and operation of the Proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) or cause an increase in VMT which is greater than 15% below the regional average VMT.	Less than Significant	None	Less than Significant
Impact TRA-3: Emergency Access. Construction of the Proposed Project would not result in inadequate emergency access or impair implementation of or interfere with an emergency evacuation plan.	Less than Significant	None	Less than Significant
Impact TRA-4: Cumulative Transportation Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would	Less than Significant	None	Less than Significant

Table 1-1. Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
not result in a significant cumulative impact related to transportation.			
Wildfire			
Impact WIL-1: Wildfire Hazards. The Proposed Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	Less than Significant	None	Less than Significant
Impact WIL-2: Cumulative Wildfire Impacts. The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to significant risk of loss, injury, or death involving wildland fires.	Less than Significant	None	Less than Significant

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