

**Attachment A – Brief Summary of Mitigation Monitoring and Reporting Program for
SFPUC Bayline Division Pipeline Project #5**

Impact No.	Impact Summary	Mitigation Measures (partial text)
Aesthetics		
AES-1	The Project would damage scenic resources through the removal of mature trees along locally designated scenic routes that contribute to a scenic public setting.	Restore to pre-construction condition
AES-2	Project construction at the Ravenswood Tunnel Shaft site would create a substantial new source of nighttime light	Contractor will shield or direct light away from neighboring properties
Air Quality		
AIR-1	Generation of PM10 from fugitive dust or engine exhaust could contribute to violations of air quality standards.	Areas will be swept with water sweepers
AIR-1	Generation of CO, ozone precursors, and PM10 from fugitive dust or engine exhaust could contribute to violations of air quality standards.	Limit unnecessary emissions where possible
AIR-2	Sensitive receptors could be exposed to substantial concentrations of PM10 as fugitive dust generated by construction activities.	See above
Biology		
Bio-1	Project excavation and pipeline, shaft and tunnel construction could result in direct impacts on saltmarsh harvest mouse and its habitat.	Add exclusion fencing, training, monitoring of site and establish new habitat (2:1)
Bio-2	Construction of the pipeline, including excavation and staging, could result in direct impacts on California red-legged frog and its habitat.	Capture and relocate
Bio-3	Project excavation and pipeline, shaft, and valve vault construction could result in direct impacts on California tiger salamander and suitable breeding and upland aestivation habitat.	Capture and relocate (1.1:1)
Bio-4	Construction of the pipeline, valve vaults, and tunnel, including excavation and staging, could result in indirect impacts (i.e., disruption of breeding-activity) on special-status shorebirds including California clapper rail, California least tern, California black rail, and western snowy plover and their habitat.	Have biologist on site to determine if buffer zone is needed and if activities need to be restricted.

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Bio-5	During construction and operation of the tunnel, water discharges could result in mortality of nesting western snowy plover.	Biologist on site to determine if protective measures are required
Bio-6	Operational releases of relatively cold pipeline water to Cordilleras Creek during the summer dry-season could result in juvenile steelhead mortality from thermal shock	Winter discharges or discharges to storm drain systems allow water to rise to ambient temperatures
Bio-7	Pipeline construction, including excavation, could result in direct impacts on mission blue butterfly.	Minimize impact to habitat. New habitat 1:2
Bio-8	Pipeline construction, including excavation and staging, during the nesting season (February 1 through August 31) could result in direct impacts on burrowing owl, including nest abandonment and mortality of young.	Avoidance
Bio-9	Pipeline construction, including excavation and staging, during the nesting season (February 1 through August 31) could result in direct impacts on burrowing owl, including nest abandonment and mortality of young.	See above
Bio-10	Construction of a discharge pipe and energy-dissipation structure could result in direct impacts on saltmarsh wandering shrew and its habitat.	See above
Bio-11	Project excavation and pipeline construction including excavation and vegetation removal, could result in direct impacts on San Francisco dusky-footed woodrat and destruction of woodrat middens.	Install barriers and trap and relocate as needed.
Bio-12	Construction activities could result in white-tailed kite mortality by destroying occupied nests or causing nest abandonment.	Biologist to check sites, use avoidance
Bio-13	Project excavation and pipeline construction activities could result in the destruction or abandonment of occupied nests of migratory raptors or passerines.	Biologist to check sites, use avoidance

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Bio-14	Project excavation and pipeline construction activities, including tree removal or pruning, could disturb roosting special-status bat species, resulting in roost abandonment or mortality of young.	Avoid direct impacts
Bio-15	Project excavation and pipeline construction activities, including control buildings, valve vaults, excavation and staging, would result in permanent and temporary impacts on wetlands and other waters of the U.S. and waters of the State.	Replace at 1:1 or greater ratio
Bio-16	Project excavation and pipeline construction activities, including control buildings, valve vaults, excavation and staging, would result in permanent impacts on State-regulated habitats	Remove and replace. No invasive species to be introduced
Bio-17	Construction of the pipeline, control buildings, and valve vaults would conflict with local tree preservation ordinances by removing or damaging locally protected trees.	Arborist to survey trees. Remove and replace per County tree ordinances.

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Cultural Resources		
CR-1a	Throughout the entire pipeline alignment, project construction and excavation of surface soils could result in significant impacts on archaeological resource sites that are potentially NRHP- and CRHR- eligible.	Archeologist to monitor and insure protection of sites.
CR-2	Construction-related activities, such as vibration and trenching, could result in significant impacts on the adobe wall and contributors to the BDPL Nos. 1 and 2 Historic District that are CRHR- and NRHP-eligible, respectively.	Archeologist to monitor and insure protection of sites. Work with Geologist to minimize impacts.
CR-3	Construction drilling at Driscoll Road Flow-Metering Vault and Redwood City Valve House could result in significant impacts on historical resources that are NRHP- and CRHR-eligible	Architectural and historical resources team to monitor and insure protection of historic properties.
CR-4	Decommissioning in-place of the Bay-crossing components of BDPL Nos. 1 and 2 would result in the deterioration of this NRHP- and CRHR-eligible resource.	Historian to record BDPL 1 and 2 info.
CR-5	Throughout the proposed Project alignment, construction activities, including excavation and tunneling, could destroy previously undiscovered, unique paleontological resources.	Training for all personnel on how to deal with historical, archeological findings.
CR-6	Construction excavation and pipeline construction could result in potentially significant impacts on human remains.	See above measures

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Geology and Soils		
Geo-1	Excavation associated with Project construction could result in the erosion and loss of topsoil.	Stockpile and protect
Hazards and Hazardous Materials		
Haz-1	Demolition activities could result in exposure of the public to hazardous building materials.	Environmental assessor to conduct routine surveys to detect hazardous materials
Haz-2	Project construction could result in potentially significant exposure of the public to hazardous materials in soil, tunnel muck, and groundwater.	Contractor to implement safety plan
Haz-3	Construction could result in significant impacts from the potential interference with site remediation or from the enhancement of groundwater plume migration.	Monitor for hazardous materials. If found, work with local health agencies to determine best approach.
Hydrology and Water Quality		
Hyd-1	Trenching of stream channels and diversion of flow would temporarily alter the drainage pattern of creeks and channelized streams throughout the proposed Project alignment.	Restore to pre construction conditions
Land Use		
Lu-1	The Project would affect existing land use character by establishing a construction site for four and half to five years at the Ravenswood Valve Lot, which is adjacent to residential land uses.	See all other impacts

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Noise and Vibration		
Noi-1a	Pipeline construction would result in a substantial temporary increase in existing ambient noise levels in the Project vicinity.	Use best available equipment to minimize noise.
Noi-1b	Nighttime pipeline construction activities would result in a substantial temporary increase in existing ambient noise levels in the Project vicinity.	Daytime < 70dB. Nighttime < 50 dB. Use corrective action where necessary. Mitigation if unavoidable.
Noi-1c	Construction of valve vaults, control buildings, and backup power facilities would result in a substantial temporary increase in existing ambient noise levels in the Project vicinity.	Daytime < 70dB. Nighttime < 50 dB. Use corrective action where necessary. Mitigation if unavoidable.
Noi-1d	Nighttime construction at the Ravenswood tunnel shaft site would result in a substantial temporary increase in existing ambient noise levels.	Not in county
Noi-1e	Nighttime construction at the Newark tunnel shaft would result in a substantial temporary increase in existing ambient noise levels in the Project vicinity, affecting people and captive wildlife.	Not in county
Noi-1f	Noise disturbance from helicopter operations could result in a substantial temporary increase in existing ambient noise levels in the Project vicinity, depending on helicopter flight patterns, helicopter type, and flight altitude.	Minimize direct fly overs. Limit flight time from 7am to 7pm.
Noi-1g	Daytime truck and vehicle traffic increases on the Ravenswood Valve Lot access road during tunnel construction and staging would create a substantial temporary increase in ambient noise levels in the project vicinity.	Not in county
Noi-1h	Single-event noise from daytime haul truck operations along the Newark Valve Lot and Ravenswood Valve Lot access roads would create a substantial temporary increase in ambient noise levels in the project vicinity.	Not in county
Noi-2a	Nighttime pipeline construction activities would generate noise levels beyond the time limits allowed for construction activities and in excess of noise increase limits established by local jurisdictions.	Daytime < 70dB. Nighttime < 50 dB. Use corrective action where necessary. Mitigation if unavoidable.

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Noi-3a	Trenchless construction requiring sheet pile driving within 60 feet of buildings could generate excessive ground-borne vibration, resulting in cosmetic damage to buildings.	Limit Pile driving vibrations to 0.05in/sec PPV and 0.2 in/sec PPV. Monitor adjacent structures to determine if adjustments need to be made.
Noi-3b	Non-impact (i.e., continuous) vibratory construction equipment within 26 feet of buildings could generate excessive ground-borne vibration, resulting in cosmetic or structural damage to buildings.	See above
Noi-3c	Truck traffic and heavy equipment activities during nighttime construction work would potentially generate vibration levels which could disturb people.	Work with contractor to minimize noise and movements at night where possible.
Noi-4	Noise generated by permanent operation of air-conditioning and emergency generator equipment could generate noise levels that exceed local noise ordinances and the 50 dBA sleep disturbance criterion	Locate equipment away from residential units where possible.
Recreation		
Rec-1a-f	The Project would physically degrade recreational facilities by removing or damaging existing recreational facilities directly	Restore to precon condition.
Rec-2		
Rec-3	The Project would disrupt access to existing recreational facilities.	Minimize as much as possible.

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Transportation and Traffic		
Trn-1	The Project would temporarily eliminate one or more travel lanes which would reduce the capacity of the street system.	Advance notices. Traffic control plans to minimize impacts. Minimize work during peak hours.
Trn-2	Pipeline construction would temporarily reduce capacity of the street system, which could have a temporary substantial impact on transit operations where trenchless crossings are not used.	See above
Trn-3	Project-generated haul-truck traffic could temporarily reduce the capacity of the street system.	Coordinated activity and traffic control plans to help traffic moving as smoothly as possible.
Trn-4	Project construction traffic at the Ravenswood Valve Lot would increase delays for vehicles on University Avenue in the City of East Palo Alto.	Not in county area
Trn-5	Pipeline construction would increase potential traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways.	See above.
Trn-6	Pipeline construction could impair emergency access from adjacent roadways to some local residences along the proposed Project alignment.	Coordinate with CDF and Police in advance of closing roads.

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Utilities and Service Systems		
UTL-1	Project construction would not comply with local statutes and regulations related to solid waste.	Prepare waste management plan to recycle, reuse, and reduce waste.
UTL-2	The Project may result in temporary disruption of local utilities.	Notify residents of disruption in service in advance of project.
Cumulative Impacts		
Cum-1	<p>The Project's additive, incremental effect during construction would be cumulatively significant before mitigation, as it would temporarily displace species from breeding, foraging, and sheltering habitat. The proposed Project and the other cumulative projects would be subject to federal and State regulations related to wetlands and sensitive habitats. In addition, implementation of Mitigation Measure BIO-1 through BIO-17 would reduce the Project's individual impacts to sensitive natural communities and special-status species to less than significant levels. These mitigation measures would also address the Project's contribution to bioregional effects and provide additional protection for affected biological resources, but may not reduce cumulative impacts to less-than- cumulatively-considerable levels. Cumulative impacts to sensitive biological resources could therefore be potentially significant (cumulatively considerable).</p>	Wherever possible project will remove and replace at ratios of 1:1 or more.
Cum-2	Excavation associated with Project construction could result in the erosion and loss of topsoil. (Significant and Mitigable)	Stockpile, protect, and reuse where possible.