

4.3 Cultural Resources

This section analyzes impacts to cultural resources within Santa Barbara County that would result from implementation of the Santa Barbara County Last-Mile Broadband Program (“Broadband Program” or “Project”), and feasible mitigation measures to reduce these potential impacts. This section describes the physical environmental and regulatory setting, the criteria and thresholds used to evaluate the significance of impacts, the methods used in evaluating these impacts, and the results of the impact assessment. Records search results and other supporting information used in the analysis presented below are contained in Appendix D of this Draft PEIR.

4.3.1 Environmental Setting

The Project is located in the County of Santa Barbara (County). It is bordered by San Luis Obispo County to the north, the Pacific Ocean to the south and the west, Ventura County to the east, and Kern County to the northeast. Approximately one-half of the undeveloped land in the County falls within the Los Padres National Forest and Vandenberg Space Force Base (Appendix D). The County is diverse and is made up of built and natural environment. Urban communities are bounded and separated by rural lands. The inland North County areas consist of “rural open spaces of chaparral hillsides, oak woodlands, grassland meadows, and agricultural and pastoral landscapes containing farmlands, vineyards, and ranch-style development surrounding distinct urban communities”, while the South Coast includes “an undisturbed natural environment on the periphery of urban areas in the foothills and along the coastline” (County of Santa Barbara 2023). Lastly, the coastline contains “dunes, sandy beaches, sea cliffs, and views of the surrounding mountains, Channel Islands, and Pacific Ocean” (County of Santa Barbara 2023).

4.3.1.1 Geologic Setting

Santa Barbara County lies at the western on-land terminus of the Transverse Ranges and the geology clearly reflects that history. The western Transverse Ranges formed through 110 degrees of clockwise rotation as the transform plate margin expanded northward in the Miocene Epoch, starting 18 million years ago (Sylvester and O’Black Gans 2016). This led to uplift of the older, primarily (in Santa Barbara County) Paleogene to early Neogene marine deposits. These bands of mudstone, sandstone, and minor limestone beds make up the coastal mountains throughout the county. As the area is still vigorously tectonically active, the coastline is dominated by uplifted marine terraces that preserve nearshore marine deposits that range back through the Pleistocene Epoch. Additionally, the easily eroded marine units have led to numerous canyons carved through the Transverse Ranges, leading to deposits of valley and coastal plain alluvium that filled the low-lying areas.

The northern project components lie north of the Transverse Ranges—dominated by east-west faults and folds—and instead is categorized in the southern Coastal Ranges. While the faults in this province are more typical of the north-northwest to south-southeast pattern of California, the underlying geological formations are similar to the coastal terraces.

More specific to the identified Priority Areas in the County, the geological formations potentially impacted can be grouped into five distinct geological intervals as shown on the various maps of Tom Dibblee (Dibblee, T.W., and Ehrenspeck, H.E., ed., 1988a, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1993a, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1993b, Dibblee, T.W., and Ehrenspeck, H.E., ed.,

1988b, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1993c, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1988c, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1988d, Dibblee, T.W., Ehrenspeck, H.E., and Bartlett, W.L., 1994a, Dibblee, T.W., Ehrenspeck, H.E., and Bartlett, W.L., 1994b, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1989a, Dibblee, T.W., and Ehrenspeck, H.E., ed., 1989b, Appendix D). The oldest unit is a small exposure of the ancient (Late Jurassic to Early Cretaceous) fore-arc basin deposits of deep-water shale and siltstone (Espada Formation). This unit is largely intruded by diabase, a volcanic rock that is equivalent to coarse basalt. The third interval is the most extensive and comprises a sequence of marine units deposited from the late Eocene through early Pliocene at a range of water depth. This includes, from oldest to youngest, the Sacate, Gaviota, Alegria, Vaqueros, Rincon, Monterey, and Sisquoc Formations. There were also sporadic volcanic eruptions recorded during this time, such as the Tranquillon Volcanics. The fourth interval captures the recession of the ocean and the transition to largely non-marine units during the Pliocene Epoch. This interval starts with the Foxen Claystone and includes the Careaga Sandstone and Paso Robles Formation. The final interval broadly encompasses the alluvium that fills the valley floors and broad plains, deposited during the Pleistocene up to the present day.

4.3.2 Precontact Setting

4.3.2.1 Pleistocene-Holocene Transition (14000 to 10000 years B.P.)

While archaeological evidence from the Northern Channel Islands shows that the wider region has been occupied since as early as 13,200 years before present (B.P.), no sites of similar age have been located within the Project's vicinity. It may be that areas appealing to early peoples, such as estuary environments along the coast, were covered by the 100 meters (300 feet) of subsequent sea level rise. Judging from the Northern Channel Islands, the coastal people likely belonged to the Paleo-Coastal Tradition that relied mostly on near-shore marine foods such as shellfish. (Erlandson 2012; Erlandson 2007). Stone tools to process plant foods have not been found dating from this period, leaving archaeologists in the dark about the rest of the Paleo-Coastal diet (Glassow 2007).

4.3.2.2 Early Holocene (10,000 – 7000 years B.P.)

During the beginning of the Early Holocene, climatic warming led to an increase of chaparral and grassland plant species. The greater availability of edible plants seems to have helped the human population of the Project's vicinity and surrounding areas increase. By 9,000 years B.P., heavy stone tools for grinding plant seeds into flour appear, marking the beginning of the Millingstone Horizon. This way of life is characterized by increasing population size, greater importance of grass and perennial plant seeds in the diet, and a decrease in how often people moved their settlements during the year. Seeds likely became important because they can be stored for long periods of time, alleviating the pressure of environmental change. Marine foods such as sea mammals and shellfish continue to be very important in the diet. Near the end of this period, the first olivella shell beads were produced, perhaps indicating the beginnings of a regional trade network that grew during later periods (Arnold 2010; Glassow 2007). Skeletal and archaeological evidence indicates that the ancestors of the Chumash peoples, who still inhabit the region today, were present by this time, although the linguistic evidence is less certain (Golla 2007).

4.3.2.3 Middle Holocene (7000 – 4000 years B.P.)

The first half of the Middle Holocene is generally a continuation of trends from the end of the Early Holocene, including the Millingstone Horizon. Between 8,000 and 6,000 years B.P. there appears to have been a decline in population along the coast, perhaps linked to a period of warmer seawater that depressed the shellfish and fish species. This signals the end of the Millingstone Horizon in the Project's vicinity. A reaction to lack of marine resources may have caused people to start to eat acorns or starchy tubers as a staple food. This is suggested by the appearance of mortars and pestles. At the same time the number of projectile points increases dramatically and changes from leaf-shaped to a side-notched form, indicating that hunting was important and that people were hunting a variety of animals (Arnold 2010; Glassow 2007).

4.3.2.4 Late Holocene (4000 years B.P. – Present)

By the Late Holocene, the Millingstone Horizon has disappeared, replaced by a way of life that involved less frequent movement of settlements throughout the year and a reliance on acorns as the main staple food, called the Intermediate Horizon. Other plant foods also seem to have been important, such as chaparral yucca, roasted in rock rings. The presence of more settlements on the mainland coast and an increase in both fishing and trade with the Channel Islands indicates that people's lives were very much oriented to the ocean. Rather than the majority of the dietary protein coming from shellfish, food sources became much more diverse, indicated by a wide array of fishing technologies, including circular shell fishhooks, stone fishing line sinkers, and fishing net weights. The hooks and line sinkers also show that fishing was not restricted to along the shoreline and that people were venturing further into the ocean to procure fish, probably in the kelp forests of the Santa Barbara Channel. The earliest evidence for asphaltum use in manufacturing tools is from the beginning of this period (Arnold 2010; Glassow 2007).

The second half of the Late Holocene, referred to as the Late Horizon, is another period of significant technological change, population expansion, and an increase in complicated trade networks, political systems, and social classes based on wealth. The two transformative technologies both appear on the coast between 1,500 and 1,000 years B.P.: the redwood plank-canoe (*tomol*) and the bow and arrow. Plank-canoes were built by specialists in the Carpinteria area. These allowed for relatively safe voyages into the open ocean and made it possible for people to fish for large ocean fish, particularly swordfish, and to expand their trade networks. The plank-canoe became both the way to increase social standing and a symbol of that standing, as canoe owners rented out their boats in exchange for food and other goods. By 800 years B.P., people along the coast lived in large permanent villages controlled by chiefs and used temporary camps near resources to gather storable foods such as acorns. Olivella shell beads, important for thousands of years, became a form of currency used in trade networks that connected the coast with the Nevada desert and beyond (Arnold 2010; Glassow 2007). Interior villages were of smaller size and focused more on terrestrial plants and animals as their main foods, supplemented by runs of large fish such as steelhead trout. The populations of these villages were also the link between the people of the coast and those of the interior deserts. While these villages were likely inhabited throughout the year, the lack of access to food rich coastal areas made it necessary for people to move more often between resource gathering camps (Glassow 2007).

4.3.2.5 Historic Setting

Spanish Period

Initial Spanish contact in the region occurred when Juan Cabrillo's exploration landed in 1542 on the Northern Channel Islands (Rawls 1993). Later in 1602, Sebastián Vizcaino sailed his ships through the channel and into Monterey Bay. In July of 1769, Gaspar de Portolà, his men, and Franciscan padres camped at the mouth of the Santa Maria River. The first Spanish constructions in the Project's vicinity were the El Presidio Real de Santa Bárbara in 1782, used as a barracks until the Santa Barbara Mission was constructed in 1786. Mission La Purísima Concepción was completed in 1787 in Lompoc and Mission Santa Inés in Solvang in 1804 (Yenne 2009). The mission locations were based on the area's farming potential and water supply. Once the mission was in a secure location, the missionaries had the Native Americans make adobe bricks, ceramic roof tiles, cut beams and reeds. Construction would utilize the material from the surrounding area. The establishment of the missions and numerous ranchos altered both the physical and cultural landscape of the region. The missions were the center of Spanish influence in the region and affected native patterns of settlement, culture, trade, industry, and agriculture (California State Legislature 2011).

Mexican Period

After the Mexican War of Independence of 1821, the region changed dramatically as California was opened to foreign trade and as the mission lands were secularized and granted as ranchos to both prominent local citizens and new immigrants. Santa Barbara County was broken up into 36 ranchos. (Perez 1982). The use of the land became focused on horse, sheep, and cattle ranching and the displaced Native American population had little choice but to find work on them. Immigration increased now that the lands were not under Spanish control. Monterey became a major stopping point for American traders and whalers in the northern Pacific (Rawls 1993).

American Period

On July 7th, 1846, Commodore Sloat sailed into Monterey and raised the American flag over the Customs House, declaring it part of the United States. Over the next few days, an American flag was raised above the presidios at San Francisco and Sonoma, as well as Sutter's Fort (Cleland 1922). The American Period is characterized by the shift from cattle ranching to intensive farming and industrialization. Larger tracts of land were opened for farming and these agricultural developments demanded a large labor force, sparking a new wave of immigration into the region. Santa Barbara, San Luis Obispo, Monterey, and Santa Clara were among the first 26 counties established in 1850 at statehood. This coincided with the California Gold Rush, bringing many new immigrants to the region and increasing the economic infrastructure of California (Ryan 2010). The demand for beef and grain grew to meet the needs of each incoming miner. Droughts hit the area in the 1860s, wiping out cattle and decimating the ranchos. Lands were sold to incoming developers to cover debt. By 1873, the economy of the region had almost completely abandoned cattle ranching (Newman 2003).

Major forces of regional change occurred during the late 1800s through the 1900s, including: the development of the railroad system, the growth of agriculture, tourism, the rise of the fishing and canning industries, and the development of the oil industry. In the late 1800s, transportation became a major factor in supporting the growing economy of the region. At this time, access to California's central coast consisted of wagon roads along which stagecoach lines would run. In 1870, Southern Pacific Railroad

announced its plans to build a coastal rail line that connected San Francisco to Los Angeles. As the railroad construction pushed farther south, it opened new markets and stimulated settlement of new towns. Completed in 1901, this new transport capability allowed crops to be shipped to market more efficiently. As improved irrigation systems were introduced to the area in the late 19th century, combined with additional railroad connections, production of fruits and vegetables replaced dry farming of grains as the leading agricultural products (Ryan 2010). The train system also brought wealthy families from the east and south coasts of the United States. Grand resorts were built along the coastline to cater to these families.

The discovery of oil changed the local economy as well as the landscape. While the natural oil seeps had long been known and used, its value as a fuel did not become widely known until the late 19th century. The first sale of petroleum oil drilled in the region was in 1865 (Newman 2003). In the 1890s, the large Summerland Oil Field was found in Santa Barbara and began to be developed. Summerland was the site of the world's first offshore oil well. While most of the oil had been pumped out by 1910, derricks remained on the beach in Summerland into the 1920s, and the field remained partially productive until 1940. In 1942, during World War II, a Japanese submarine conducted a naval attack on Elwood Oil field in Santa Barbara; while the attack provided minimal damage, the threat of further attacks led to the internment of Japanese Americans in the United States (Rintoul 1990).

State Highway 1 was constructed in 1921 and US Route 101 in 1926, connecting Southern California to Northern California through the Central Coast. US Route 101 follows the preexisting route carved out by the Spanish El Camino Real. While construction of these highways proved very difficult due to the terrain, they provided an easier route for transportation that ushered in population and an expansion of tourism (Caltrans 2014). Orchards that once covered the landscape were now replaced by urban sprawl and golf courses. Another big change for this region came with the introduction of a new product, the semiconductor chip, developed in the 1950s.

Today the region has become a well-known tourist destination. Coastal cities provide beautiful beaches, wineries, and spa resorts. Inland areas include rugged mountains for the avid adventurer, including the Channel Island National Park (National Park Service 2024).

4.3.2.6 Ethnographic Setting

The County of Santa Barbara is located within the territorial boundary of the Chumash. Chumash territory extended from the existing city of Malibu, north passed San Luis Obispo, and approximately 68 kilometers (42 miles) inland (Glassow 1996). The Chumash also occupied the northern Channel Islands: Santa Cruz, Santa Rosa, San Miguel, and Anacapa. The Chumash spoke six languages, and were and are, divided into two broad groups: Northern and Southern Chumash. The Northern Chumash group spoke the Obispeño language, while the Southern Chumash group spoke Purisimeño, Ineseño, Barbareño, Ventureño, and Island Chumash languages (Mithun 1999). The Chumash are divided into three main geological groupings: Interior, Coastal, and Northern Channel Islands Chumash” (Grant 1978).

In the precontact era, the Chumash subsistence model was that of a hunter gatherer society and they lived in permanent villages. The size of Chumash villages ranged considerably from the coastal areas to the inland areas with many villages on the coast having several hundred occupants, whereas villages inland were significantly smaller, sometimes containing only a couple dozen inhabitants. Chumash villages were

most abundantly located along the coast and were often situated on high ground adjacent to a river or stream that flowed into the ocean or along the borders of sloughs or wetlands (Grant 1978).

Chumash subsistence included both terrestrial and maritime resources. Amongst terrestrial plant resources, the acorn, collected mainly from the California live oak, was the most important. Additional plant resources included pine nuts, wild cherry, cattail, California laurel berries, and chia sage seeds. Mule deer, coyote, and fox were hunted using the bow and arrow, and smaller game was taken using deadfalls and snares. Migratory birds such as ducks and geese were also hunted. In addition to terrestrial resources, the Chumash utilized an array of maritime resources including shellfish, sea mammals, and pelagic and schooling fish. Large fish and sea mammals such as seals, sea otters, and porpoises were hunted with harpoons. Dip nets, seines, and line and hook were used for smaller fish (Grant 1978).

Chumash villages were composed of a patrilineal descent group and usually had at least one chief, known as the *wot* or *wocha*, whose position was inherited but was subject to village approval. Chumash dwellings were hemispherical structures constructed by driving pliable wooden poles into the ground, bending them towards the center of the dwelling, and tying them together. The wooden pole frame was then covered with interwoven grass mats. While accompanying the Portola expedition, Father Juan Crespi noted that Chumash dwellings could be up to 50 feet in diameter and hold up to 70 people. Most villages contained one or more sweat houses that were semi-subterranean and consisted of a wooden pole frame covered with earth. Additional village structures included storehouses and ceremonial enclosures (Grant 1978).

Not much is known of the religion practiced by the Chumash. Father Olbés of the Santa Barbara mission noted a Chumash deity called *sup*, and, although the Chumash had no figures or idols of the deity, they made offerings of seeds and feathers to show their acknowledgement and gratitude for the blessings given them. Additionally, Chumash rock art sites, such as Painted Cave of San Marcos Pass located near the City of Santa Barbara and Burro Flats Painted Cave located in the northwestern portion of the San Fernando Valley, may have represented shrines or sacred areas. Many of the pictographs present at rock art sites consist of geometric figures as well as animal figures and are painted in vibrant colors that may have been painted while under the influence of the hallucinogenic ceremonial drink, toloache, which is associated with the *Chinigchinich* religion of the Gabrielino-Tongva (Grant 1978). The Chumash buried their dead with the body being bound in a flexed position (Kroeber 1925). The graves of prominent individuals were marked with planks containing images or from which the possessions of the deceased were hung.

The Chumash were one of the first native Californian groups met by Juan Rodriguez Cabrillo when he sailed into the Santa Barbara Channel Island region in 1542-43 (Kroeber 1925). The Gaspar de Portola expedition passed through Chumash territory on its way to Monterey Bay in 1769. Between 1772 and 1804, five missions, including Missions San Luis Obispo (1772), San Buenaventura (1782), Santa Barbara (1786), La Purisima Concepcion (1787), and Santa Ynez (1804) were established in Chumash territory. The establishment of the missions fractured the traditional culture of the Chumash, and by 1834, when the missions were secularized, the Chumash population had declined dramatically as a result of European diseases and treatment at the hands of the colonialists (Grant 1978).

4.3.2.7 Identification of Cultural Resources

Records Search

A records search for the Project was conducted by staff through the Central Coast Information Center (CCIC) on August 5, 2024. The records search included a review of all cultural resources studies and previously recorded cultural resources (archaeological and built environment) within the 17 individual broadband installation sites that comprise the nine Priority Areas for the Project. The records search results indicate that a total of 354 studies have been previously conducted within the Priority Areas. The results of the records search indicate that a total of 133 cultural resources are found within the nine Priority Areas. Specifically, a total of 26 resources were found in Refugio Canyon (including 13 resources within Canyon Center, four within Canyon East, and nine within Canyon West); seven within Casmalia; 56 within Highway 246 Corridor (including three in Center, 25 in Center-East, one in East, 22 in Promises Ranch, and five in River Park); three within Cuyama/New Cuyama; seven within Guadalupe; six within Jonata Park; three within Los Alamos; four within Los Olivos; and 11 within East of Santa Maria (including one in Garey and 10 in Tepusquet Road).

Of the 133 total cultural resources identified in the CCIC records search, 19 resources intersect or are adjacent to the proposed fiber optic cable alignments. The 19 resources include seven precontact sites (CA-SBA-87, -108, -236, -1189, -1490, -2687, and -3500); one historic-period site (P-42-1431); two multicomponent resources (CA-SBA-1976 (adjacent) and -3625); four built environment resources (CA-SBA-3620, P-42-40751, -41219, and -41756); and five historic districts (P-42-40731, -40729, -40733, -3865 and -003804).

The precontact sites include the following: CA-SBA-000087 (village site known as *Qasil*, recommended eligible for the National Register); CA-SBA-000108 (a charcoal midden with a sparse flake scatter, eligibility unknown); CA-SBA-000236 (site without description but presumed to be buried under roadway fill, unknown eligibility); CA-SBA-001189 (midden site with lithic scatter, human bone fragments, faunal remains and historic pottery; recommended as potentially eligible for the National Register); CA-SBA-001490 (described as containing manos, metates, flakes, and projectile points; eligibility unknown); CA-SBA-002687 (lithic scatter, ineligible for the National Register); and CA-SBA-003500 (originally described as flaked stone artifacts with faunal bone, but later revisited and described as not an archaeological due to absence of artifacts, eligibility unknown). The historic period site includes CA-SBA-001431, a stone foundation and olive orchard with unknown eligibility. The multicomponent resources include CA-SBA-001976 (scatter of fired clay tiles, glass, bone and chert flakes; eligibility unknown) and CA-SBA-003625 (Monterey and Franciscan chert flakes and human burials, eligibility unknown). The historic districts include the Anza Trail and the Lompoc Oil District. The Anza Trail was originally developed and used by the Chumash and later by Spanish explorers. Portions of the Anza Trail in Yuma, Imperial and San Diego County are listed on the National Register. A portion of the Anza Trail on Vandenberg Space Force Base appears eligible for inclusion on the National Register. Eligibility for the portion within the proposed fiber optic cable alignment for the Project is unknown. The Lompoc Oil Historic District includes mostly abandoned oil wells and associated archaeological deposits. This district has been previously assessed and appears eligible for the California and National Register.

Additional Recorded Built Environment Resources (County Database, BERD, and NRHP)

Additional databases were reviewed to identify the presence of previously recorded built environment resources within the nine Priority Areas beyond those identified as part of the CCIC records search. The following sources were reviewed as part of this effort: a historic resources database maintained by the County of Santa Barbara, the Built Environment Resources Directory (BERD), and National Register of Historic Places (NRHP), and California Register of Historical Resources (CRHR) databases.

From this research, there are 83 entries, 75 of which are either listed historic resources or are potentially eligible resources, and eight of which were determined to be ineligible as historic resources. Of these, seven (7) resources with Primary numbers also appear in the CCIC records search (P-42-040927, P-42-040925, P-42-040926, P-42-0409257, P-42-040479, P-42-040733 [which includes five resources], and P-42-040751). The following are the results of the additional recorded built environment resources search: one (1) NRHP-listed resource (1S status code), three (3) properties determined to be NRHP eligible by consensus with the Section 106 process (2S2 status codes), seven (7) Santa Barbara County Landmarks entries (two of which are listed twice), 63 potential historic resources (without assigned status codes), five (5) resources which are ineligible for the National Register (6Y status codes), one (1) resource that is ineligible for NRHP, CRHP, and local designation (6Z status code), and three (3) resources identified as significant (of these one [1] is eligible as a County Structure of Merit, while two [2] were noted as not eligible for listing). Of these, twelve resources intersect (one of which is a duplicate entry, P-42-070733) with the proposed fiber optic cable alignment.

The historic resources database maintained by the County of Santa Barbara (County database) was provided by the County on August 16, 2024 and serves as the main source of information related to built environment resources within the Priority Areas. The County database includes Santa Barbara County Landmarks and potential historic resources. It was created utilizing four different sources, including “June’s Hand Written [sic] List,” the Santa Barbara Landmarks Commission, the Santa Ynez Historical Society, California Department of Parks and Recreation (DPR) 523 Series forms, and a historic structures report. Not all identified resources in the County database have associated reports or documentation.

Sacred Lands File Search

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC) on July 26, 2024. The NAHC responded to the request in a letter dated August 16, 2024, indicating that the results were positive (Appendix D).

Cultural Resources Survey

ESA conducted cultural resources survey within portions of the nine Priority Areas, targeting a sample of areas where previously recorded archaeological and built environment resources intersected roadways or proposed fiber optic cable alignments. In instances where previously recorded resources were classified as Historic Districts, survey fieldwork was prioritized for those multi-component sites including archaeological resources which could be more impacted by the Project than the built environment. Historic Districts comprised exclusively of built environmental resources were subjected to review by means of desktop analysis utilizing historic aerial imagery and maps, as well as local, state, and federal resource registers.

Fieldwork was conducted by ESA on October 21, 2024, via systematic pedestrian survey using 5- to 10-meter spaced transects at locations meeting these criteria and exhibiting surface visibility. Locational data for resources, when identified in the field, as well as survey coverage, were recorded using handheld devices paired with sub-meter Global Positioning Satellite (GPS) receivers and attribute data was documented using Survey 1-2-3 and ArcGIS Field Maps applications. Additionally, overview and close up imagery of resources were captured using digital point-and-shoot cameras and documented on a photo log sheet. Survey locations with restricted access (i.e., private land) or accessibility issues (i.e., slope, active highways) were not surveyed and, instead, were documented with GPS reference points and overview photographs. A total of eight out of 19 previously recorded resources from the CCIC results that intersect with fiber lines within the Priority Areas were visited. The survey did not yield surface indications of the known historic-period or precontact archaeological sites. Two previously recorded built environment resources (CA-SBA-3620H and P-42-41756) were observed in the same condition as previously recorded.

4.3.2.8 Paleontological Resources Background

Paleontological resources include both fossils and the sedimentary or other geological units that contain the fossils. Because paleontological resources are considered a non-renewable resource used to understand rich evolutionary record of life on Earth, they are protected by regulations at various levels. Unlike cultural resources, paleontological resources are more difficult to predict as they are typically not exposed at the surface, but need to be predicted based on the age, environmental context or ‘facies’, and geometric distribution of the geological formations. Resource assessment relies primarily on published geological maps, often accentuated by analysis of aerial photography or lidar imagery and, when necessary, field surveys. After the geological context is defined, the assessment turns to the published literature, unpublished theses and reports, and museum records to construct the potential for geological units to host scientifically significant paleontological resources.

As noted previously, there are five distinct geological intervals captured within the footprint of the program area, and each has its own paleontological potential. The summary below relies primarily on the records search from the Natural History Museum of Los Angeles County (NHMLA; Bell 2024) with additional references as necessary.

The late Jurassic to early Cretaceous forearc deposits are known to only contain sparse invertebrates and very rare vertebrate fossils throughout coastal California (Coast Ranges and Peninsular Ranges) and the foothills of the Sierra Nevada though none have been reported in the Project region. Conversely, the Eocene through early Pliocene marine deposits are well known to locally host abundant invertebrate fossils and critical vertebrate fossils. While the latter generally encompasses marine vertebrates such as whales, desmostylids, sharks, and fish, terrestrial vertebrate remains have also been recognized. Within the Project footprints in the Priority Areas, the NHMLA report records both baleen whale (*Mysticeti*) and toothed whales (*Odontoceti*), megalodon and mackerel shark (*Isurus*), and various fish from the Monterey Formation. The Sisquoc Formation has also produced whale fossils in the Project area.

Similarly, the marine-terrestrial transitional interval has produced significant vertebrate fossils as well as invertebrate remains. These fossils have allowed scientists to track the complex interplay of tectonics and sea level fluctuations as the fossils pinpoint both time increments and changing environments. Specific to the project footprint, the NHMLA records a Gomphothere in the Careaga Formation and abundant

invertebrates from the Foxen Mudstone and Careaga Formation. An additional search of the online records of the University of California Museum of Paleontology (UCMP) produced similar results and included sharks and baleen whales as well as diverse invertebrates.

Finally, the older interval of the Quaternary (Pleistocene-Holocene) alluvial record has also produced significant fossils from both uplifted nearshore deposits as well as the valley bottoms. While the NHMLA report is focused primarily on diverse invertebrates, remains of Ice Age mammals have been recovered elsewhere in the valley bottoms. A search of the UCMP records reveals 30 specimens from the Pleistocene of Santa Barbara County including fish and sharks as well as terrestrial vertebrates such as horse, mammoth, and bison.

4.3.3 Regulatory Setting

This section includes a discussion of the applicable laws, ordinances, regulations, and standards governing cultural resources.

Federal

National Register of Historic Places

The NRHP was established by the National Historic Preservation Act of 1966 as “an authoritative guide to be used by Federal, state, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (36 Code of Federal Regulations 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it meets any one of the following criteria:

Criterion A: Are associated with events that have made a significant contribution to the broad patterns of our history

Criterion B: Are associated with the lives of persons significant in our past

Criterion C: Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined in the following manner:

Location: The place where the historic property was constructed or the place where the historic event occurred

Design: The combination of elements that create the form, plan, space, structure, and style of a property

Setting: The physical environment of a historic property

Materials: Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property

Workmanship: The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory

Feeling: A property's expression of the aesthetic or historic sense of a particular period of time

Association: The direct link between an important historic event or person and a historic property

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that a lead agency determine whether a project could have a significant effect on historical resources and tribal cultural resources (Public Resources Code [PRC] Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in or determined to be eligible for listing in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (Section 15064.5[a][3]).

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, as enumerated according to CEQA and quoted below.

15064.5(a)(3) [...] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC, § 5024.1, Title 14 California Code of Regulations, Section 4852) including the following:

- 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- 2) Is associated with the lives of persons important in our past
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- 4) Has yielded, or may be likely to yield, information important in prehistory or history

15064.5(a)(4) The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1(j) or 5024.1.

15064.5(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

In addition, if a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it does one or more of the following:

- a. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
- b. Has a special and particular quality such as being the oldest of its type or the best available example of its type
- c. Is directly associated with a scientifically recognized important prehistoric or historic event or person

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (State CEQA Guidelines Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion or eligibility for inclusion in the CRHR (State CEQA Guidelines Section 15064.5[b][2][A]).

Codes Governing Human Remains

The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98 and falls within the jurisdiction of the NAHC. If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

The State CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations, Section 15000 *et seq.*), define the procedures, types of activities, individuals, and public agencies required to comply with CEQA. As part of CEQA the lead agency must determine whether the proposed project directly or indirectly would destroy a unique paleontological resource or site or unique geologic feature (State CEQA Guidelines, Appendix G, Section VII, Part f).

The loss of a significant paleontological resources which includes any identifiable fossil that is unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and/or those that add to an existing body of knowledge in specific areas – stratigraphically, taxonomically, and/or regionally, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to “directly or indirectly destroy a significant paleontological resource or unique geologic feature” (State CEQA Guidelines Appendix G, Section VII, Part f). In general, for project sites that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in PRC Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Local

County of Santa Barbara Comprehensive Plan Conservation Element

The County of Santa Barbara Comprehensive Plan Conservation Element, adopted in 1979 and amended in 2010, recommends ways in which archaeological studies may be incorporated into projects. They are:

- Archaeological sites may be incorporated into parks or landscaped area in such a way that no damage will be done to the archaeological materials. Areas with archaeological sites may also be designated as limited use areas where they can be protected from vandalism. For either of these first two alternatives, a preliminary survey and surface collection by a competent archaeologist must be carried out prior to any action. Buffer zones adjacent to these sites may be necessary, but the extent of such a zone must be determined for each site.
- Outdoor museums are a feasible alternative to destruction when the nature of the archaeological remains is such that their careful excavation and preservation by professionals would prove attractive to the public. This alternative would be of value to the public relations of many private firms and would serve to increase the awareness of the County’s prehistory among both residents and tourists. A museum of this sort might consist of a simple tin roof and fence protecting ongoing or completed excavations and appropriate displays of artifacts. Painted Cave is an example of how this approach has been implemented in Santa Barbara County.
- One method of preserving sites for future archaeological investigation is through the use of extensive land fill. If sites scheduled for possibly damaging use could be covered with sufficient clean fill to avoid damage, such sites would be preserved.
- Salvage excavation is a last resort in the “preservation” of archaeological information. Such short notice excavations destroy relevant information which might be more effectively excavated with

future improved archaeological methods and techniques. In salvage archaeology, it frequently is impossible to generate an adequate research design before excavation is commenced. Considering these factors, the loss of valuable information is inevitable. In addition, salvage operations are expensive undertakings. Consequently, every effort should be made to preserve, rather than excavate, endangered archaeological sites.

Other recommended approaches include:

- Public purchase and protection of representative sites from each topographic class (King, Moratto, and Leonard n.d.).
- Granting of tax relief to private owners protecting archaeological resources (King, Moratto, and Leonard n.d.). Protection should include no alteration of the ground surface of any archaeological site, and no surface or subsurface collecting by private owners or the public. If this approach is implemented, specific guidelines for private protection of sites can be obtained from archaeologists at the University of California, Santa Barbara.
- Action by the County to preserve and protect known historic cemetery sites (less than 200 years old). Such a policy has been legislated by the State, but initiative taken by County officials would ensure enforcement of the law.
- Designation of high-density archaeological resource areas as Historical Monuments. Applications for placing such areas on the National Register of Historic Places presently are pending in Santa Barbara County.
- Development of public education programs which would include general information on the prehistory of Santa Barbara County, with emphasis on the importance of archaeological sites as a data base for further understanding of the aboriginal inhabitants. Such a program might decrease the rate at which archaeological resources are destroyed by vandalism.

The County's Land Use and Development Code implements the Comprehensive Plan Conservation Element.

County Landmarks and Places of Historic Merit Lists

In addition to the CRHR, a resource listed in or eligible for listing in a local register also qualifies as a significant historical resource. CEQA Statute Section 21074(a)(1)(B) and CEQA Guidelines Section 15064.5(a)(2) indicate that resources included in a local register of historical resources are presumed to be significant historical resources.

Santa Barbara County has two such local registers: the Santa Barbara County Landmarks list, and Places of Historic Merit list. Both are maintained by the Historic Landmarks Advisory Commission (HLAC). Any resource listed in one of these registers is presumed to be a significant historical resource pursuant to CEQA. The review process for a property to become a County Landmark includes different criteria and reporting requirements for landmark designation than those used in CEQA review. A Landmark is any place, site, building, structure, or object having historical, aesthetic or other special character or interest and designated as a Landmark under the provisions of County Code Chapter 18A. A place, site, building, structure, or object is eligible for designation as a County Landmark if any of the following criteria are met:

- a. It exemplifies or reflects special elements of the County's cultural, social, economic, political, archaeological, aesthetic, engineering, architectural or natural history;
- b. It is identified with persons or events significant in local, state or national history;
- c. It embodies distinctive characteristics of a style, type, period or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
- d. It is representative of the work of a notable builder, designer, or architect;
- e. It contributes to the significance of a historic area, being a geographically definable area possessing a concentration of historic, prehistoric, archaeological, or scenic properties, or thematically related grouping of properties, which contribute to each other and are unified aesthetically by plan or physical development;
- f. It has a location with unique physical characteristics or is a view or vista representing an established and familiar visual feature of a neighborhood, community, or the County of Santa Barbara;
- g. It embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation;
- h. It reflects significant geographical patterns, including those associated with different eras of settlement and growth, particularly transportation modes or distinctive examples of park or community planning;
- i. It is one of the few remaining examples in the County, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

A designated County Landmark is preserved and protected by conditions restricting its demolition, removal, alteration, or use. The specific conditions for each landmarked property are spelled out in the Board Resolution which finalized the property's Landmark status. Plans for alterations to Landmarks are required to be reviewed by the HLAC for approval. Designation as a Place of Historic Merit officially recognizes the building or site as having historic, aesthetic or cultural value. A Place of Historic Merit, as opposed to a Landmark, is not protected by restrictions as to demolition, removal, alteration or use, but it would usually qualify as a historical resource in the context of CEQA environmental review. Designation as a Landmark recognizes the building or site at a higher level of historic, aesthetic, or cultural significance.

Paleontological Resources Significance Criteria

The SVP Guidelines (SVP 2010) outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (2010:11), significant nonrenewable paleontological resources are:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

Numerous paleontological studies have further developed criteria for the assessment of significance for fossil discoveries (e.g., Eisenstraut and Cooper 2002; Murphey and Daitch 2007; Scott and Springer 2003, etc.). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In summary, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important (Eisenstraut and Cooper 2002; Murphey and Daitch 2007; Scott and Springer 2003). Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

Paleontological Potential

Paleontological potential is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, the past history of the geologic unit in producing significant fossils, and the fossil localities recorded from that unit. Paleontological potential is derived from the known fossil data collected from the entire geologic unit and not just from one specific survey. In its “Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources,” the SVP (2010) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential.

- **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing

paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e. g., ashes or tephra), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.).

- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
- **Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.
- **No Potential.** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources. [SVP 2010; 1-2].

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, monitoring will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontological potential of the rock units present within the study area.

4.3.4 Analysis, Impacts and Mitigation

Methodology and Significant Thresholds

For the purpose of this discussion, the term cultural resource broadly includes historical and archaeological. The significance of a cultural resource impact is determined by whether that resource meets the criteria discussed above. Where the significance of a site is unknown, it is presumed to be a significant resource for the purpose of identifying potential areas of disturbance associated with construction projects or development in urban infill areas near high-quality transportation corridors as outlined in the Project.

Appendix G of the State CEQA Guidelines identifies the following criteria for determining whether implementation of the Project would have a significant impact on cultural and historic resources:

- a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- b. Cause a substantial adverse change in the significant of an archaeological resource pursuant to §15064.5;
- c. Disturb any human remains, including those interred outside of formal cemeteries.
- d. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impacts and Mitigation Measures

The following section presents a programmatic-level discussion of the potential for impacts to sensitive cultural resources and paleontological resources resulting from implementation of the Project. Impacts and associated mitigation measures would apply in Santa Barbara County and all cities within the County.

Cultural Resources

Threshold 1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact Statement 1: The Project would not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

Priority Area Projects

As previously mentioned under the *Identification of Cultural Resources* section above, a total of 86 historic resources were identified within the Priority Areas, including 77 of which are either listed historic resources or potentially eligible historic resources, and nine (9) of which were determined to be ineligible as historic resources. Of these identified built environment resources, seven (7) resources with Primary numbers appear in both the CCIC and County database/BERD/NRHP records search (P-42-040927, P-42-040925, P-42-040926, P-42-0409257, P-42-040479, P-42-040733 [which includes 5 resources], and P-42-040751).

The following are the results of the CCIC and County database/BERD/NRHP historic resources records search: one (1) NRHP-listed resource (1S status code), three (3) properties determined to be NRHP eligible by consensus with the Section 106 process (2S2 status codes), seven (7) Santa Barbara County Landmarks (two of which are listed twice), 64 potential historic resources (without assigned status codes), five (5) resources which are ineligible for the National Register (6Y status codes), two (2) resources that are ineligible for NRHP, CRHP, and local designation (6Z status codes), three (3) resources identified as significant (of these one [1] is eligible as a Santa Barbara County Structure of Merit, while two [2] were noted as ineligible for listing), one (1) resource that was determined ineligible and did not have an assigned status code. Additionally, three potential historic district groupings were recorded (P-42-0040731/Town of Cuyama, P-42-040729/Town of Guadalupe, and P-42-040733/Town of Los Alamos), which do not have assigned status codes.

Future Broadband Facilities

The majority of the projects and future projects will involve subterranean fiberoptic cable which would not have a direct or indirect impact on historical resources. However, the projects do include above ground components and aerial cables, and cable attachments. Fourteen listed or potentially eligible

historic resources intersect (one of which is a duplicate entry, P-42-070733) with the proposed fiber optic cable alignments. Of these, two previously recorded built environment resources (CA-SBA-003620H and P-42-041756) which intersect with the proposed fiber optic cable alignments were observed in the same condition as previously recorded. As identified historic resources within the Priority Areas intersect with the proposed fiber optic cable alignments, Mitigation Measure CR-1 is recommended to minimize effects to identified historic resources and potentially eligible historic resources that are 45 years of age or older.

Mitigation Measures

Mitigation Measure CR-1: Historical Resources Impact Minimization

Prior to individual permit issuance, the implementing agency of the Last-Mile Broadband Project shall prepare a map defining a proposed fiber optic cable alignment involving ground and aerial disturbance for fiberoptic cable. This map will help to determine whether known historical resources and/or potential historic districts are located within the proposed fiber optic cable alignment. If a structure greater than 45 years in age is within the identified proposed fiber optic cable alignment, study recommendations shall be implemented, which may include, but would not be limited to, the following:

- At the program level, realign or redesign projects to avoid impacts on known historic resources where possible. Project shall be designed in such a way that ground disturbance, and physical connections to the building will be minimally intrusive to historic resources. When possible, new fiberoptic cables should utilize existing mechanical housing to avoid visual intrusion at the property. New mechanical housing should be affixed to historic resources in such that will not damage or destroy historic fabric and will be minimally intrusive.
- At the program level, if avoidance of a significant architectural/built environment resource is not feasible, additional mitigation options include, but are not limited to, specific design plans for historic districts, or plans for alteration or adaptive re-use of a historical resource that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring and Reconstructing Historic Buildings.
- At the project level, if a structure and/or property greater than 45 years that has not yet been formally evaluated for historic significance is located within a proposed fiber optic cable alignment, a survey and historic resources evaluation of the structure and/or property would be conducted to determine eligibility for listing on State, federal, or local historic registers. The evaluation shall be prepared by a qualified architectural historian, or historical architect meeting the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, Professional Qualification Standards. The evaluation shall comply with CEQA Guidelines section 15064.5(b). Structures and/or properties potentially eligible for significance as historic resources would follow the above guidance for program level avoidance and/or plan review to ensure that the proposed project is designed in such a way that it avoids potential impacts to historical resources.
- Comply with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect historic resources.

Threshold 2: Would the project cause a substantial adverse change in the significance of an archaeological or unique archaeological resource pursuant to §15064.5?

Impact Statement 1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.

This section discusses archaeological resources that are potentially historical resources according to *State CEQA Guidelines* Section 15064.5, as well as unique archaeological resources defined in PRC Section 21083.2(g).

Priority Area Projects

As previously mentioned under the *Identification of Cultural Resources* section above, a total of seven precontact sites, one historic-period site, two multicomponent resources, and two historic districts (known as the Anza Trail and Lompoc Oil Field Historic District) intersect or are directly adjacent to the proposed fiber optic cable alignment. The precontact sites include eligible sites, village sites, and sites known to have evidence of human remains. Therefore, the archaeological site density and archaeological sensitivity of the service area is very high. The NAHC was contacted on July 26, 2024, to request a search of the SLF. The NAHC responded to the request in a letter dated August 16, 2024 with a positive result. A total of eight previously recorded resources from the CCIC results that intersect with fiber lines within the Priority Areas were visited. The survey did not yield surface indications of the known historic-period or precontact archaeological sites.

There are 12 previously recorded CCIC cultural resources located within the proposed fiber optic cable alignments. In order to properly mitigate known archaeological sites within the proposed fiber optic cable alignment which have already been determined significant or have not yet been evaluated, avoidance, or data recovery and evaluation, must be conducted before project implementation in order to mitigate significant and unavoidable impacts to archaeological resources. The majority of these resources are all indicative of precontact habitation and food preparation. They could be indicative of larger buried village or camp sites, or unique archaeological resources, that could extend into the proposed fiber optic cable alignment and be encountered during ground disturbance for these projects. Due to the high sensitivity of the entire service area and the requirements of CEQA and to determine potential impacts to significant sites that could be impacted by the projects, Mitigation Measures CR-2 through 5 are recommended in order to reduce potential impacts to archaeological resources to less than significant levels under CEQA.

Future Broadband Facilities

Due to the high sensitivity of the entire service area and the requirements of CEQA to determine potential impacts to significant sites that could be impacted by future projects, Mitigation Measures CR-2 through 5 are recommended in order to reduce potential impacts to archaeological resources to less than significant levels under CEQA.

Mitigation Measures

Mitigation Measure CR-2: Archaeological Resources Impact Minimization

The implementing agency shall retain a Qualified Archaeologist under the Secretary of the Interior Standards to carry out all mitigation related to archaeological resources as required for each project. Prior to the start of ground-disturbing activities, the Qualified Archaeologist or their designee shall conduct construction worker archaeological resources sensitivity training for all

construction personnel. Construction personnel shall be informed on how to identify the types of precontact and historic archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources, and safety precautions to be taken when working with archaeological monitors. The Implementing agency shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. In addition, a cultural resource impact mitigation program (CRIMP) shall be filed with the County prior to site grading. The CRIMP shall specify the steps to be taken to mitigate impacts to cultural resources and shall include all of the program area projects and be amended if necessary at a project level.

The CRIMP will also outline protocols to follow for unanticipated discoveries. Impacts to known archaeological resources that are within or directly adjacent to project CEQA significance evaluation and mitigation for avoidance or when avoidance is not possible, controlled archaeological data recovery.

Within the planned projects there are 10 archaeological sites which have been determined to be within or directly adjacent to known archaeological sites and two districts. All 12 sites and districts have been determined to be eligible, potentially eligible, or have not been evaluated. As such they need to be mitigated under CEQA with evaluation and data recovery once the alignments and various components of the known projects are planned. Project planning should include design to avoid these sites whenever possible. When avoidance is not possible, testing and data recovery must be completed in advance of construction. The qualified Archaeologist shall coordinate with the implementing agency to develop a formal testing and data recovery plan which specifies all necessary notification and final reporting of the findings will be prepared and would serve to reduce impacts to the resources once the final design is available. To minimize disturbance to these sites, testing and data recovery should be planned within the planned alignment. For locations where directional boring will be conducted, data recovery should focus on entrance and exit pit locations.

Mitigation Measure CR-3: The qualified Archaeologist shall oversee an archaeological monitor who shall be present during construction activities on the projects deemed by the qualified Archaeologist to have the potential for encountering archaeological resources, such as demolition, excavation of boring entrance and exist pits, clearing/grubbing, drilling/auguring, grading, trenching, excavation, or other ground disturbing activity associated with the project where the ground disturbance can be observed. The archaeological monitor shall have the authority to direct the pace of construction equipment activity in areas of higher sensitivity and to temporarily divert, redirect or halt ground disturbance activities to allow identification, evaluation, and potential recovery of archaeological resources in coordination with the qualified Archaeologist. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined appropriate by the qualified Archaeologist.

In the event that historic-period (e.g., bottles, foundations, early infrastructure, refuse dumps/privies, railroads, etc.) or precontact (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A 50-foot buffer shall be established by the qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work may continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified Archaeologist. If a resource is determined by the qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the Qualified

Archaeologist shall coordinate with the implementing agency to develop a formal treatment plan that would serve to reduce impacts to the resources. If any precontact archaeological sites are encountered within the Project area, consultation with consulting Native American tribes will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources.

The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment and shall be explored to see if project activities can avoid archaeological resources, such as: if the archaeological site can be deeded into a permanent conservation easement, if the resources can be capped with chemically stable soil or if the resource can be incorporated within open space.

If, in coordination with the implementing agency, it is determined that preservation in place is not feasible, and in order to mitigate potential impacts to significant resources pursuant to Section 15064.5 of CEQA, data recovery is feasible. Appropriate treatment of the resource shall be developed by the qualified Archaeologist in coordination with the implementing agency and a data recovery plan shall be implemented. A data recovery plan will make provision for adequately recovering the scientifically consequential information from and about the historical resources, and may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing, analysis, reporting, and commemoration in the form of signage or other public education and awareness. This process will be in accordance with and further outlined in the CRIMP.

Precontact or tribal cultural resources will be offered to consulting tribes after analysis is complete to be curated or reburied if the tribes wish to accept the material. Any archaeological material collected not returned to the tribes, shall be curated after analysis is complete, at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

Mitigation Measure CR-4: At the conclusion of the archaeological monitoring, the qualified Archaeologist shall prepare a technical report that follows the format and content guidelines provided in California Office of Historic Preservation's Archaeological Resource Management Reports (ARMR). The technical report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. Appropriate California Department of Parks and Recreation Site Forms (Site Forms) shall also be prepared and provided in an appendix to the report. The technical report shall be prepared under the supervision of the qualified Archaeologist and submitted to the implementing agency within 150 days of completion of the monitoring. The final draft of the report shall be submitted to the CCIC.

Mitigation Measure CR-5: Should any future projects be planned within the program area, or if any of the currently planned projects move location, the qualified archaeologist shall assess construction plans and geotechnical reports, as well as reviewing record search data (which should be updated every 2 to 3 years as applicable) and they or their designee shall survey the new project alignment as well as a buffer, for the Project to determine whether any archaeological sites could be impacted by the Project, and to make recommendations for testing and/or

monitoring. The archaeologist will amend the CRIMP as appropriate and prepare a treatment plan as described in Mitigation Measure CR-2.

Cumulative Impacts

For the purposes of this analysis of cumulative impacts to cultural resources, the geographic area of consideration (i.e., the cumulative impacts study area) consists of the 17 installation sites within the nine Priority Areas, and more specifically the proposed fiber optic conduit alignments, as well as those of future yet-to-be-defined broadband installation sites in the County. This geographic scope of analysis is appropriate for the analysis of cultural resources because the types of resources within this area are similar in nature and origin and share a common heritage.

Threshold 1: Would the project when combined with other past, present, or reasonably foreseeable projects, cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Threshold 2: Would the project when combined with other past, present, or reasonably foreseeable projects, cause a substantial adverse change in the significance of an archaeological or unique archaeological resource pursuant to §15064.5?

Priority Area Projects and Future Broadband Installations

As demonstrated above, prior to mitigation, the program would have a potentially significant impact on cultural resources. This significant impact finding is due to the potential to impact historical built environment directly or indirectly, and to encounter archaeological resources at depth during construction. This potential exists due to the existence of both known built environment resources and known archaeological sites within the Priority Area projects as well as future broadband installation projects within the County. In addition, future yet-to-be-identified broadband projects to be proposed under the Broadband Program would also have the potential to intersect cultural resources during construction. Similarly, as with the Project, each related project would also be required to identify any cultural resources that could potentially be impacted by the related project and to address potentially significant impacts, if identified. The related projects may require mitigation similar to that applicable to the program, especially if those related projects are in areas of heightened sensitivity similar to the Broadband Program area.

Accordingly, in light of the program mitigation measures and similar anticipated mitigation requirements for Projects in areas of heightened sensitivity, the Project would not result in a cumulatively considerable contribution to cultural resource impacts with the implementation of Mitigation Measures CR-1 through CR-5

Mitigation Measure

None required.

Human Remains

Threshold 3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact Statement 1: Implementation of the Proposed Project could potentially disturb human remains; and cause a significant impact.

Priority Area Projects and Future Broadband Installations

The records search through the CCIC indicates that two resources (CA-SBA-001189 and CA-SBA-003625) intersect with fiber lines within the Priority Areas and these have yielded the identification of human bone, or human burials. Since the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb human remains. As a result, Mitigation Measure CR-6 would be implemented to reduce potential construction-related impacts to unknown human remains to less than significant levels.

Mitigation Measures

CR-6: Inadvertent Discovery of Human Remains. If human skeletal remains are uncovered during ground disturbance the implementing agency shall immediately halt work, contact the Santa Barbara County coroner to determine whether the remains are human, and follow the procedures and protocols outlined in the CRIMP (see CUL-MM-1 through 5) and those set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, they shall contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code Section (PRC) 5097.98 (as amended by AB 2641). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD) of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. Per PRC 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Cumulative Impacts

As indicated in the analysis above, Project impacts on human remains, if they were to occur, would be addressed and reduced to a less than significant level through implementation of Mitigation Measure CR-6. In addition, in the event human remains are encountered with development of cumulative projects, California PRC Section 5097.98, as amended, would apply which includes procedures in the event of discovery during project implementation. Therefore, in light of the Project's mitigation measure to address inadvertent discover of human remains, and applicability of PRC Section 5097.98 to cumulative projects, the Project's contribution to cumulative impacts would not be cumulatively considerable, and cumulative impacts would be less than significant.

Mitigation Measure

None required.

Paleontological Resources

Threshold 4: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact Statement 1: Implementation of the Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature causing a significant impact.

Priority Area Projects and Future Broadband Installations

Based on the analysis of the museum records and literature presented herein, it is clear that significant paleontological resources may be encountered in the Eocene-Pliocene marine units, the Pliocene-Pleistocene transitional units, and the older Pleistocene alluvium (Appendix D). Any excavation in these units as part of the proposed project may encounter and indirectly destroy unique resources. At the scale presented herein, it is not possible to be specific as to individual elements. Therefore, a detailed mitigation plan would further identify specific Project-related activities that would cross the CEQA threshold.

The paleontological records search conducted through NHMLA as well as the online search of the UCMR records indicates that some geologic units in the proposed project have produced paleontological resources. In order to best mitigate against the loss of scientifically significant paleontological resources, the following mitigation measures have been proposed for the Eocene-Pliocene marine units, the Pliocene-Pleistocene transitional units, and the Pleistocene alluvium. Other geological units such as the Jurassic-Cretaceous Espada Formation, the Tranquillon Volcanics, and younger alluvium do not require mitigation. The proposed mitigation measures would reduce Project-related impacts to less than significant.

Mitigation Measures

Mitigation Measure PALEO-1: The Implementing agency shall retain a paleontologist who meets the Society of Vertebrate Paleontology's (SVP 2010) definition for Qualified Professional Paleontologist (Qualified Paleontologist) to carry out all mitigation related to paleontological resources as required for each project. The Qualified Paleontologist will implement a paleontological monitoring program for construction excavations that would encounter the potentially fossiliferous Eocene-Pliocene marine units, the Pliocene-Pleistocene transitional units, and the older Pleistocene alluvium prior to the start of ground-disturbing activities, the Qualified Paleontologist or their designee shall conduct construction worker paleontological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of paleontological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources, and safety precautions to be taken when working with paleontological monitors. The Implementing agency shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure PALEO-2: Paleontological monitoring shall be conducted as specified in the monitoring program developed per Mitigation Measure PALEO-1. Monitoring shall be conducted by a qualified paleontological monitor (SVP 2010) working under the direct supervision of the Qualified Paleontologist. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting sediment samples to wet or dry screen to test promising horizons for smaller fossil remains. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific

geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely.

Mitigation Measure PALEO-3: If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the monitor's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If a fossil is determined to be significant, the Qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location, following the guidelines of the SVP (2010). Any fossils encountered and recovered shall be prepared to the point of identification, catalogued, and curated at an accredited repository.

If construction personnel discover any potential fossils during construction while the paleontological monitor is not present, regardless of the depth of work or location, work at the discovery location shall cease in a 25-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and recommended and implemented appropriate treatment as described in this measure.

Mitigation Measure PALEO-4: At the conclusion of paleontological monitoring, the Qualified Paleontologist shall prepare a report summarizing the results of the monitoring and any salvage efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Qualified Paleontologist to the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the proposed project and required mitigation measures.

Mitigation Measure PALEO-5: If fossils are found on a project/formation that does not require monitoring, the qualified paleontologist will be contacted for evaluation and recommendations for salvage. The paleontologist shall prepare a report summarizing the results of the monitoring program including methods of fossil recovery and curation, and a description of the fossils collected and their significance. A copy of the report shall be provided to the Implementing agency. The fossils and a copy of the report shall be deposited in an accredited curation facility such as the Los Angeles Natural History Museum.

Cumulative Impacts

For the purposes of this analysis of cumulative impacts to paleontological resources, the geographic area of consideration (i.e., the cumulative impacts study area) consists of the nine identified Priority Areas and future yet-to-be-determined broadband installation sites, and more specifically the proposed fiber optic cable alignments. This geographic scope of analysis is appropriate for the analysis of paleontological resources because the types of resources within this area are similar in nature. Activities associated with the Project that excavate into geological formations with high potential to host significant paleontological resources will cause an impact. Similar projects would also continue to impact paleontological resources but would be subject to analysis of the resources under CEQA. The proposed mitigation measures would reduce these cumulative impacts to a less than significant level under CEQA.

4.3.5 References

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