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3. Affected Environment and Environmental Consequences

This chapter (inclusive of Sections 3.1 through 3.20) primarily restates the Draft EIS assessment of the Build Alternatives. The chapter includes and denotes with double underlined text those changes made between Draft and Final EIS including limited updated existing conditions and analyses based on information that was identified after the Draft EIS was released (i.e., information provided to FHWA and HDOT as part of public comments on the Draft EIS or based on continued agency coordination).

Chapter 5, Selected Alternative, presents the FHWA and HDOT initial determination of the Preferred Alternative as originally established in the Draft EIS and that the agencies have selected the Preferred Alternative as the “Selected Alternative” for the Project which will be carried forward into the design build process.

3.1 LAND USE AND ZONING

This section evaluates the potential effects of the Honoapiʻilani Highway Improvements Project (the Project) on the local community in the context of existing and future land uses and zoning regulations. Chapter 2, Alternatives, evaluates the Project’s consistency with State and County plans.

Following publication of the Draft Environmental Impact Statement (EIS), the public was afforded an opportunity to review and comment on the effects of the Project with respect to land use and zoning. As part of this Final EIS, the analysis contained within this section was revised to reflect those comments, or other information gathered after the publication of the Draft EIS.

3.1.1 Regulatory Context

Land use and zoning are community characteristics evaluated in ~~an a National Environmental Policy Act~~ Environmental Impact Statement, following guidance found in Federal Highway Administration Technical Advisory T 6640.8A (1987)¹ and the Hawaiʻi Revised Statutes (HRS) Chapter 343.

A dual system of State and County laws regulate land use within Hawaiʻi. As described in greater detail in the following sections, all land in Hawaiʻi is categorized into one of four classifications defined by the Hawaiʻi State Land Use Commission: Conservation, Agriculture, Rural, and Urban. State-classified Conservation Districts are under the jurisdiction of the State of Hawaiʻi Department of Land and Natural Resources (DLNR). Additionally, the Maui County Zoning Ordinance provides for local implementation of statewide permitted uses in an Agricultural District in HRS 205.4. In Maui County specifically, the Maui Department of Planning’s Zoning Administration and Enforcement Division

¹ https://www.environment.fhwa.dot.gov/legislation/nepa/guidance_preparing_env_documents.aspx#land. Accessed December 2023.



enforces State and County land use laws, rules, codes, regulations, and general and community plans. Maui County's zoning provisions are established in the County of Maui Code of Ordinances, Title 19.

3.1.2 Methodology

The existing land use and zoning descriptions were developed by reviewing available GIS data layers along with relevant planning and zoning ordinances (which are cited with the information presented in this chapter). Existing baseline conditions were confirmed through field reconnaissance. Future changes to land use and zoning, or the lack of any anticipated change, were identified by reviewing pending State and County applications.

3.1.3 Affected Environment

While the project area encompasses the linear length of the corridor and the land area inclusive of all the Build Alternatives, this assessment also has a general discussion on land use and zoning for adjacent areas.

3.1.3.1 Land Use

The project area is decidedly rural in character and includes mostly open and undeveloped lands along with historic settlements in Olowalu and newer, low-density residential development mauka of the existing highway corridor at the base of the mountains. As discussed in Section 3.19, Environmental Justice and Socioeconomic Conditions, about 100 to 200 residents live in the project area.

The project area is located in the moku (traditional district) of Lāhainā and spans three ahupuaʻa: Ukumehame, Launiupoko, and Olowalu. The area was also heavily influenced by the development of large-scale plantation agriculture that dramatically changed and still influences much of the existing landscape.

State Land Use Classification

FIGURE 3.1-1 shows that the Hawaiʻi State Land Use Districts mapped over the project area are predominately Agricultural Districts. There is a small area mapped as a Conservation District along the coastline, and larger areas mapped over the mountains mauka of the Project. Agricultural Districts are intended to recognize and protect agricultural uses, and HRS Section 205-4.5 identifies the range of permissible uses as established by the Land Use Commission. Lands mapped as Conservation Districts are primarily in existing forest, natural resources, and water reserve zones and are governed by rules established by the State of Hawaiʻi DLNR.

Olowalu

FIGURE 3.1-2 depicts existing land uses in Olowalu, which are summarized in TABLE 3.1-1, and notable features are shown in the photographs below.



FIGURE 3.1-1. Project Area Hawai'i State Land Use Designation





FIGURE 3.1-2. Project Area Land Uses: Olowalu





TABLE 3.1-1. Summary of Land Uses in Olowalu

LAND USE	SUMMARY DESCRIPTION
Residential	<p>Six large waterfront houses are makai of the highway and accessed via Kuahulu Place (a private street) and the Camp Olowalu access road. On the mauka side of the street, a few residences are adjacent to and behind the Olowalu General Store. To the south, along the Olowalu Village Road (also known as Kapāiki Place), there are about 15 residences ranging in size and age. Mauka of the village center, a few houses are located along Olowalu Stream and in the area of the Olowalu Petroglyphs. Mauka of the project area, Luawai Street provides access to an additional 13 completed residences as part of the 34-lot Olowalu Subdivision. While some roads and supporting infrastructure have been constructed, the subdivision has not been fully developed or occupied.</p> <p>A central greenway with a partially constructed and paved multiuse path was created by the subdivision based on easements across multiple tax parcels (the southernmost extension of the path is located within the property line of a future subdivision private street that has not yet been built) (FIGURE 3.1-4 Figure 2-7). Of the six undeveloped tax parcels containing greenway easements, five are owned by the original landowner and developers and one has a mix of owners. As set forth in the <i>Olowalu Subdivision Plan</i>, the pathway is within the easement area of these private parcels and is maintained by the homeowners association.</p>
Agricultural	<p>There are several agricultural tenants on the north end of Olowalu, most notably the Living Earth Systems farm, which is a commercial and educational facility focusing on sustainable farming practices and indigenous food sources. There are also agricultural activities on portions of the Olowalu Cultural Reserve and farther mauka into the mountains, where there are traditional taro loʻi using cooler mountain water. The taro loʻi are located in the Līhau portion of the West Maui Natural Area Reserve discussed in Section 3.5, Parklands and Recreational Facilities/Beach Access, along the recently approved additional reserve lands (State Division of Forestry and Wildlife).²</p>
Commercial	<p>In addition to the Olowalu Recycling and Refuse Convenience Center (at the north end of the project area) and Maui Paintball (north of the village center), several businesses are in the historic center of Olowalu. Combined with the monkeypod tree canopy, this commercial activity provides a unique and popular stopping point for local and through traffic. (Section 3.19, Environmental Justice and Socioeconomic Conditions, provides more information and an assessment of the effects of the Project on these businesses.) Leoda's Kitchen and Pie Shop and the Olowalu General Store share a built structure that is the core of the village center.</p> <p>North of these locations and within the Honoapiʻilani Highway right-of-way, there are open-air or food truck businesses and a farmers market (with a juice stand and butterfly exhibit). Mauna Kahālāwai Watershed Partnership maintains a storage yard that is mauka of the Olowalu General Store on the other side of Olowalu Village Road.</p> <p>There are two businesses makai of the existing highway in the village center: the Olowalu Plantation House, which is a popular waterfront wedding and banquet facility in the restored 1922 plantation manager's house; and Camp Olowalu, which is a private waterfront campground with a mix of tent sites, cabins, and car camping.</p>

² <https://dlnr.hawaii.gov/wp-content/uploads/2023/03/C-3.pdf>.



LAND USE	SUMMARY DESCRIPTION
Infrastructure	<p>Between Launiupoko at the north end of the project area and the Olowalu Recycling and Refuse Convenience Center, the makai side of the existing Lāhainā Bypass are undeveloped, and the shoreline (Awalua Beach) is publicly accessible directly from the existing highway. Mauka of the highway, the project area contains the Olowalu Recycling and Refuse Convenience Center, which provides recycling drop-off services for residents in the surrounding area. The closed Olowalu landfill is mauka of the current recycling center. While the landfill has been reopened to accept debris from the Lāhainā wildfire recovery, this is a short-revocable land use authorized by the State of Hawaiʻi DLNR. Transporting the debris to the landfill is expected to be <u>was</u> completed in January 2025, <u>and all wildlife debris is now in the process of being relocated to the permanent disposal site in Central Maui, which is expected to be complete by November 2025.</u>³</p>
Public and Cultural	<p>As discussed in more detail in Section 3.6, Archaeological and Architectural Historic Resources, there are important cultural sites in Olowalu. Awalua Cemetery is north of the village center. And The Lanakila Hawaiian Protestant Church (also referred to as the Olowalu Stone Church Ruins at Mōpua) is at the end of the existing Olowalu Village Road/Kapāiki Place.</p> <p>The Olowalu Petroglyphs are mauka of Honoapiʻilani Highway and the project area. The petroglyphs are within the Olowalu Cultural Reserve (also called the Puʻu Kīlea Reserve). Makai of the highway and along the waterfront, Olowalu Landing and the ruins of the historic sugar mill are between the Olowalu Plantation House and Camp Olowalu.</p> <p>While not part of the Maui County Parks system, the publicly owned and accessible shoreline includes Awalua Beach to the north and Olowalu Beach makai of the village center and existing highway.</p>

³ ~~<https://www.mauirecover.org/debrisremoval>~~ <https://www.mauirecover.org/debris-containment> (Date Accessed: July 2025)



FIGURE 3.1-3. **Launiupoko and North Olowalu Photos**



FIGURE 3.1-4. **Central Olowalu Photos**





Ukumehame

The ahupuaʻa of Ukumehame is noticeably less developed than Olowalu, as depicted in **FIGURE 3.1-5**. **TABLE 3.1-2** summarizes these land uses and **FIGURE 3.1-6** shows representative photos of the area.

TABLE 3.1-2. **Summary of Land Uses in Ukumehame**

LAND USE	SUMMARY DESCRIPTION
Residential	There are four-eight residential dwellings within the largely undeveloped 45-lot Ukumehame Subdivision. A fifth-ninth residence is located mauka of the subdivision into the gulch within the cultural reserve area. The subdivision is accessed by Ehehene Street north of the Ukumehame Stream and by Pōhaku ʻAeko Street and Paekiʻi Place south of the stream. While roads and supporting infrastructure have been constructed, the Ukumehame subdivision has not been fully developed or occupied.
Agricultural	There are two-three active agricultural uses: <u>two off Ehehene Street (Ukumehame and Maui Sod Farms)</u> and <u>one off of Pōhaku ʻAeko Street (El Toro Soysia Turf-Maui Grass Farm)</u> on subdivision parcels on Ehehene Street.
Commercial	There are no commercial uses in Ukumehame other than the two-three sod farms.
Public and Cultural	<p>Along the Ukumehame Stream and mauka into the mountains, the subdivision created a buffer parcel that extends along the stream corridor. Close to and mauka of the existing highway, there is an area of active cultivation and cultural practices are along and immediately south of the Ukumehame Stream.</p> <p>There are Three recreational resources <u>are</u> at the southern end of the project area. Mauka of the highway is the County-owned Ukumehame Firing Range (a State-owned portion is used by the National Guard). And Two beach parks are makai of the highway: Pāpalaua Wayside Park and Ukumehame Beach Park (Section 3.5, Parklands and Recreational Resources/Beach Access).</p> <p>As part of the Ukumehame subdivision, frontage lots parallel with the existing Honoapiʻilani Highway were deeded to Maui County for future open space and highway relocations.</p>



Map Generated: 3/21/2025

Ukumehame

Ukumehame Firing Range

HDOT Retention Basin

Maui Grass Farm

Ukumehame SOD

Maui SOD

Honoapiʻilani Highway

11

12

13

Kāhili

Kehalea Pl

Ehohane St

Pohakaʻaʻoko St

Paekii Pl

Puʻu Kaula

Makua Gl

Papaia Gl

Manawapua

Legend

- Residence
- Residence identified since DEIS

Land Uses

- Agriculture
- Cultural Reserve
- Infrastructure
- Park/Rec
- Residential
- Undeveloped/Vacant

Study Segment of the Existing Honoapiʻilani Highway

Roads

Streams

Mile Marker

0 500 1,000 2,000 Feet

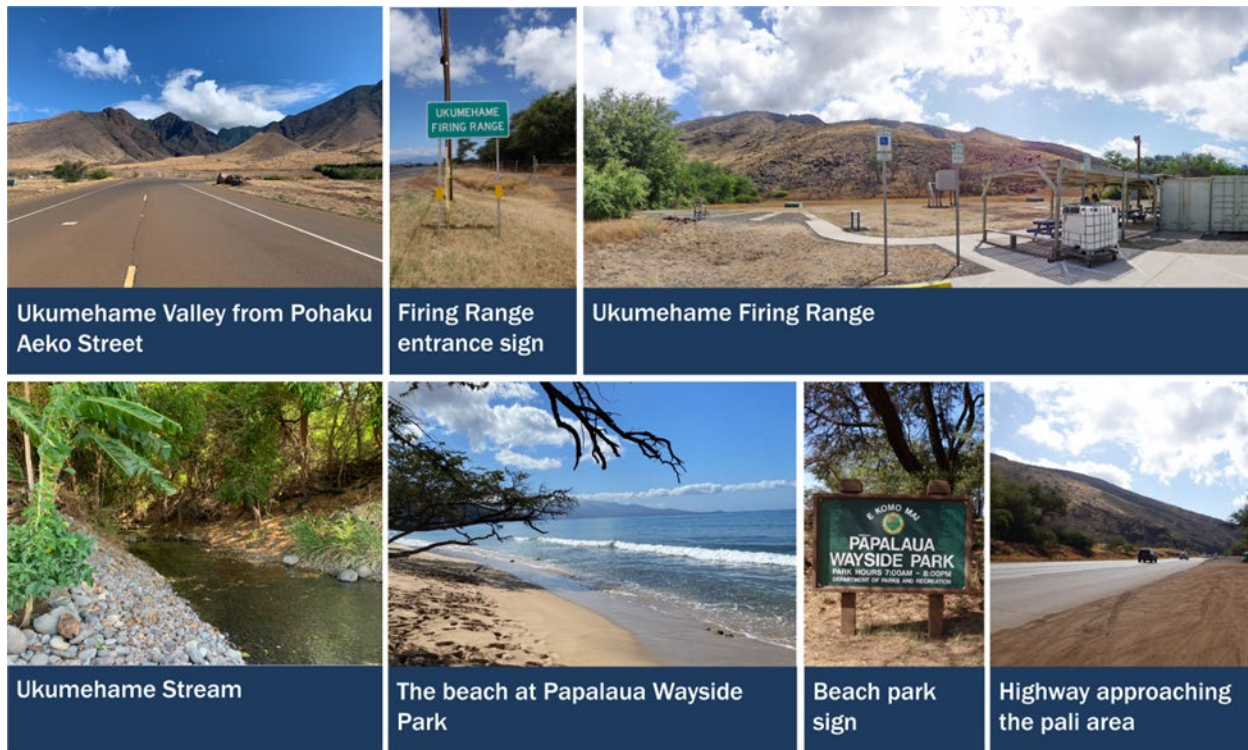
Service Layer Credit World Topo Base: Sources: Esri, HERE, DeLorme, increment P Corp., NPS, NRC, Ordnance Survey, © OpenStreetMap contributors, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat

Honoapiʻilani Highway Improvements

* Approximate size and location



FIGURE 3.1-6. **Ukumehame Photos**



3.1.3.2 Zoning

FIGURE 3.1-7 shows that Maui County zoning in the project area is closely aligned with existing land use patterns and its historic use as a plantation. The vast majority of the project area, including all of the Ukumehame portion, is zoned as Agricultural (AG). Public and natural reserve lands mauka of the project area are zoned as Interim Districts. TABLE 3.1-3 provides a summary of County zoning districts mapped in and adjacent to the project area.

Since there are small areas within Olowalu with zoning districts mapped as other than AG, FIGURE 3.1-8 shows the mapped Residential, Commercial, and Hotel Districts in greater detail.



FIGURE 3.1-7. Project Area Maui County Zoning

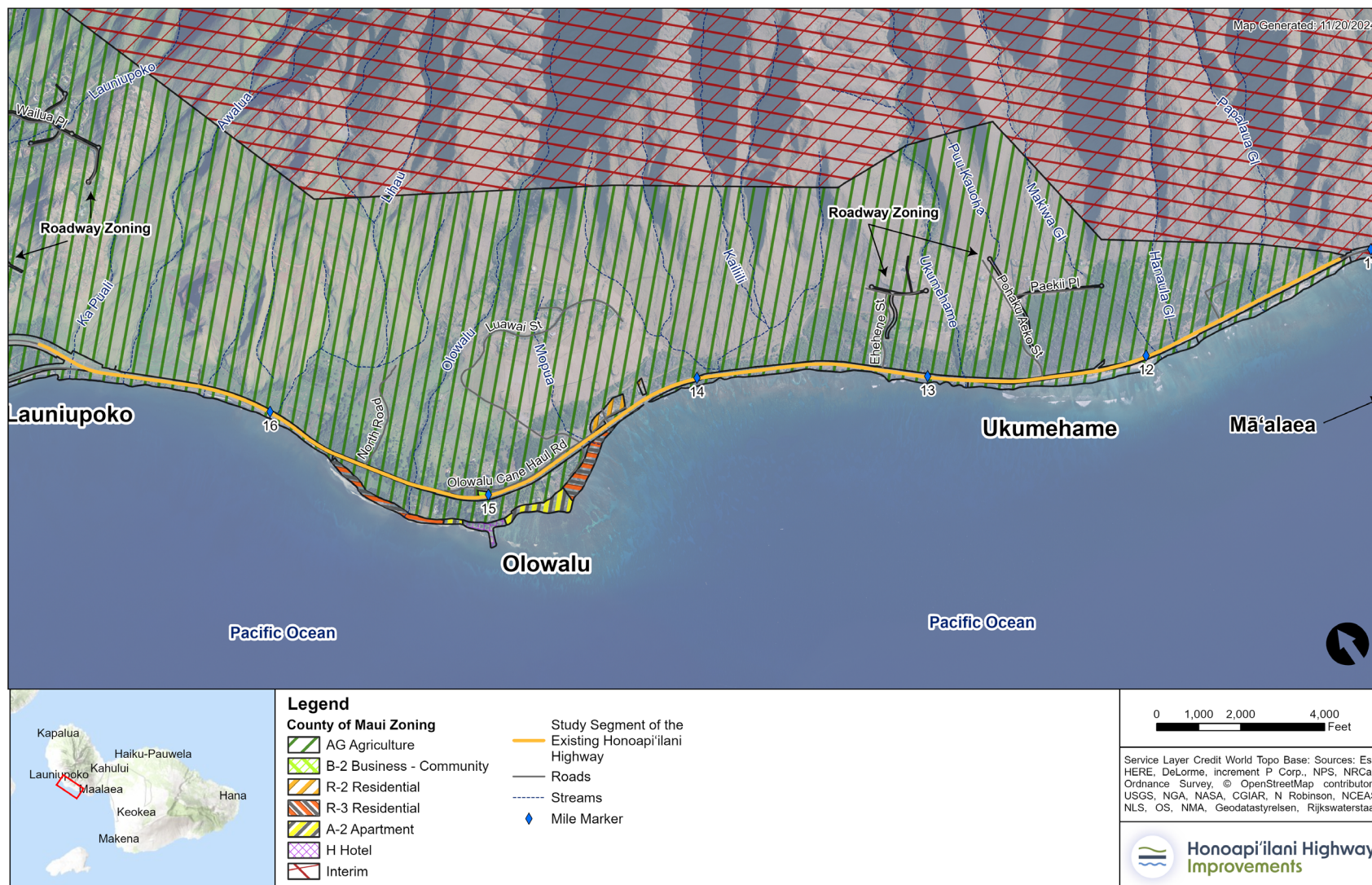




FIGURE 3.1-8. Project Area Zoning: Olowalu





TABLE 3.1-3. Summary of Project Area Mapped Zoning Districts

MAUI COUNTY ZONING DISTRICT	PURPOSE	ALLOWABLE USES	LOCATION IN PROJECT AREA
Agriculture (AG)⁴	Promote, preserve, protect agricultural use.	Agricultural uses, accessory residential uses on minimum lot size of 2 acres.	Predominate, this zoning is the controlling basis for the Olowalu and Ukumehame Subdivisions.
Residential (R-2/R-3)⁵	Provide for residential neighborhoods without the detraction of commercial and industrial activities.	Single family dwellings on 7,500 to 10,000 square foot lots (R2 and R3 respectively).	Small district mapped in Olowalu encompassing the Kapāiki neighborhood.
Apartment (A-2)⁶	To regulate multifamily dwellings and short-term rentals providing access to amenities, jobs, services, and transportation.	Apartments and short-term rentals including bed and breakfast businesses.	Small district mapped in Olowalu encompassing the Camp Olowalu location with short-term rentals and the vacation rental houses between Camp Olowalu and Plantation House.
Hotel (H)⁷	Establish high-density multifamily areas typically adjacent to business districts and/or oceanfronts.	Hotels and other related uses including banquet and meeting facilities.	Small district mapped in Olowalu to include the Plantation House banquet facility.
Community Business (B2)⁸	Low-density community district providing for goods and services.	Broadly defined, includes eating and drinking, amusement and recreational activities, personal and business services.	Very small district mapped to include the single commercial center in Olowalu village with the Olowalu General Store and Leoda's Kitchen and Pie Shop.
Interim	Delineation of public natural reserves and undeveloped conservation lands.	Conservation and open space.	Mapped areas mauka of the project area into the West Maui Natural Area Reserve.

⁴ https://library.municode.com/hi/county_of_mauai/codes/code_of_ordinances?nodeId=TIT19ZO_ARTIICOZOPR_CH19.30AAGDI. Accessed April 2023.

⁵ https://library.municode.com/hi/county_of_mauai/codes/code_of_ordinances?nodeId=TIT19ZO_ARTIICOZOPR_CH19.08REDI. Accessed April 2023.

⁶ https://library.municode.com/hi/county_of_mauai/codes/code_of_ordinances?nodeId=TIT19ZO_ARTIICOZOPR_CH19.12APDI. Accessed April 2023.

⁷ https://library.municode.com/hi/county_of_mauai/codes/code_of_ordinances?nodeId=TIT19ZO_ARTIICOZOPR_CH19.14HODI. Accessed April 2023.

⁸ https://library.municode.com/hi/county_of_mauai/codes/code_of_ordinances?nodeId=TIT19ZO_ARTIICOZOPR_CH19.18COBUDI. Accessed April 2023.



3.1.4 Environmental Consequences

3.1.4.1 *No Build Alternative*

The No Build Alternative would maintain the highway in its existing configuration with ongoing maintenance and repairs. Other trends or changes in the project area are noted in the following sections.

Land Use

No planned projects would alter overall land use patterns in the project area. It is anticipated that the existing Ukumehame and Olowalu Subdivisions would continue to be built out over time with roads, infrastructure, and individual lot development proceeding per subdivision approvals and applicable zoning requirements. This is evidenced by current road and infrastructure construction in Olowalu to the north of the village center as well as a review of recent Maui County permit activities in the project area.

A public campaign led by the West Maui Improvement Foundation and the West Maui Taxpayers Association has been initiated to authorize and construct a new fire station in Olowalu. While an agreement is in place to provide land for the new fire station, no formal planning has started.⁹

Zoning

The County of Maui is not considering any rezoning applications or anticipating other zoning changes, so zoning is expected to remain as is throughout the project area.

3.1.4.2 *Build Alternatives*

The following section discusses the potential adverse effects on land use or zoning. With the exception of Build Alternative 4 in Ukumehame, there are no substantive changes to land use and development patterns and no changes to zoning anticipated in the project area. For specific parcels of land acquisition required for one or more Build Alternative, Section 3.4, Land Acquisition, Displacement, and Relocation, addresses properties that may require full or partial land acquisition and explains the process for acquiring private land through the Uniform Relocation Act.

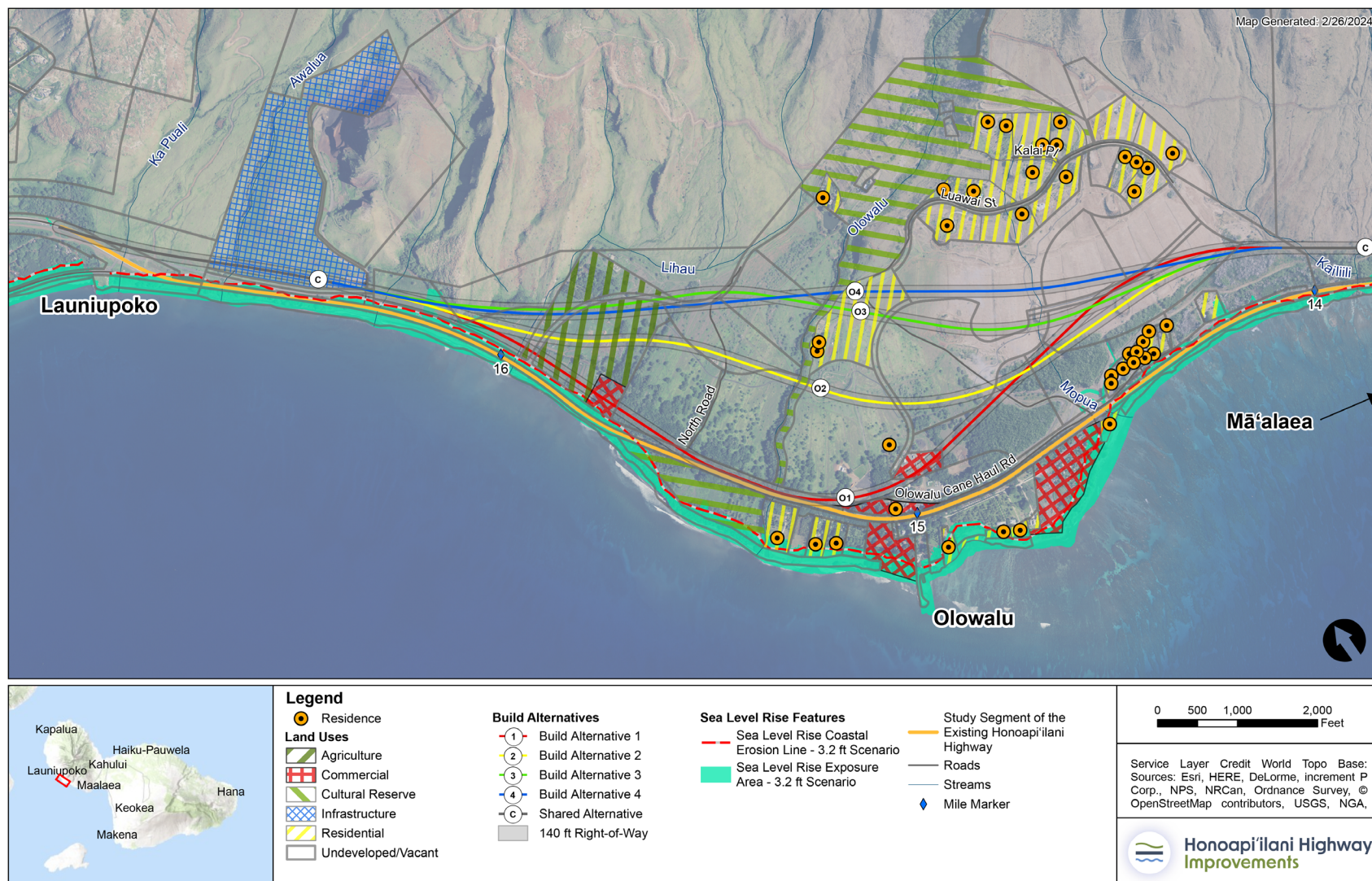
Land Use - Olowalu

FIGURE 3.1-9 shows the Build Alternatives and land uses in Olowalu.

⁹ <https://www.lahainanews.com/news/local-news/2023/08/04/olowalu-fire-station-fundraiser-gains-200000-in-pledges/>.



FIGURE 3.1-9. Build Alternatives and Land Uses: Olowalu





Common to All Build Alternatives

The Build Alternatives would convert about 66 to 73 acres of undeveloped or agricultural use lands into highway transportation uses. Several residential properties may be acquired, which would reduce the total development potential of the subdivision but is not anticipated to alter overall development patterns in Olowalu.

At the northern terminus of the project area, the new highway alignment is anticipated to be generally parallel but mauka to the existing highway on State and County land—including the area currently in use as the Olowalu Recycling and Refuse Convenience Center (also referred to as the Maui County transfer station)—as well as access to the temporarily reopened portion of the landfill for debris from the Lāhainā wildfire. The Project would result in the displacement and need to relocate the Maui County transfer station at the north end of the project area. Maui County has long considered relocation options for this facility to move it closer to the Lāhainā urban center, where most users originate. The Project would accelerate the need for relocation. Because the reopened portion of the landfill is a short-term use of the State-owned landfill property under a revocable authorization from the State of Hawaiʻi DLNR, the use is expected to be complete prior to the Project's implementation and would not be considered a displacement of the use.

All Build Alternatives would cross the active agricultural uses just south of the Maui County landfill facility. The makai alternative (Build Alternative 1) would generally cross the front portion of this facility and leave most of the land area intact. However, the alternative could displace some or all of the small agricultural uses fronting the cane haul road as well as the Maui Paintball facility. Build Alternative 2 would be just mauka of these uses while Build Alternatives 3 and 4 would pass through the middle of the parcel. The need to relocate these uses or ensure continued access—and possibly to reconfigure its use of the site and surrounding land areas—would be evaluated as part of the land acquisition process (Section 3.4, Land Acquisition, Displacement, and Relocation). As noted in Section 3.2, Agriculture and Farming, this would not result in a broader effect on agriculture pursuant to the Farmland Protection Policy Act (FPPA) Farmland Conversion Impact Rating (7 United States Code 4201 et seq.).

All the Build Alternatives would cross Olowalu Stream and its protected cultural reserve land area and would have two new intersections: one at the new Olowalu Subdivision road (North Road, near the Awalua Cemetery) and one at Luawai Street.

Build Alternative 1

From the common alignment area at the Olowalu Recycling and Refuse Convenience Center, Build Alternative 1 would be located just mauka and parallel to the existing highway—overlapping with the existing highway as it crosses the Olowalu Stream before turning mauka behind the village center and the Kapāiki neighborhood toward Ukumehame. The following key land use effects are specific to Build Alternative 1:

- Between the village center and Olowalu Stream, Build Alternative 1 overlaps with the existing highway right-of-way. Based on conceptual design, it is assumed that this would require permanent closure of a portion of the existing highway.



- Behind the village center, Build Alternative 1 would fully or partially displace the storage yard used by the Mauna Kahālāwai Watershed Partnership and would be close to the residence adjacent to the storage yard and the village center.
- Build Alternative 1 would displace the makai frontage of the Maui Paintball facility and the cane haul road. While it is not anticipated that the facility would be fully displaced, this would likely require reconfiguring the larger parcel, shifting the facility, and establishing a new access.
- Build Alternative 1 would be about 3,000 feet from the Olowalu Petroglyphs and mauka residences of the Olowalu Subdivision.
- There are 15 identified private parcels that would be affected by the alignment. These are primarily undeveloped parcels of the Olowalu subdivision along with three parcels with agricultural and commercial uses (Section 3.4, Land Acquisition, Displacement, and Relocation, provides more details).

Build Alternative 2

Build Alternative 2 would traverse a middle path through primarily privately owned undeveloped land. The following key land use effects are specific to Build Alternative 2:

- Build Alternative 2 would be about 1,600 feet from the Olowalu Petroglyphs.
- There are 15 identified private parcels that would be affected by the alignment. These are primarily undeveloped parcels of the Olowalu subdivision along with three parcels with agricultural and commercial uses (Section 3.4, Land Acquisition, Displacement, and Relocation, provides more details).
- Build Alternative 2 runs somewhat parallel to and crosses the easement areas on private lots, as detailed in Section 3.4. The alignment would cross the partially built-out multiuse path, which would require relocation or reconfiguration if it were to remain a continuous pathway. Build Alternative 2 would cross five private parcels with greenway easements as well as the easement area itself. All of these parcels are owned by entities of the subdivision developer.

Build Alternative 3

Build Alternative 3 would traverse a mauka path through primarily privately owned and undeveloped land. The following key land use effects are specific to Build Alternative 3:

- Build Alternative 3 would cross through a 16-acre parcel with an existing residence. The alignment would be mauka of the house and would not likely require relocation or displacement. The property acquisition process described in Section 3.4, Land Acquisition, Displacement, and Relocation, would determine the need to fully or partially acquire the parcel.
- Build Alternative 3 would be closer to the mauka residential areas of the Olowalu Subdivision and about 750 feet from the Olowalu Petroglyphs.
- There are 15 identified private parcels that would be affected by the alignment. With the exception of the one parcel noted above, these are primarily undeveloped parcels of the Olowalu subdivision along with three parcels with agricultural and commercial uses (Section 3.4 provides more details).



- Build Alternative 3 would also cross the greenway easement in two locations on one parcel and would require realignment, a grade-separated crossing, or a discontinuous multiuse path. The parcel is owned by entities of the subdivision developer.

Build Alternative 4

Build Alternative 4 would be the most mauka alignment and would also be primarily through privately owned land. The following key land use effects are specific to Build Alternative 4:

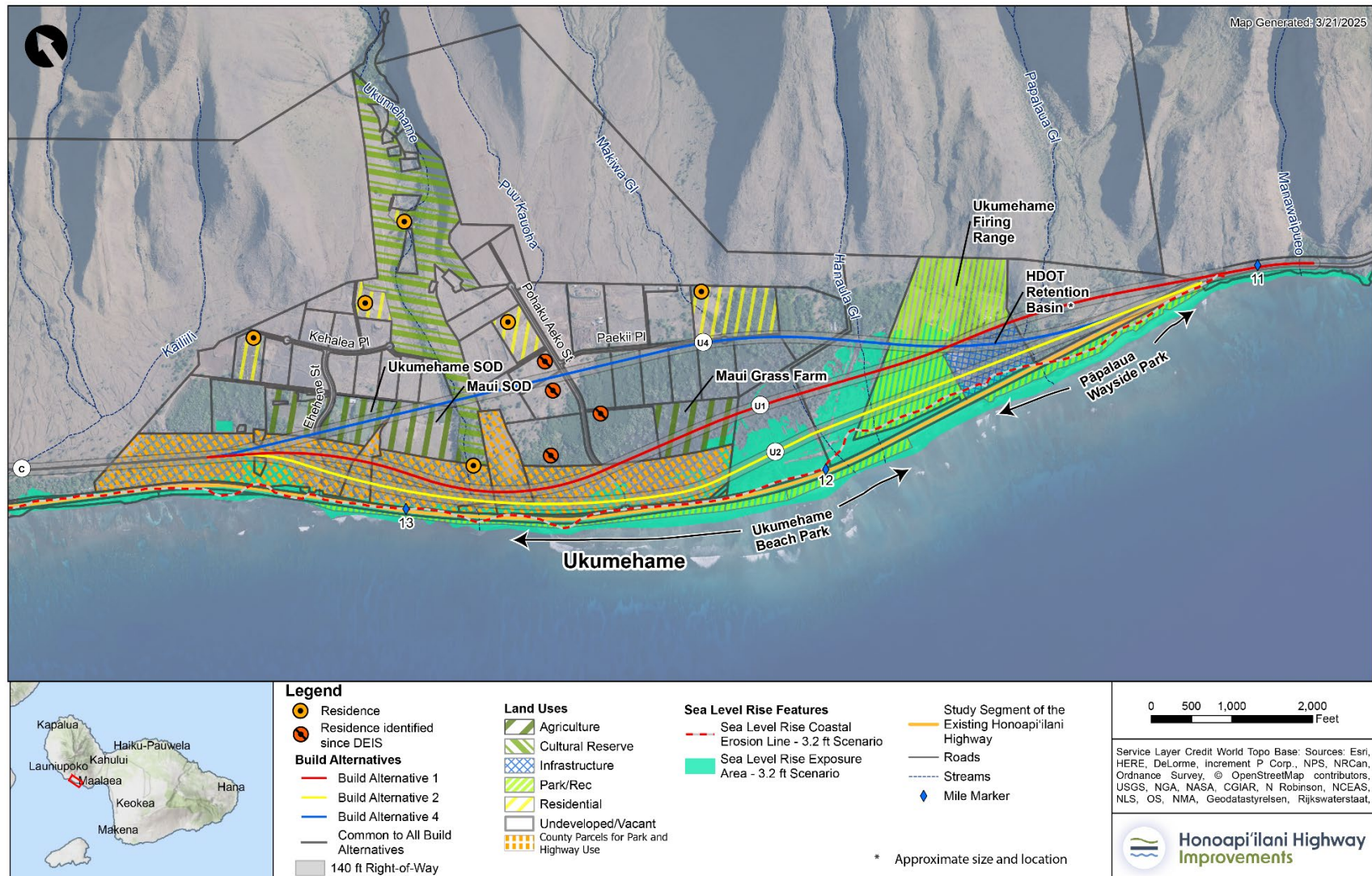
- As with Build Alternative 3, this alternative would require crossing through the same 16-acre parcel with an existing residence but would be located farther mauka from the house.
- Build Alternative 4 would be the closest to the mauka residential areas of the Olowalu Subdivision and about 500 feet from the Olowalu Petroglyphs.
- There are 16 identified private parcels that would be affected by the alignment. With the exception of the one parcel noted above, these are primarily undeveloped parcels of the Olowalu subdivision along with three parcels with agricultural and commercial uses (Section 3.4, Land Acquisition, Displacement, and Relocation, provides more details).
- Build Alternative 4 would cross one parcel's mauka portion of the greenway easement and would require realignment, a grade-separated crossing, or a discontinuous multiuse path. Multiple owners of condominium parcel allocations own this parcel.

Land Use - Ukumehame

FIGURE 3.1-10 shows that all the Build Alternatives would be located primarily on undeveloped land and would convert approximately 69.1 to 75.8 acres of land to a transportation use.



FIGURE 3.1-10. Build Alternatives and Land Uses: Ukumehame





Common to All Build Alternatives

At the north end of Ukumehame at its connection point with Olowalu, about a mile of alignment would be common to all the Build Alternatives. This portion of the alignment would traverse approximately 0.6 mile of undeveloped State-owned land, which is conditionally approved to be designated as forest reserve (Section 3.5, Parklands and Recreational Facilities/Beach Access) and has been identified as containing numerous archaeological resources (Section 3.6, Archaeological and Architectural Historic Properties).

Build Alternative 1

From the northern connection with Olowalu, south toward the Pali connection back to the existing highway, Build Alternative 1 is a middle alignment that generally parallels the existing roadway on County-owned lands but turns mauka at Pōhaku ‘Aeko Street to minimize crossing over the Sea Level Rise Exposure Area (SLR-XA) 3.2-foot boundary. Key land use effects specific to Build Alternative 1 include the following:

- Build Alternative 1 would displace a portion of two privately owned lots, including one undeveloped parcel and one parcel with active sod farming use located adjacent to but undeveloped parcels adjacent to the State and County parcels at Ukumehame Firing Range as well as a small portion of a third parcel encompassing privately owned Pōhaku ‘Aeko Street right-of-way.
- Build Alternative 1 crosses midway through State and County parcels at Ukumehame Firing Range follows along the mauka edge of the Hawaiʻi Department of Transportation (HDOT) detention basin and across State land to the Pali connection at the southern terminus of the Project.
- The alignment is close to the firing range and, as a result, the conceptual design for Build Alternative 1 would be elevated on a viaduct and remain above the firing range parking lot, thereby allowing for continued use of the recreational resource.
- Build Alternative 1 would have the farthest south connection point at the Pali, which is undeveloped land but has been identified as an area with several archaeological resources (Chapter 3.6, Archaeological and Architectural Historic Properties).
- Build Alternative 1 crosses a County-owned parcel with a residence that is associated with the adjacent kuleana parcel. While the new alignment would be makai of the residence, it could alter the access to the residence, result in displacement, or possibly a relocation of the residence on the same or adjacent parcel.

Build Alternatives 2 and 3

Build Alternatives 2 and 3 have the same alignment ~~through~~ from the north border with Olowalu to its southernmost tie-in point with the existing Honoapiʻilani Highway near the Pali—a length of about 3.3 miles. From the northern connection with Olowalu, south toward the Pali connection with the existing highway, Build Alternatives 2 and 3 are the most makai alignment and would be generally parallel to the existing highway. Key land use effects specific to Build Alternatives 2 and 3 include the following:



- The alignment would uniformly traverse undeveloped State- and County-owned land, including land that was set aside as part of the Ukumehame Subdivision and reserved for a new highway alignment and land for the Maui County Greenway makai of the new highway alignment.¹⁰
- Build Alternatives 2 and 3 would displace a small portion of one private parcel for the Pōhaku 'Aeko Street right-of-way.
- The alignment crosses State- and County-owned portions of Ukumehame Firing Range but would not displace the recreational resource. Conceptual design maintains access to the firing range with a new at-grade driveway from Build Alternatives 2 and 3.
- Across much of the firing range property, the alignment is conceptually designed to be on an elevated viaduct over the portions of the low-lying area that contain wetlands and are within the SLR-XA 3.2-foot boundary.
- South of the firing range, the alignment would traverse and widen the existing makai earthen berm of the HDOT detention basin and other State lands until the Pali connection.
- Build Alternatives 2 and 3 have similar potential displacement impacts as Build Alternative 1 on one residence.

Build Alternative 4

From the northern connection with Olowalu, south toward the Pali connection back to the existing highway, Build Alternative 4 would be the most mauka alignment through Ukumehame and was designed to maximize avoidance of the wetlands and 3.2-foot SLR-XA. Key land use effects specific to Build Alternative 4 include the following:

- Build Alternative 4 would traverse privately owned land across the Ukumehame Subdivision. It would displace or occupy portions of up to 20 privately owned parcels of land as well as a portion of Paeki'i Place and other privately owned street rights-of-way within the subdivision for the area south of the Ukumehame Stream. This would alter the original development plan for the subdivision by removing many of the development parcels and having the highway alignment immediately adjacent to subdivision parcels on the mauka side of Paeki'i Place.
- Build Alternative 4 would fully or partially displace the operations of Ukumehame and Maui Sod farms. As noted in Section 3.2, Agriculture and Farming, this would not result in a broader effect on agriculture.
- The alignment is closer to the houses that have been built in the Ukumehame Subdivision. It would require the acquisition of 20 private undeveloped parcels within the subdivision and potentially require the relocation of portions of Paeki'i Place.

Olowalu and Ukumehame Zoning

For both Olowalu and Ukumehame, all Build Alternatives would be in the County AG District, as is the majority of existing Honoapiʻilani Highway. The AG District is the local County zoning district, and its defined purpose is implementing the AG land classification of HRS Chapter 205. Public roads are

¹⁰ https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2005-05-23-MA-FEA-Ukumehame-Subdivision-Phase-1-and-2.pdf.



specifically identified as a permissible use in the State's AG designation and there would be no adverse zoning effects within the AG District.

3.1.5 Construction Effects

HDOT anticipates that project construction would take approximately four years and the Project could potentially be complete and operational by 2030. Certain parcels in the project area may need to be acquired for construction staging, but this cannot be fully determined until the design of the Preferred Alternative is advanced further. Nevertheless, any land use/acquisition required for project construction would be temporary and would not permanently change land use within the project area. Accordingly, construction activities associated with the Project would not be anticipated to result in adverse construction effects to land use and zoning.

3.1.6 Indirect Effects

There are no land use changes (other than the conversion of land to highway use) or new development associated with the Project. Therefore, the Project would not induce growth that would result in changes to land use, population density, or population growth. The project area is regulated by the zoning provisions described above, and potential future development within the project area would abide by the density provisions of applicable zoning, which could be developed as-of-right independent of the Project. Modifications to existing zoning would require approval and would be assessed separately.

The Project would maintain and ensure access to existing streets and parcels. Therefore, the Project would not result in indirect effects to land use or zoning. In addition, the Project does not preclude the development of additional open space resources, particularly along the coast or makai of the new highway alignment, consistent with Maui County policy (Chapter 2, Alternatives, and Section 3.5, Parklands and Recreational Facilities/Beach Access).

3.1.7 Mitigation

Across the larger project area (with the exception of Build Alternative 4 in Ukumehame as noted below), there are no broad or large-scale changes to land use, zoning, and development patterns as a result of the Project. The acquisition of private property for all the Build Alternatives would be pursuant to the federal Uniform Relocation Act process, which protects the rights of property owners and tenants of the property without discrimination. As set forth in Section 3.4, Land Acquisition, Displacement, and Relocation, there would be no additional mitigation required.

As described below, there are specific, parcel-based changes to land use and potential mitigation measures associated with one or more of the Build Alternatives in Olowalu and Ukumehame.

3.1.7.1 Olowalu

Common to All Build Alternatives

All the Build Alternatives would cross agricultural uses (including the Living Earth Systems farm) at the north end of the project area in Olowalu. The first step of mitigation would be working with the tenant



farmer and property owners to determine if operations can continue at the present location by reconfiguring the farm to use other areas of the affected parcel (or other adjacent parcels as available). If the farm reconfiguration is not possible—and as described in Section 3.4, Land Acquisition, Displacement, and Relocation—mitigation would advance through the application of the federal Uniform Relocation Act and its obligations to provide relocation assistance and compensation for property acquisitions.

Build Alternative 1

Build Alternative 1 would displace a portion of the makai section of the Maui Paintball center. The first step of mitigation would be to determine if the use can remain with a reconfiguration and a new access point, or by application of relocation assistance as set forth in federal regulations.

Build Alternative 1 would also fully or partially remove the storage yard used by the Mauna Kahālāwai Watershed Partnership in Olowalu village center. The storage yard is on a large privately owned parcel and would most likely be relocated on the same parcel. If this is not workable, the relocation process described in Section 3.4, Land Acquisition, Displacement, and Relocation, would be the mitigation for the displacement.

Build Alternative 2

Build Alternative 2 would occupy areas currently within a greenway easement and crosses the partially built-out multiuse path. Mitigation for the potential displacement of the multiuse path could include reallocation of the greenway easement area on one or more private parcels and a potential realignment of the multiuse path, which would be determined through the land acquisition process described in Section 3.4, Land Acquisition, Displacement, and Relocation.

Build Alternatives 3 and 4

Build Alternatives 3 and 4 both traverse a 16-acre parcel with an existing residence. Based on the property acquisition process, the initial step would be to determine if the property can be configured and subdivided—allowing the house to remain on portions not disturbed by the highway—or if the entire parcel would be acquired and the house would need to be relocated. In this case, there would be a potential displacement of the residence, which would be mitigated through application of the Uniform Relocation Act as described in Section 3.4, Land Acquisition, Displacement, and Relocation. As described in Chapter 5, Selected Alternative, the Selected Alternative incorporates a shared-use path that would replace the existing subdivision greenway.

In addition, Build Alternatives 3 and 4 would cross smaller portions of the greenway easement and a portion of the partially built-out multiuse path. Mitigation for the potential displacement of a portion of the multiuse path could include reallocation of the greenway easement and a potential realignment of the multiuse path, which would be determined through the land acquisition process described in Section 3.4.

3.1.7.2 Ukumehame

Build Alternative 1

Build Alternative 1 crosses the parking lot of the Ukumehame Firing Range. The conceptual design for this alignment includes a viaduct over the parking lot to avoid displacement of the use. The viaduct is



also designed to extend over the HDOT detention basin and arrive at the southernmost connection at the terminus of the Project, which ~~effects~~affects newly identified historic resources (Section 3.6, Archaeological and Architectural Historic Properties, includes a discussion of historic resources and Chapter 5, Preferred Alternative, includes mitigation/refinement information for the Preferred Alternative alignment).

Build Alternative 1 has the potential to result in a residential displacement or relocation of the residence on the same parcel, which would be mitigated through application of the Uniform Relocation Act as described in Section 3.4, Land Acquisition, Displacement, and Relocation. In addition, Build Alternative 1 would require the acquisition of one full parcel containing an agricultural use off of Pōhaku ʻAeko Street (El Toro Soysia Turf-Maui Grass Farm), which would be similarly mitigated through the application of the Uniform Relocation Act.

Build Alternatives 2 and 3

Build Alternatives 2 and 3 would have the same potential residential displacement and mitigation as Build Alternative 1.

Build Alternative 4

Build Alternative 4 would displace active agricultural uses and require the acquisition of 20 private undeveloped parcels. The alignment would substantially alter the development potential of the Ukumehame Subdivision and change its approved development patterns. The requirement to adhere to the Uniform Relocation Act—as described in Section 3.4—would mitigate the potential adverse effect of the agricultural use displacement and other owners. In total, the land acquired for the new highway alignment could also be evaluated as part of a relocation strategy that would allow for reconfiguration of the farms on lands adjacent to the new alignment.

3.1.8 Build Alternatives Comparative Assessment

3.1.8.1 Olowalu

In Olowalu, all the Build Alternatives would result in a partial loss of active agricultural use at the north end of Olowalu. This is considered an adverse effect. In consultation with the property owner and the tenant—and as required by the Uniform Relocation Act (Section 3.4, Land Acquisition, Displacement, and Relocation)—mitigation could be to retain the usable agricultural portions of the land and expand the use to adjacent parcels (or parcels acquired by HDOT as part of the Project).

As described above, Build Alternatives 3 and 4 would both traverse a 16-acre parcel with an existing residence. Build Alternative 1 would also fully or partially remove the storage yard used by the Mauna Kahālāwai Watershed Partnership in the Olowalu village center.

Build Alternatives 2, 3, and 4 would intersect with the greenway easements and partially built-out multiuse path within the Olowalu Subdivision.

TABLE 3.1-4 provides a summary of the primary evaluation factors used to compare the No Build Alternative and the Build Alternatives in Olowalu.



TABLE 3.1-4. Comparison of No Build Alternative and the Build Alternatives in Olowalu

ALTERNATIVE	ACRES CONVERTED TO TRANSPORTATION USE	PRIVATE PARCELS AFFECTED	POTENTIAL RESIDENTIAL, BUSINESS, OR AGRICULTURAL DISPLACEMENT
No Build Alternative	0	0	0 (Residential) 0 (Business) 0 (Agricultural)
Build Alternative 1	73.2	15	0 (Residential) 1 (Business) 1 (Agricultural)
Build Alternative 2	68.8	15	0 (Residential) 0 (Business) 1 (Agricultural)
Build Alternative 3	66.9	15	1 (Residential) 0 (Business) 1 (Agricultural)
Build Alternative 4	66.2	16	1 (Residential) 0 (Business) 1 (Agricultural)

3.1.8.2 Ukumehame

Build Alternatives 1, 2, and 3 have a similar land use effect—mostly using undeveloped and publicly owned land. Build Alternative 1 would mostly traverse State- and County-owned land and displace a small portion of two privately owned but undeveloped parcels as well as a small portion of a third parcel encompassing privately owned Pōhaku ‘Aeko Street right-of-way, and one full parcel containing an agricultural use off of Pōhaku ‘Aeko Street (El Toro Soysia Turf-Maui Grass Farm). Build Alternatives 2 and 3, which are the same in Ukumehame, would stay in State- and County-owned land and would displace a small portion of one private parcel for the Pōhaku ‘Aeko Street right-of-way. Build Alternative 4 would displace an active agricultural use (Maui/Ukumehame Sod Farm) and up to 20 private parcels including a portion of Paekiʻi Place.

TABLE 3.1-5 provides a summary of the primary evaluation factors used to compare the No Build Alternative and the Build Alternatives in Ukumehame.



TABLE 3.1-5. **Comparison of the No Build Alternative and Build Alternatives in Ukumehame**

ALTERNATIVE	ACRES CONVERTED TO TRANSPORTATION USE	PRIVATE PARCELS AFFECTED	POTENTIAL RESIDENTIAL, BUSINESS, OR AGRICULTURAL DISPLACEMENT
No Build Alternative	0	0	0 (Residential) 0 (Business) 0 (Agricultural)
Build Alternative 1	75.8	3	1 (Residential) 0 (Business) 0 1 (Agricultural)
Build Alternatives 2 and 3	70.4	1	1 (Residential) 0 (Business) 0 (Agricultural)
Build Alternative 4	69.1	20	0 (Residential) 0 (Business) 2 (Agricultural)