FRIENDS OF THE DUNES
Coastal Development Permit Application Notice

Friends of the Dunes has submitted an application to the Humboldt County Planning Department for a Coastal Development Permit (CDP) to enhance trail access at the 2.8 acre former Barr property located on Lupin Avenue in Manila. Trail improvements are designed to minimize impacts to sensitive habitat while allowing for continued neighborhood access by hikers, equestrians, and dog walkers.

During the permit process, Friends of the Dunes will accept comments from the public regarding the application by emailing info@friendsofthedunes.org. While we may not be able to respond to every comment, we will consider comments that help improve the project in terms of resource protection and public access. As part of the CDP process, the county will schedule a public hearing where the public will be notified and able to provide comments about the project directly to the County.

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Coastal Development Permit Application

EXECUTIVE SUMMARY

Friends of the Dunes (FOD), a non-profit 501(c)3 organization, is submitting a Coastal Development Permit (CDP) for the enhancement of the former Barr property, approximately 2.8 acres of coastal dune property purchased by FOD in 2014 that connects to FOD's Humboldt Coastal Nature Center property (HCNC). Funds to purchase the Barr property came from the California Natural Resources Agency and the Department of Enhancement and Mitigation Program for the purpose of conserving connectivity of habitat that supports federally listed endangered plant species, a state-listed rare plant community and a freshwater wetland.

Two existing user-created routes will be enhanced with various signs and markers. The project also includes the installation of a fence along the property line between the former Barr property and adjacent private property to the east (Figure 1). In addition to development of trails, non-native invasive plant removal will take place, including removal of invasive annual grasses with low to medium cover over an approximately 1.5 acre area, approximately 0.20 acres of ice plant, yellow bush lupines (isolated occurrences too small to quantify), and Himalayan blackberry (isolated occurrences too small to quantify) (Figure 2).

PLAN OF OPERATION

FOD plans to establish a trailhead at 365 Lupin Avenue as a neighborhood access point to the dunes and beach. There will be no parking at the trailhead. Through this CDP, FOD intends to provide use of two trails while at the same time ensuring conservation of the state-listed dune mat plant community, and federally endangered Humboldt Bay wallflower (*Erysimum menziesii* var. *humboltensis*) and federally listed beach layia (*Layia carnosa*) habitat. Public access will allow for pedestrians, dog walking and horseback riding on designated trails during daylight hours only. The current "private property sign" and metal gate will be removed and replaced with a new fence designed to allow pedestrian and horse access while blocking access to motorized vehicles (Figure 3 a-b). A "No Parking" sign will be placed on the Lupin Avenue fence. FOD anticipates a negligible increase of use at this trailhead.

TRAILS, SIGNAGE, AND POLICIES

Trails and Signage

Multiple user created routes currently exist on the former Barr property. This application proposes to consolidate use to maintain the two most commonly used trails, one offering beach access and one offering dune access (Figure 4). The Beach Access trail crosses Manila Community Services District property (MCSD) before connecting up to FOD's designated Water Line trail and South Beach Access trail on the HCNC property. The dune access trail connects directly to FOD's designated Ridge trail on the HCNC property. Total length of both trails connected to HCNC is 430 meters (about 0.25 miles). Both trails will be enhanced as described below.

Figure 1. Proposed location of trails and fences.

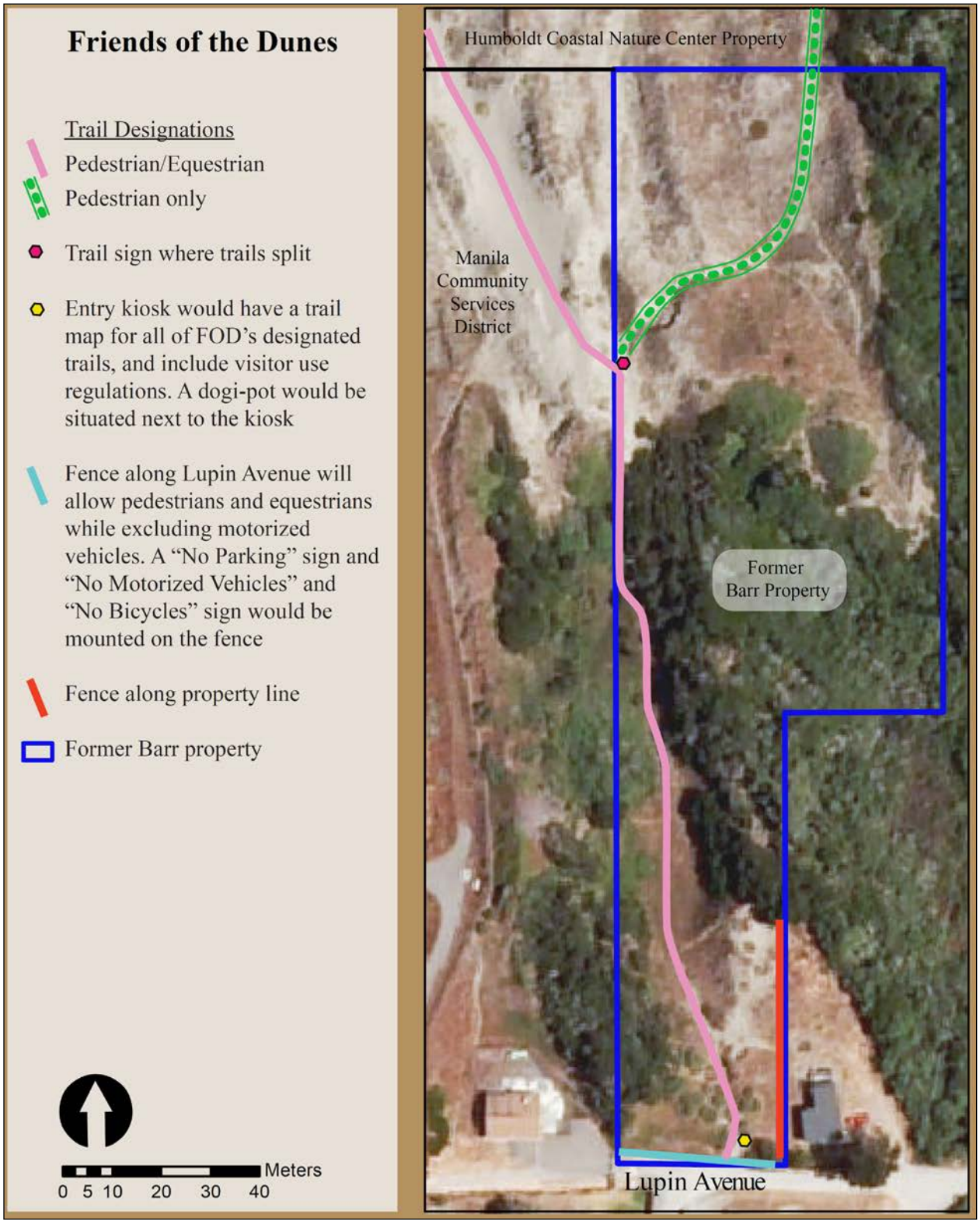


Figure 2. Proposed non-native invasive plant removal.

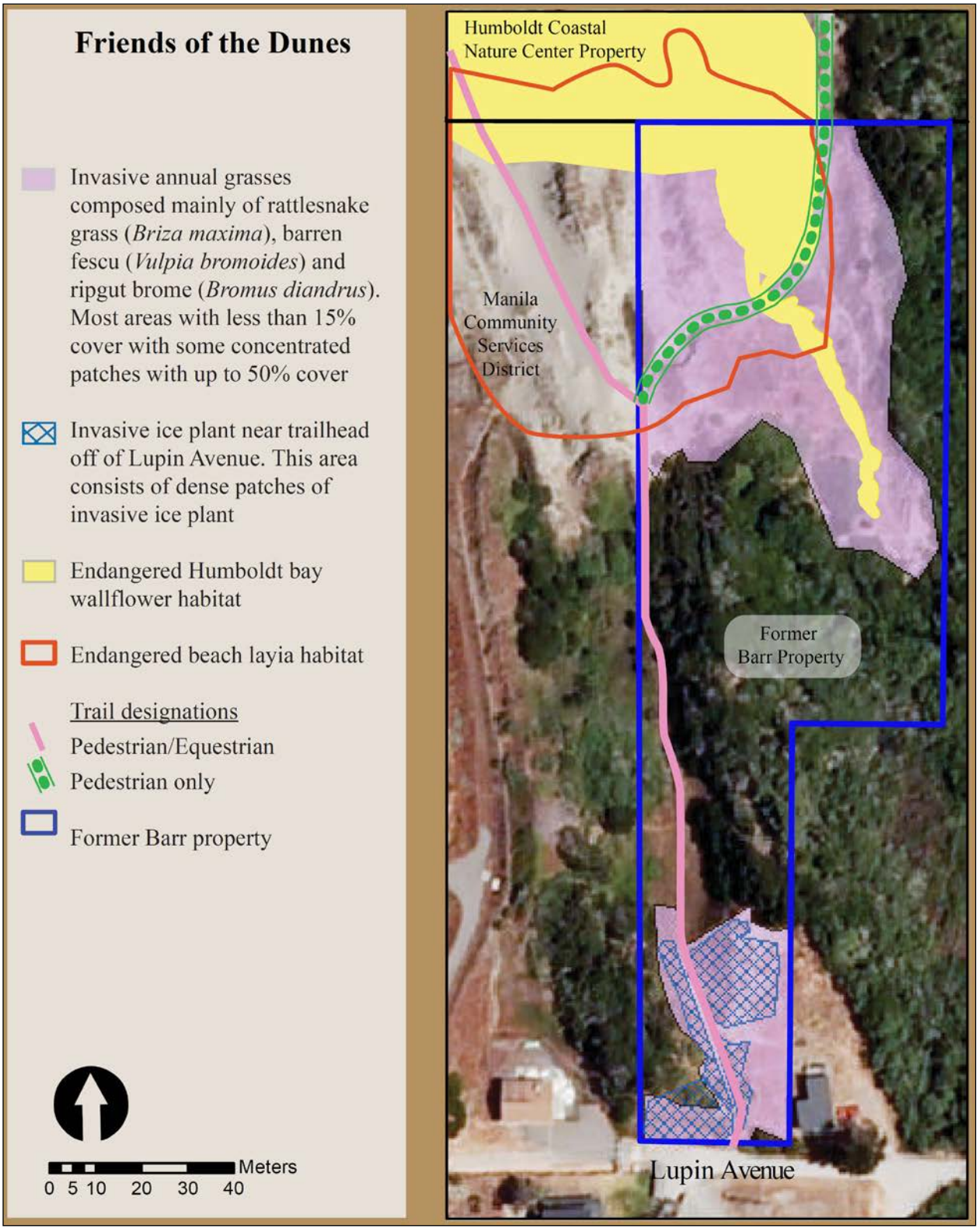
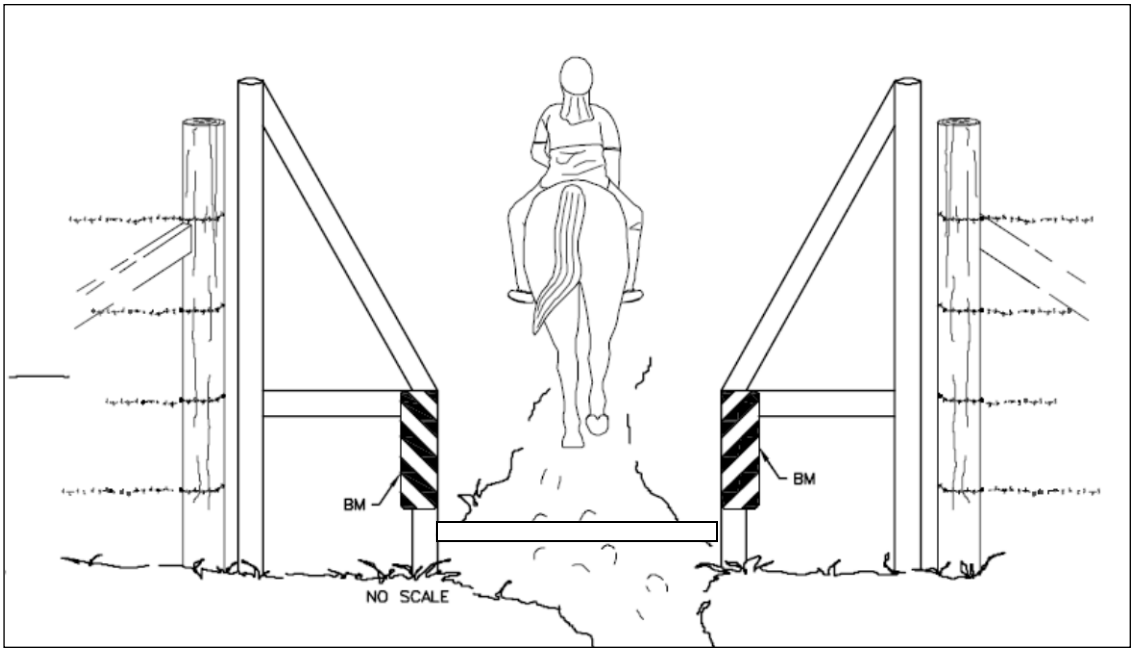


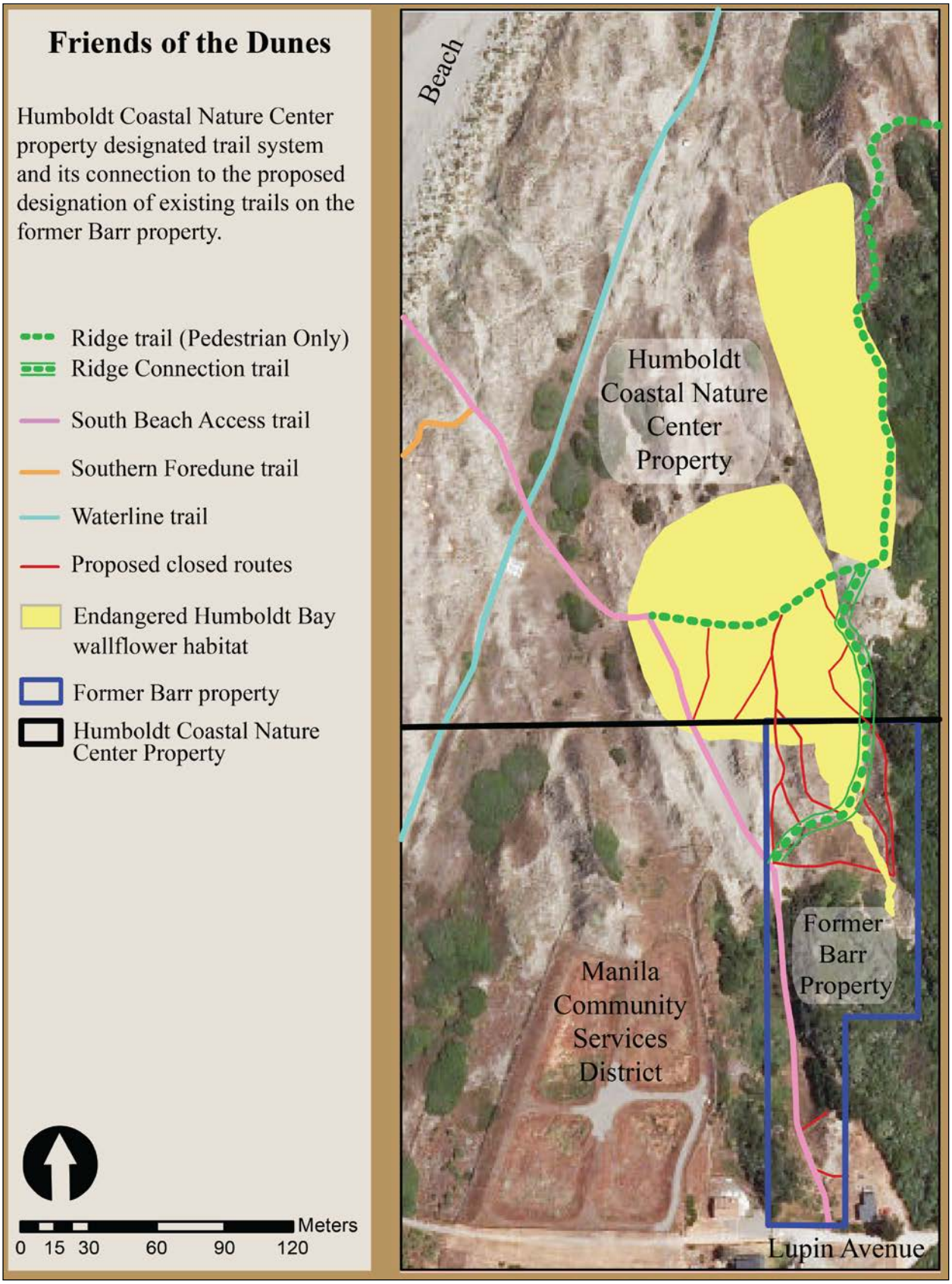
Figure 3. Trail entrance from 365 Lupin Avenue, Manila, CA

a. Current metal gate, fence and no trespassing sign.



b. Example of the proposed fence along Lupin Avenue would allow for pedestrians and horses while blocking motorized vehicles. The opening would be at least 32” wide to allow for passage. Wood and or metal materials would be used for the construction of the fence and entrance materials.

Figure 4. Proposed trails connecting to the Nature Center's designated trail system.



Trail improvements to be made to accommodate public access to the former Barr property include, but are not limited to: (1) a new entrance fence allowing horse and pedestrian access but excluding motorized vehicles, (2) an entry sign/kiosk and dogi-pot located 20 feet inside the fence off of Lupin Avenue, and (3) fencing between the neighboring property to the east and the the former Barr property in order to control access and protect privacy (Figure 5).

Directional signs will include arrows with symbols, the word "Trail," or similar wording, to direct people to designated trails. At trail junctions where there is a distinction between horse/pedestrian and pedestrian only trails, symbols will also be included in order to inform visitors of the designated use(s). Signs will be designed and implemented in such a way as to minimize visual impacts to the landscape while ensuring management intent is clear to visitors.

Proposed Beach Access Trail
Length: 280 meters (0.17 miles) of trail total: 150 meters (0.09 miles) on former Barr property, 75 meters (0.05 miles) on MCSD, 55 meters (0.03 miles) on HCNC)

FOD proposes this trail be designated for both pedestrian and horse use with dogs off leash and under voice control to accommodate equestrians with dogs.

This trail starts from the Lupin Avenue trailhead and veers northwest across MCSD property before reconnecting to FOD's Beach Access trail (Figure 6). The trail starts as a single track trail and as the trail continues onto MCSD property, it widens as it passes through an area of open sand for approximately 75 meters. This is a popular beach access trail for horses and is the most heavily used trail on the former Barr property.

Sign Placement: There will be a trail map on an entrance kiosk at the trailhead off of Lupin Avenue. Another directional post will be placed where the trail splits as it continues to the west, while the Ridge Connection trail veers east.

Proposed Ridge Connection Trail
Length: 150 meters (0.09 miles) total length, including portion on HCNC property. 70 meters (0.04 miles) of length on former Barr property.

FOD proposes this trail be designated for pedestrian use only with dogs on leash.

This trail starts 150 meters north of the Lupin Avenue trailhead where the trail splits from the Beach Access trail. This trail eventually connects to FOD's designated pedestrian only trail on the HCNC property. The trail traverses federally endangered wallflower and beach layia habitat, as well as solitary bee nesting habitat. The entirety of this trail is single track and is very narrow, as it is used less often and mainly by pedestrians. Due to the narrowness, steepness and a sensitive plant community, this trail is not appropriate for horse use. One approximately 20 foot section of the trail is steep and may need a narrow, sunken/cribbed staircase installed in the future to assist pedestrians up and down that section (Figure 7 a-c). This same section may need a symbolic rope fence, ~2-3 feet above the ground surface, to protect a native bee nesting site and to keep the trail from widening. Therefore, this CDP would allow the installation of these features should they become needed.

Figure 5. Examples of proposed property line fence options. FOD recommends and prefers option a. and b. at the time of this application.

a. ~3-4’ tall picket fence

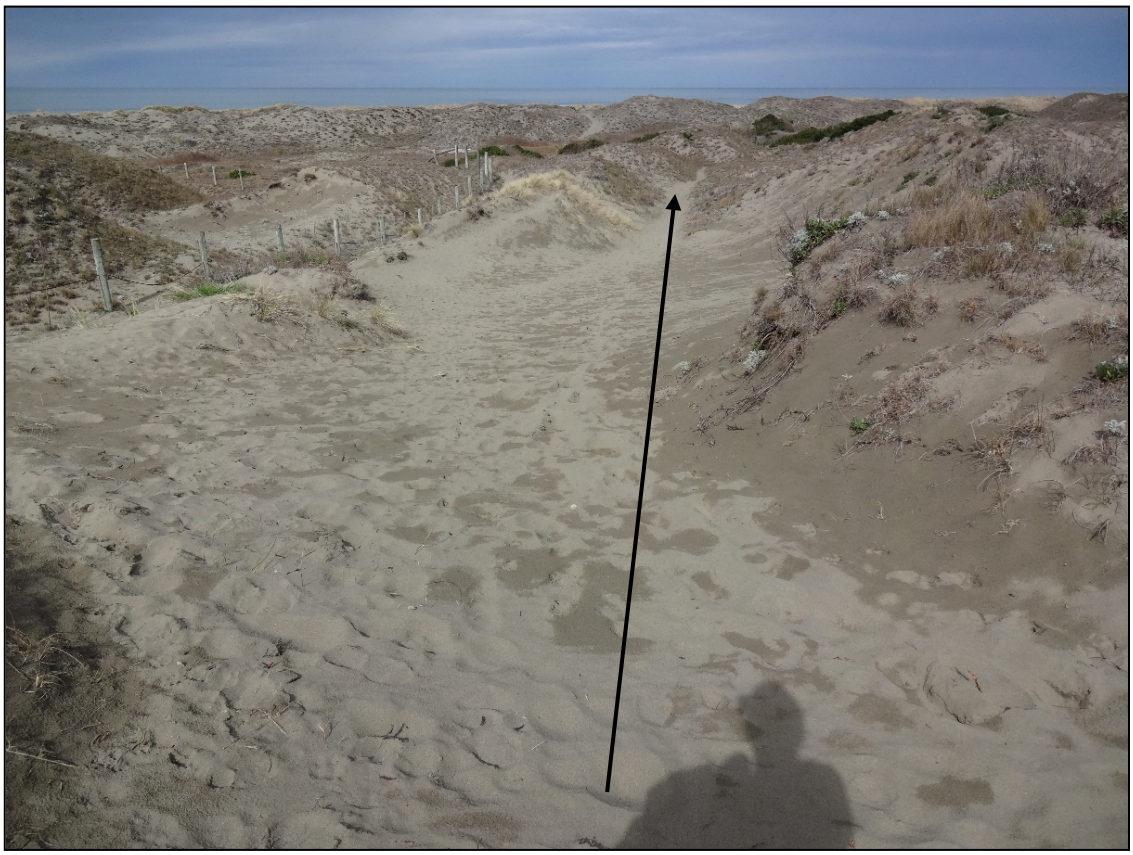
b. ~3-4’ tall sand fence

c. ~4-5’ tall split rail fence

d. ~5-6’ tall shadow fence

e. chain link fence of various heights

Figure 6. Photo of Beach Access trail across MCSD property.



The arrow points towards the HCNC property and west towards the beach.
The area where the arrow is placed is all on MCSD property.

Sign Placement: There will be a post next to the start of this trail where it splits from the Beach Access trail on the former Barr property with a sign, as large as 1 x 2 feet, with wording similar to, “This is not a horse trail.” Additional signing may include one with wording or a symbol stating that dogs must be on leash, and a sign with interpretive components to explain the sensitivity of endangered wallflowers and to educate pedestrians using the trail to be mindful of where they step and the importance of not going off trail. If needed, a similar, “This is not a horse trail” and post will be placed where the Ridge Connection trail connects to the Ridge Trail on the HCNC property.

Closure of User Created Routes

FOD proposes to have the discretion to close any user created routes on the former Barr property and in the areas between the Beach Access trail and Ridge trail that are not part of the designated trail system, for the purpose of protecting a Humboldt Bay wallflower population and conserving native habitat (Figure 4). The closure of these redundant user created routes would consolidate access to the designated trail system.

A variety of closure methods may be employed to decommission user created routes. Closure may include temporary signing to inform visitors the route is closed as well as placing brush on user created routes, which should further discourage visitors from walking in the area. Restoration of user created routes may additionally include planting native plants and or distributing native plant seeds along user created routes, which should further discourage visitors from walking in the area. If these initial measures are not successful in deterring visitor use, then temporary symbolic fencing with closure signs may also be implemented to close access of user created routes.

Trails Policies for Former Barr Property

FOD’s public access trails policy will set a framework for providing visitors with an enjoyable experience in a safe environment that conserves the biological diversity and aesthetic nature that exist on the property. The trails plan will incorporate conditions of this CDP.

Goals

In keeping with the Public Access Trails Policy for HCNC, the following goals provide the guiding principles associated with the former Barr property.

A. Providing trail access that is consistent with FOD’s mission to conserve the natural diversity of coastal environments through community supported education and stewardship programs.
B. An enjoyable and safe experience that broadens visitor appreciation of coastal habitats.
C. An appreciation of the different ways visitors enjoy experiencing coastal environments.

Figure 7. Steep section of Ridge Connection trail and examples of adaptive management

a. Photo of steep section of Ridge Connection trail where symbolic fencing and steps may be needed

b. Example of a cribbed staircase

c. Example of timber steps

Public Access Trails Policy by User Group

1. GENERAL TRAIL USE
   All visitor use will be directed to designated trails to minimize degradation of dune environments, facilitate best landscape and resource management practices, and provide for the comfort and safety of visitors.

2. PEDESTRIAN TRAILS
   Pedestrian only trails will be established and maintained as narrow, single-use hiking trails, or foot-only trails, developed and managed for resource protection, quiet travel and the enjoyment of nature.

3. DOG WALKING
   In areas designated for off-leash dog use, the Beach Access trail, dogs must be under voice control which is defined as: (1) the dog is within view, (2) it must be within voice range of the owner, (3) it must come at the first calling, and (4) it cannot approach people in a threatening manner or in any way harass people, wildlife, other dogs or horses. Owners must pick up and dispose of pet waste in garbage receptacles. These guidelines are meant to promote responsible dog walking that protects the dune environment, while providing enjoyment for all visitors.

4. HORSEBACK RIDING
   Horseback riding will be directed to designated trails only. Multiple use (horse and pedestrian) trails will be designated in such a way as to minimize resource impacts, maximize safety, facilitate connectivity of multiple use trails between adjacent properties, provide beach access, and visitor enjoyment and education.

5. BICYCLE USE
   Bicycles are not allowed on trails.

6. OFF-ROAD MOTORIZED VEHICLES
   No off-road motorized vehicles are allowed on any trail on FOD property except under emergency health and safety conditions, for property management (including restoration), and as approved by permission from the FOD Executive Director or his or her designated representative and the County of Humboldt. This is consistent with Humboldt County's Beach and Dunes Management Plan.

7. OFF-TRAIL USE
   Off-trail use is not permitted with the exception of activities pertaining to FOD authorized restoration or monitoring. Off-trail use for all other activities (e.g. research or studies) is authorized only by written permit issued by FOD's Executive Director or his or her designated representative.

FOD reserves the right to refuse access or ask anyone to leave the property who is not abiding by the established trails policies of this CDP. FOD also reserves the right to temporarily close access to certain trails, or to temporarily close the property to public use at any time in order to

address safety or resource protection concerns. Temporary closures would remain in place until either the safety matter or resource protection concern has been rectified.

Monitoring
Monitoring consisting of photo-documentation and observation data (e.g. off trail trampling) will be conducted by FOD staff and volunteers. Baseline data will be gathered commensurate with the permit process and serve as a reference against which permitted use will be compared. Other monitoring tools and methods may also be employed as necessary in keeping with the resource or issue of concern. On-going patrol or monitoring of the trails will provide information and feedback as to the effectiveness of policies and trail designations, as well as highlight areas of concern.

Adaptive Trail Management of the Ridge Connection trail
If observational monitoring on the former Barr parcel indicates impact to resources, FOD reserves the right to close the portion of the Ridge Connection trail that starts on the former Barr parcel until it connects to the Ridge trail on the HCNC property. Closure of this section of the trail would be implemented by posting a "Trail Closed" or similar sign at either end of the trail that is being closed. Closure of the Ridge Connection trail may include brushing and planting of native plants.

RESTORATION ACTIVITIES

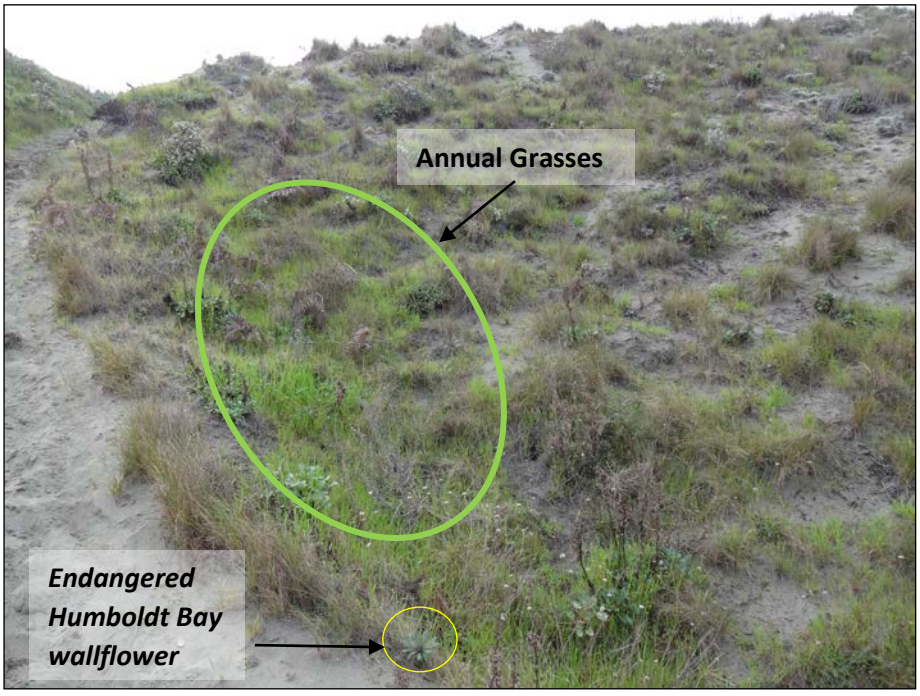
FOD began restoration efforts under the guidance of the FOD board approved Restoration Plan for the HCNC property. The overall goal of the plan is restoration of the natural diversity of plants, wildlife and natural dune processes, that takes into consideration physical constraints on and off FOD property. FOD is committed to managing the vegetation and dune processes on HCNC so that neighboring properties are not adversely affected. In the past, coastal habitats have been significantly compromised by the spread of invasive plant species. Removal of invasive species helps partially restore dune processes, thereby allowing for a range of successional plant communities to recover and thrive. Managing for a range of successional communities helps maintain the natural diversity of these habitats for both plant and animal species.

Areas for removal of invasive vegetation are prioritized based on invasive species proximity to endangered and rare species habitat, and by the percent cover and size of infestations. Due to the long-lived seed banks of yellow bush lupine, prioritization to remove this species is high to prevent continued seed release. Priority is also given to new or limited occurrences of highly invasive species following the effective practice of early detection and rapid response.

The former Barr property has a large area of native dune mat habitat with a substantial population of federally endangered Humboldt Bay wallflowers. The most abundant invasive species on the former Barr property are ice plant (*Carpobrotus edulis*) and invasive annual grasses, including rattlesnake grass (*Briza maxima*), barren fescue *(Vulpia bromoides),* and ripgut brome (*Bromus diandrus)* (Figure 2 and 9). Other invasive plants that have very small occurrences are yellow bush lupine (*Lupinus arboreous*), star mustard (*Coincya monensis),* and Himalaya blackberry (*Rubus armeniacus*). Invasive plants compete for habitat space as well as

Figure 9. Photographs of invasive plants on the former Barr property.

a. Invasive iceplant along trail entrance off Lupin Avenue.



b. Invasive annual grasses growing among native plants, including an endangered Humboldt Bay wallflower, on the Ridge Connection trail.

water resources with native plants and have a negative impact, especially to the Humboldt Bay wallflower and beach layia, both of which depend on open, sandy environments for survival.

Other common invasive plants in the dunes include European beachgrass, pampas/jubata grass and English ivy. There are currently no known occurrences of these plants on the former Barr property. If new populations of these or other invasive plants are found on the property, they will be removed as soon as possible while populations are small.

Due to the hand removal method of removing invasive annual grasses and the amount of native vegetation currently occupying the landscape, areas restored will most likely recover on their own, with no management needed following removal of invasive plants. Some areas, such as those with dense cover of ice plant may need further steps, including planting native dune species or spreading native seed to encourage the recovery of the area being restored. Measures will be taken to monitor the outcome of treated areas and follow adaptive management policies.

Permit request for development of a fence proximal to an Environmentally Sensitive Habitat Area (ESHA)

Permit request:
FOD proposes development of a property line fence along the eastern boundary of the former Barr property running from Lupin Avenue in Manila, Humboldt County CA, for approximately 50 meters to the north (Figure 10). The purpose and need of the fence is to:

- Make apparent the property boundary between private properties - that owned by FOD planned for public access and a single family residence to the east of the proposed public access trail - for privacy, safety, and visual quality at a trailhead.
- Dissuade the public using the trail from accessing a ridge on FOD property that is adjacent to an environmentally sensitive habitat area (ESHA), downslope to the east of the ridge by approximately 18 feet.

ESHA Description:
The ESHA is a freshwater wetland located, at its closest approximately, 18 feet from FOD property on the east side of the following:

- Wetland System = palustrine forested wetland
- Soil series = primarily "Clambeach series" [1] consists of deep, drained soils formed from eolian processes and consisting of marine sand
- Vegetation (dominant species) = Hooker's willow (*Salix hookeriana),* wax myrtle (*Morella cerifera*), California blackberry (*Rubus ursinus*)

Criteria for establishing a buffer area –the space between the development (in this case, the fence) and the ESHA – specifies that the development "not significantly" degrade the ESHA and that "development allowed in a buffer area is limited to access paths, fences necessary to protect the habitat area, and similar uses which have either beneficial effects or at least no significant adverse effects on the ESHA."

Fence design criteria to meet purpose and need/type and scale of development:

- Construction material - wood, wire mesh (option framed in wood), necessary hardware
- Fence Style - range from split rail, picket, shadow box/board on board fence to other forms of a "privacy fence"
- Installation detail - ridge position with patches of bare sand, non-native plant patches (*Carpobrotus edulis*), non-native annual grasses (i.e. *Briza maxima*), *Festuca rubra, Juncus breweri*, and native herbs (ie. *Armeria maritima/Polygonum paronychia*), install fence foundation posts to 2' depth at this site due to relatively loose sand, and install fence foundation posts to 3' depth at this site due to relatively loose sand, and approximately every 15' feet to fence end at Lupin Ave. Beyond the ridge area and the immediate slope to the
- south, 70% of the fence line aligns with private property lawn grass or non-native annual grasses.

[1] USDA/NRCS. 2015. Custom Soil Resource Report for Humboldt County, Central Part, California.

Figure 10. Photo of proposed fence area on property line between neighbors

Proposed fence line running north/south. Wetland to the east of fence line, approximately 18' from the most northern portion of the fence.

- Fence boards/lattice between foundations posts would not be flush with the ground surface but allow for space between ground and fence boards.
- Fence line installation would start on the slope of the ridge away from the ESHA.

Standards related to protection of ESHA:

- Biological significance of adjacent lands - functional relationship between dry trough setting to the west of fence and wetland to the east of the fence.
- Species and cover values to the west of proposed fence = ridge, slope, and swale: bare sand (20%), ice plant (15%), *Eriogonum latifolium (<5%), Briza major (40%), Juncus* breweri (10%), *Armeria maritime (5%), Achillea millifolium (<5%), Polygonum paronychia (5%), Solidago spathulata (<5%), Festuca rubra (10%).* These species *are not* indicative of wetland habitats.
- Species and cover value to the east of the proposed fence = on ridge/slope = bare sand (40%), non-native *Carpobrotus edulis* (25%), non-native grass *Briza major* (20%); native grass *Festuca rubra* (10%).
- Species and cover values in wetland, approximately 18 feet east of fence = *Salix hookeriana* (40%), *Morella cerifera* (40%) and *Rubus ursinus* (20%). The wetland extends further north and west from its location near the top of the fence.

Habitat settings are inherently abrupt in a functioning coastal dune ecosystem - a process of sand migration from the coastline, dune formation behind the foredune, and dune stabilization by pioneer plant species, and subsequent ridge and trough development. The vegetation transitions from such low plant cover communities as the foredune grasslands, dune mat and bare sand, to shrub-scrub communities in the deflation plains and wetlands, and stunted trees on the ridges. The functional relationship between habitat settings - in this case dry trough, ridge and wetland all separated by no more than approximately 30 feet - has much to do with morphological land features and water table depth, and the vegetation these features support. Faunal and avian species utilization across these naturally narrow bands of vegetation will depend in part on whether species are generalists or specialists.

Relative to the habitat settings proximal to the proposed fence, those species associated with vegetative cover - ruby-crowned kinglet (*Regulus calendula*), violet green swallow (*Tachycineta thalassina*), rough skinned newt (*Taricha granulosa*) - will occupy and utilize the willow-wax myrtle wetland. Any movement on the ground surface could take place north of the fence line where the wetland continues. Across the ridge to the west of where the fence is planned, the western harvest mouse (*Reithrodontomys megalotis*), bobcat (*Lynx rufus)* and California quail (Callipepla californica) are species that would utilize the relatively open trough for movement and forage of grass or blackberry.

In summary, the habitats of the dunes are naturally fragmented. Likewise, the habitats proximal to the proposed fence are very sharply distinct in terms of the vegetative cover, species assemblage and freshwater availability. Cross-functional utilization while it may occur for generalist species, is not likely to occur for those species adapted to high tree cover/shade/wetlands and those that move and forage in relatively open settings. Given that the proposed fence begins at the top of a ridge and extends approximately 50 feet in the direction of

Lupin Avenue, its placement as well as its design is not likely to disrupt the functional relationships that may exist between habitat settings.

- Sensitivity of species to disturbance - See above relatively to biological functionality of the habitats. Given that the development is a fence which is allowed in the buffer area, and the aforementioned description of the species along the fence area which are not considered sensitive to disturbance (e.g. dominance of non-native species both immediately west and east of the fence); scale of development is not expected to disturb the native species proximal to the fence line;
- Susceptibility of parcel to erosion - the fence design (e.g. picket, shadow box) allows for sand movement where it currently occurs and where there is non-native grass/lawn, erosion is not an issue. It is not expected that the fence will change conditions relative to erosion.
- Use of natural topographic features to locate development - the fence will be located on the side of the ridge away from the ESHA;
- Use of existing cultural features to locate buffer zone/lot configuration and location of existing development - an existing single-family residence and yard separates the portion of the proposed fence leading to Lupin Avenue from the ESHA by approximately 40 feet.
- Type and scale of development proposed - see above