

California State University Monterey Bay

DRAFT

Fuel Management Plan for the East Campus Housing Area Pursuant to California Public Resources Code Chapter 3. Section 4291

FUEL¹ REDUCTION² AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

ZONE 0 – Ember Resistant Zone

Location: Extends 5 feet from buildings, structures, decks, etc.³

Strategy: Implement CAL FIRE Defensible Space as described in:

- CAL FIRE Defensible Space Website <https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/>

An ember-resistant zone is now required by law (AB 3074) beginning January 1, 2023. This zone includes the area under and around all attached decks, and requires the most stringent wildfire fuel reduction. The ember-resistant zone is designed to keep fire or embers from igniting materials that can spread the fire to the home. The following provides guidance for this zone, which may change based on the regulations developed by the Board of Forestry and Fire Protection.

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction and Defensible Space Prescriptions and the Best Management Practices⁴ for Fuel Reduction and Defensible Space Activities (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291⁵
- All workers will complete the munitions training in advance of performing work found at <https://www.fortordsafety.com/>

Fuel Reduction and Defensible Space Prescriptions

1. Use hardscape like gravel, pavers, concrete, and other noncombustible mulch materials. No combustible bark or mulch.
2. Remove⁶ all dead and dying weeds, grass, plants, shrubs, trees, branches, and vegetative debris (leaves, needles, cones, bark, etc.). Check roofs, gutters, decks, porches, stairways, etc.

¹ “Fuel” means any combustible material, including petroleum-based products, cultivated landscape plants, grasses, and weeds, and wildland vegetation.

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3. Remove all branches within 10 feet of any chimney or stovepipe outlet.
4. Limit plants in this area to low growing, nonwoody, properly maintained plants.
5. Limit combustible items (outdoor furniture, planters, etc.) on top of decks.
6. Relocate firewood and lumber to Zone 2.
7. Replace combustible fencing, gates, and arbors attach to the home with noncombustible alternatives.
8. Consider relocating garbage and recycling containers outside this zone.
9. Consider relocating boats, RVs, vehicles, and other combustible items outside this zone.

ZONE 1 – Lean, Clean, and Green Zone

Location: East Campus Housing and Inter-Garrison Road Fuel Management Buffers (Figures 1a and 1b)

- 0-30 feet Management Buffer from Structures, Fences, and Road Edges^{7, 8}
- 0-50 feet Management Buffer from Inter-Garrison Road Edge (where CSUMB is the property owner). **Due to munitions restrictions, no digging is permitted on property south of Inter-Garrison Road.**

Strategy: Implement CAL FIRE Defensible Space Requirements as described in:

- CAL FIRE Defensible Space Website <https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/>

² Fuel Reduction: reduce vegetation or fuel load to lessen the threat of wildfire.

³ Zone 0 not shown in figures due to scale. Zone 0 is currently not required by law and is voluntary responsibility of the homeowner or rental housing company.

⁴ The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.

⁵ https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

⁶ “Removal” consists of the elimination of specified vegetation and chipping or disposing of the vegetation. Eliminated vegetation may be placed on-site as directed by a biologist or hauled off-site in accordance with federal, state, and local regulations.

⁷ Management buffers are measured from edge of structures/fences or road edges. A road edge is where the road ends and/or curb and sidewalk begin.

⁸ Backyards are considered Zone 0.

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- CAL FIRE Defensible Space Flyer (Attachment A)

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction⁹ and Defensible Space Prescriptions and the Best Management Practices¹⁰ (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291¹¹
- All workers will complete the munitions training in advance of performing work found at <https://www.fortordsafety.com/>

Fuel Reduction and Defensible Space Prescriptions

1. Dead vegetation removal
 - a. Remove all dead plants, grass, weeds, and other vegetation (Attachment A).
 - b. Remove dead or dry leaves and pine needles from yards, roofs, and rain gutters (Attachment A).
2. Tree, shrub, and other vegetation trimming
 - a. Remove tree branches that hang over roof and keep branches 10 feet away from chimneys (Attachment A).
 - b. Trim trees regularly to keep branches a minimum of 10 feet from other trees (Attachment A).
 - c. Remove or prune flammable plants and shrubs near windows.

⁹ "Removal" consists of the elimination of specified vegetation and chipping or disposing of the vegetation. Eliminated vegetation may be placed on-site as directed by a biologist or hauled off-site in accordance with federal, state, and local regulations.

¹⁰ The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.

¹¹ https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

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- d. Remove vegetation and items that could catch fire from around and under decks, balconies, and stairs.
 - e. Create a separation between trees, shrubs, and items that could catch fire, such as patio furniture, wood piles, swing sets, etc. (recommend minimum of 10 feet of separation).
3. Tree removal size and replacement
- a. Do not remove healthy trees greater than 6 inches diameter measured at breast height (diameter at breast height [DBH], 4.5 feet above natural grade).
 - b. Remove trees less than 6 inches DBH if within 10 feet of structures or fence lines. Replacement of trees greater than 4 inches DBH shall be documented by the biologist and replanted via CSUMB Habitat Restoration Program administered through Campus Planning and Development.
4. Mowing
- a. Cut and mow annual grass and herbaceous plants down to a height of 4 inches.
 - b. Mow before 10 a.m.
 - c. Only mow outside of special-status species areas (Figures 2a, 2a-1, and 2b) unless a Project Biologist has determined permissible.
 - d. Avoid removing all vegetation to bare soil, as this may cause erosion.
 - e. Do not mow ice plant.
5. Equipment
- a. Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not yard waste) dumpster and taken to the landfill.
 - b. Equipment and personnel can access vegetated nonpaved areas if work is compliant with the species-specific BMP avoidance measures (Appendix E) and or CSUMB Fuel Reduction and Defensible Space Activity Timetable (Attachment D)

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6. Branches and chipping placement and relocation
 - a. Relocate dead and downed wood (fuels) outside of Zones 1 and 2 and only to areas where special-status species have not been identified (refer to Figures 2a, 2a-1, and 2b) prior to relocation of vegetation as directed by a qualified biologist.
 - b. If chipping small wood is most practicable, relocate chipping material to areas where special-status species have not been identified (refer to Figures 2a, 2a-1, and 2b prior to relocation of vegetation). Chips shall be spread so that no chip piles are left on-site or reused within the campus in coordination with the Project Biologist.
 - c. Relocate non-chipped branches off site in accordance with federal, state, and local regulations.
 - d. Biologist to estimate and report the weight or volume to Campus Planning and Development for annual waste/reuse report to CalRecycle.
7. Street signs & hydrants
 - a. Reduce vegetation to a maximum height of 4 inches within a minimum of 3 feet in all directions surrounding all street signs and fire hydrants so that emergency personnel can easily locate and access.
8. Timing
 - a. To avoid impacts to special status species, Fuel Reduction and Defensible Space Prescriptions in this section shall comply with Attachment D, *CSUMB Fuel Reduction and Defensible Space Activity Timetable*.

ZONE 2 – Reduce Fuel Zone

Location: East Campus Housing Fuel Management Buffers (Figure 1a)

- 30-100 feet Management Buffer from Zone 1

Strategy: Implement CAL FIRE Defensible Space Requirements as described in:

- CAL FIRE Defensible Space Website <https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/>
- CAL FIRE Defensible Space Flyer (Attachment A)

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- CAL FIRE Vertical Plant and Tree Spacing (Attachment B)
- CAL FIRE Horizontal Plant and Tree Spacing (Attachment C)

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction¹² and Defensible Space Prescriptions and the Best Management Practices¹³ (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291¹⁴
- All workers will complete the munitions training in advance of performing work found at <https://www.fortordsafety.com/>

Fuel Reduction and Defensible Space Prescriptions

1. Vertical Spacing – Tree, shrub, and grass trimming
 - a. Large trees do not need to be cut and removed as long as all of the plants beneath them are managed, reducing the vertical fuel ladder as described in Attachment A.
 - b. Remove tree branches 10 feet from structures or other trees (Attachment A).
 - c. Limb up healthy tree branches 6 feet from the ground (Attachment B)
 - d. To create vertical spacing and reduce fuel ladders created by shrubs under trees (Attachment B).
 - i. limb up tree branches 3x the height of the shrub

¹² “Removal” consists of the elimination of specified vegetation and chipping or disposing of the vegetation. Eliminated vegetation may be placed on-site as directed by a biologist or hauled off-site in accordance with federal, state, and local regulations.

¹³ The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.

¹⁴ https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

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2. Horizontal spacing (as defined in Attachment C)
 - i. Flat to mild slopes (less than 20%)
 1. Create a horizontal space between shrubs equal to 2x the height of the shrubs by removing trees and shrubs.
 2. Create a horizontal space of 10 feet between trees by removing trees under 6 inches DBH and shrubs.
 - ii. Mild to moderate slopes (20%-40%)
 1. Create a horizontal space between shrubs equal to 4x the height of the shrubs by removing trees and shrubs.
 2. Create a horizontal space of 20 feet between trees by removing trees under 6 inches DBH and shrubs.
 - iii. Moderate to steep slopes (greater than 40%)
 1. Shrubs shall create a horizontal space between shrubs equal to 6x the height of the shrubs
 2. Create a horizontal space of 30 feet between trees by removing trees under 6 inches DBH and shrubs.
3. Tree removal size and replacement
 - a. Replacement of trees greater than 4 inches DBH shall be documented by the biologist and replanted via CSUMB Habitat Restoration Program administered through Campus Planning and Development.
 - b. Except as required by the vertical and horizontal spacing requirements described above, do not remove trees greater than 6 inches DBH.
 - c. Only remove trees under 6 inches DBH if they are within 10 feet of trees greater than 6 inches DBH.
4. Dead vegetation removal
 - a. Remove fallen leaves, needles, twigs, bark, cones, and small branches as directed by the Project Biologist as these may be permissible to a depth of 3 inches if determined appropriate by the Project Biologist.

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5. Tree snag (standing dead trees) removal
 - a. Limit removal of snags within non-native grasslands or ruderal/disturbed habitats as snags create habitat for various native wildlife species (Figures 3a and 3b) as directed by the Project Biologist.
6. Mowing
 - a. Cut and mow annual grass and herbaceous plants down to a height of 4 inches.
 - b. Mow before 10 a.m.
 - c. Only mow outside of special-status species areas (Figures 2a, 2a-1, and 2b) unless a Project Biologist has determined permissible.
 - d. Avoid removing all vegetation to bare soil, as this may cause erosion.
 - e. Do not mow ice plant.
7. Equipment
 - a. Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not yard waste) dumpster and taken to the landfill.
 - b. Equipment can drive in habitat area if work is compliant with the species-specific BMP avoidance measures (Appendix E) and or CSUMB Fuel Reduction and Defensible Space Activity Timetable (Attachment D)
8. Street signs & hydrants
 - a. Reduce vegetation to a maximum height of 4 inches within a minimum of 3 feet in all directions surrounding all street signs and fire hydrants so that emergency personnel can easily locate and access.

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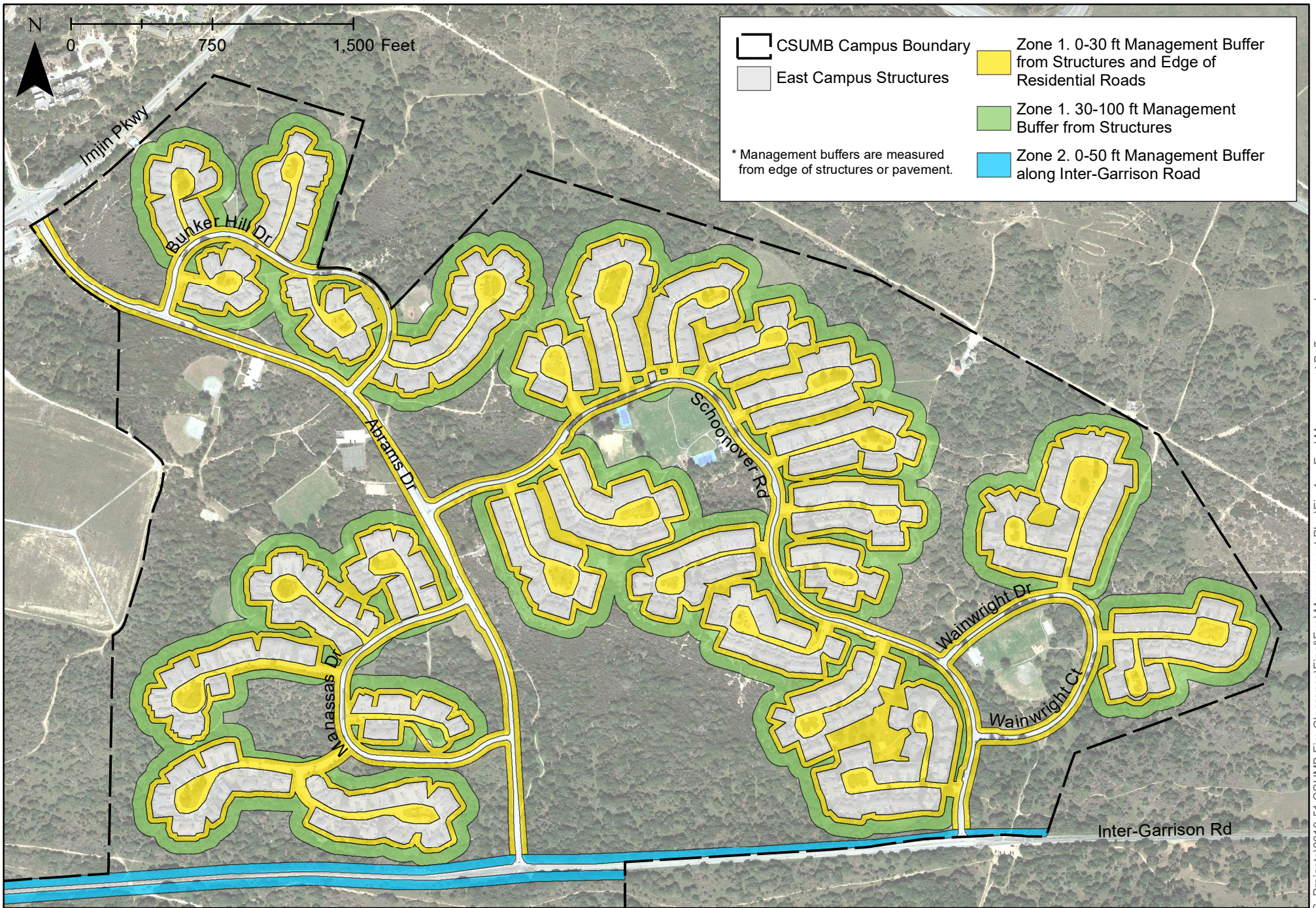
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9. Timing

- a. To avoid impacts to special status species, Fuel Reduction and Defensible Space Prescriptions in this section shall comply with Attachment D, *CSUMB Fuel Reduction and Defensible Space Activity Timetable*.



CSUMB Fuel Management Plan – East Campus Housing Area
 Fuel Management Buffers

Date
 8/23/2022

Scale
 1 in = 700 ft



Denise Duffy & Associates, Inc.
 Planning and Environmental Consulting

Figure
1a



**CSUMB Fuel Management Plan – East Campus Housing Area
Fuel Management Buffers**

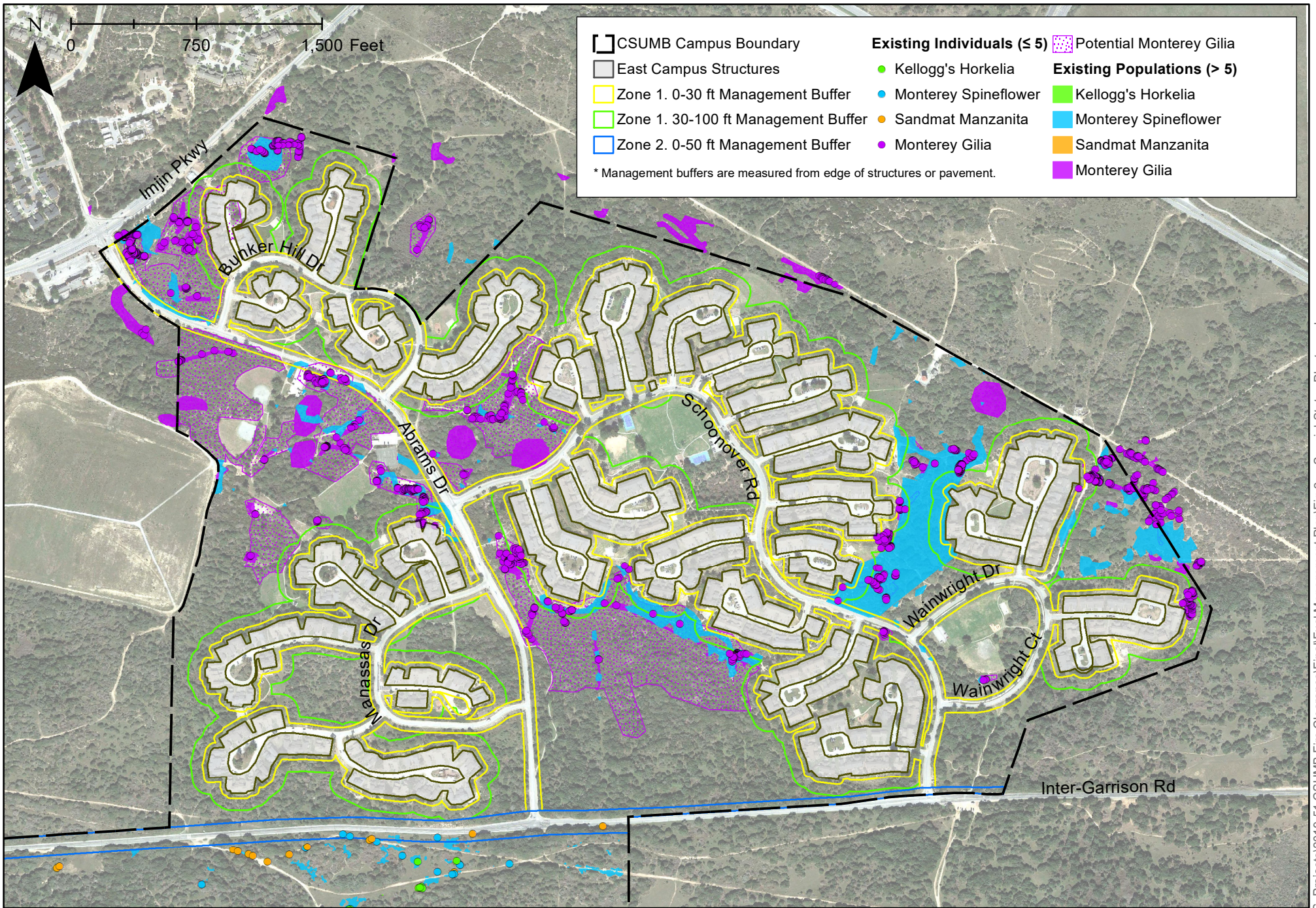
Date
8/23/2022

Scale
1 in = 500 ft



Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
1b



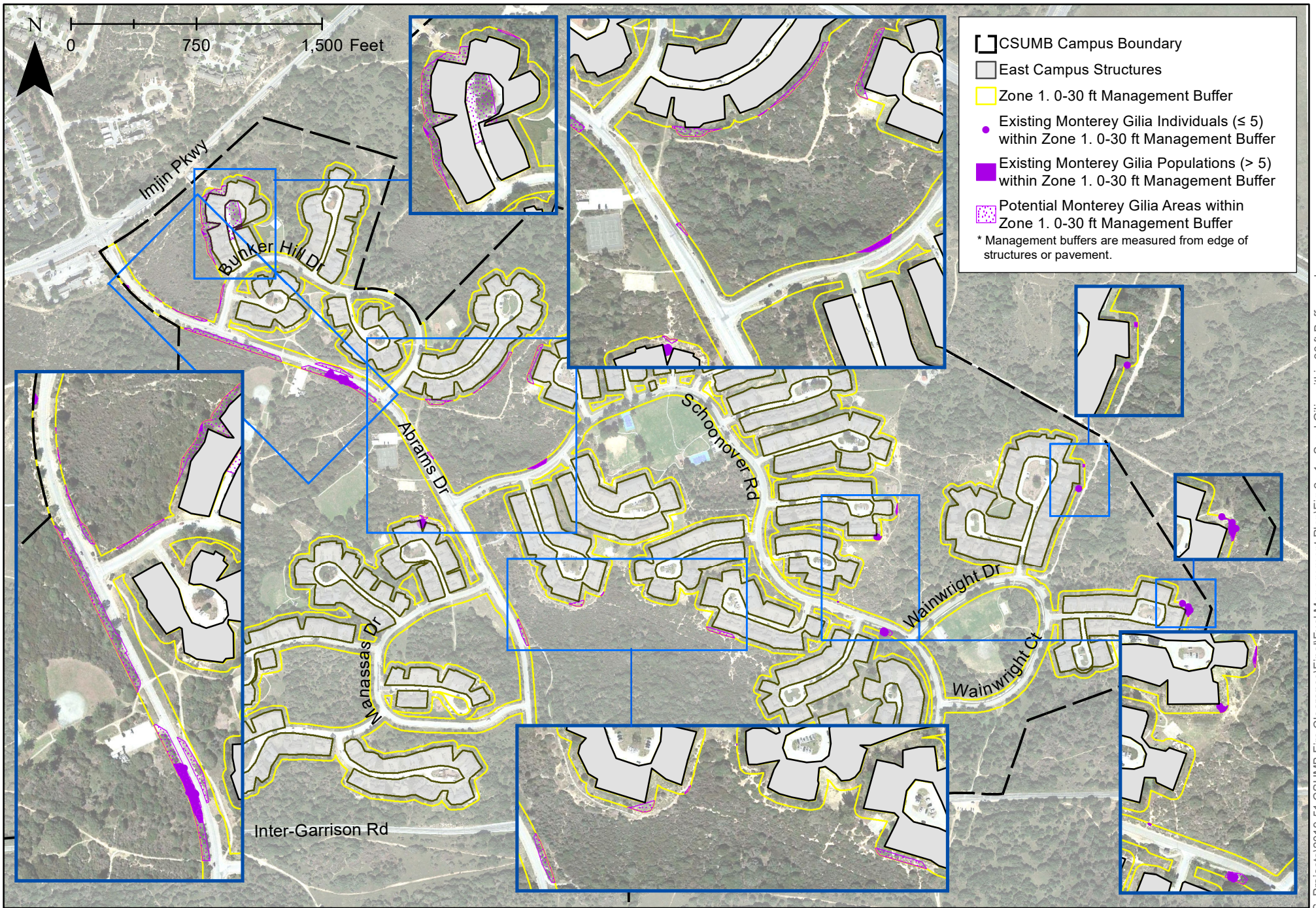
CSUMB Fuel Management Plan – East Campus Housing Area
Special-Status Plant Species Occurrences

Date
8/23/2022
Scale
1 in = 800 ft



Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
2a



CSUMB Fuel Management Plan – East Campus Housing Area
 Monterey Gilia Occurrences within Zone 1. 0-30 ft Management Buffer

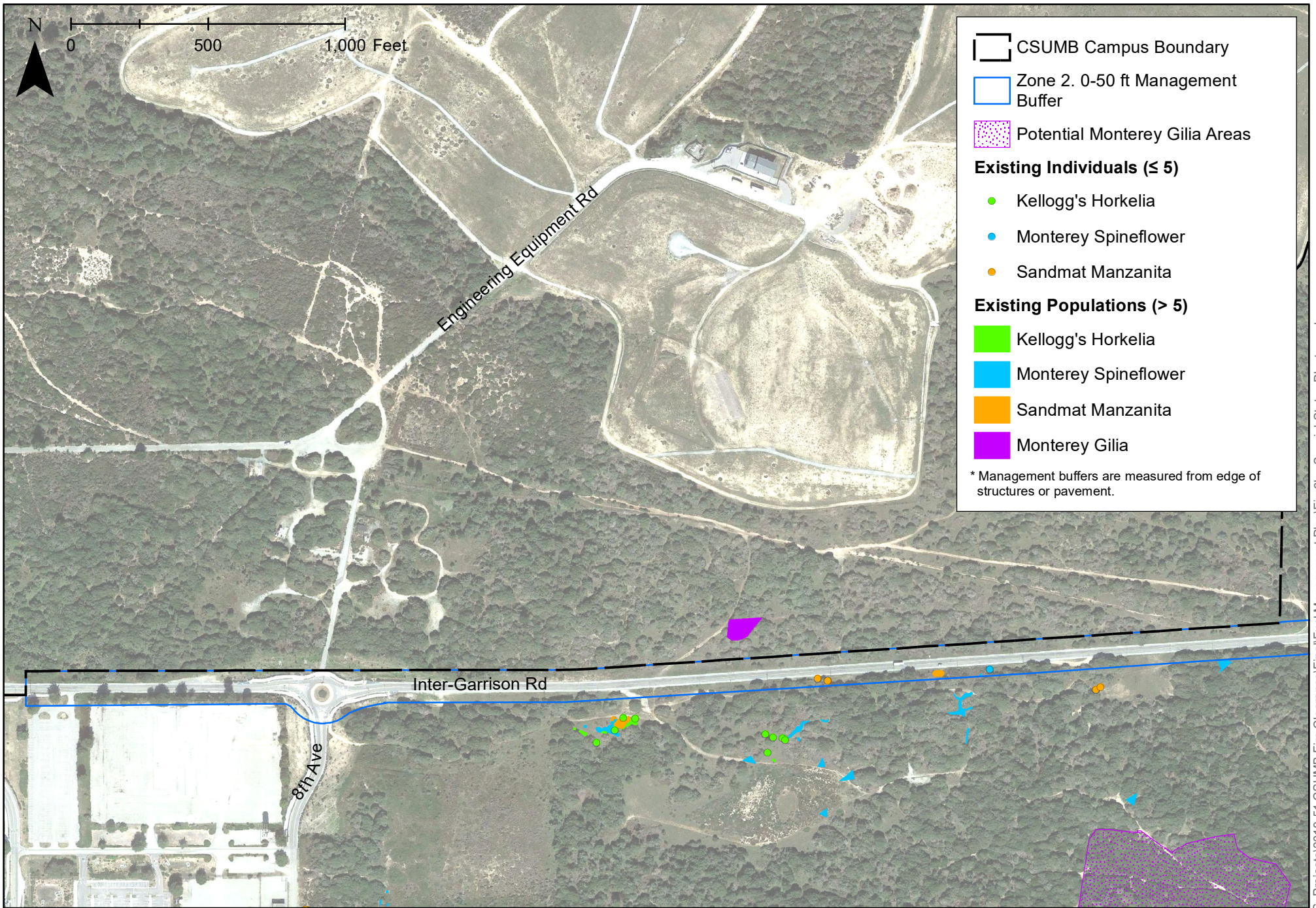
Date
 8/23/2022

Scale
 1 in = 800 ft



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 Planning and Environmental Consulting

Figure
2a-1



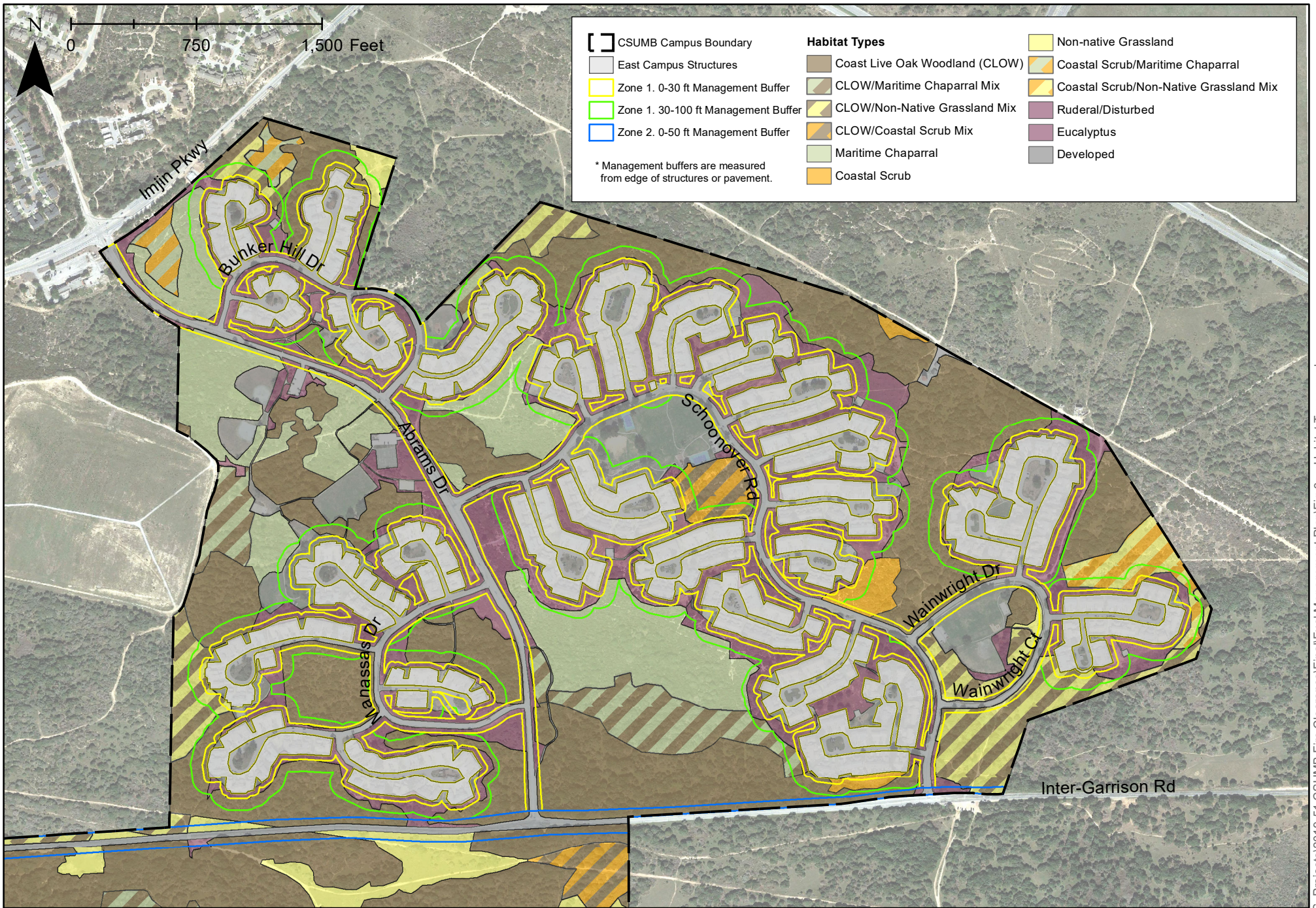
**CSUMB Fuel Management Plan – East Campus Housing Area
Special-Status Plant Species Occurrences**

Date
8/23/2022
Scale
1 in = 500 ft



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Figure
2b



**CSUMB Fuel Management Plan – East Campus Housing Area
Habitat Types**

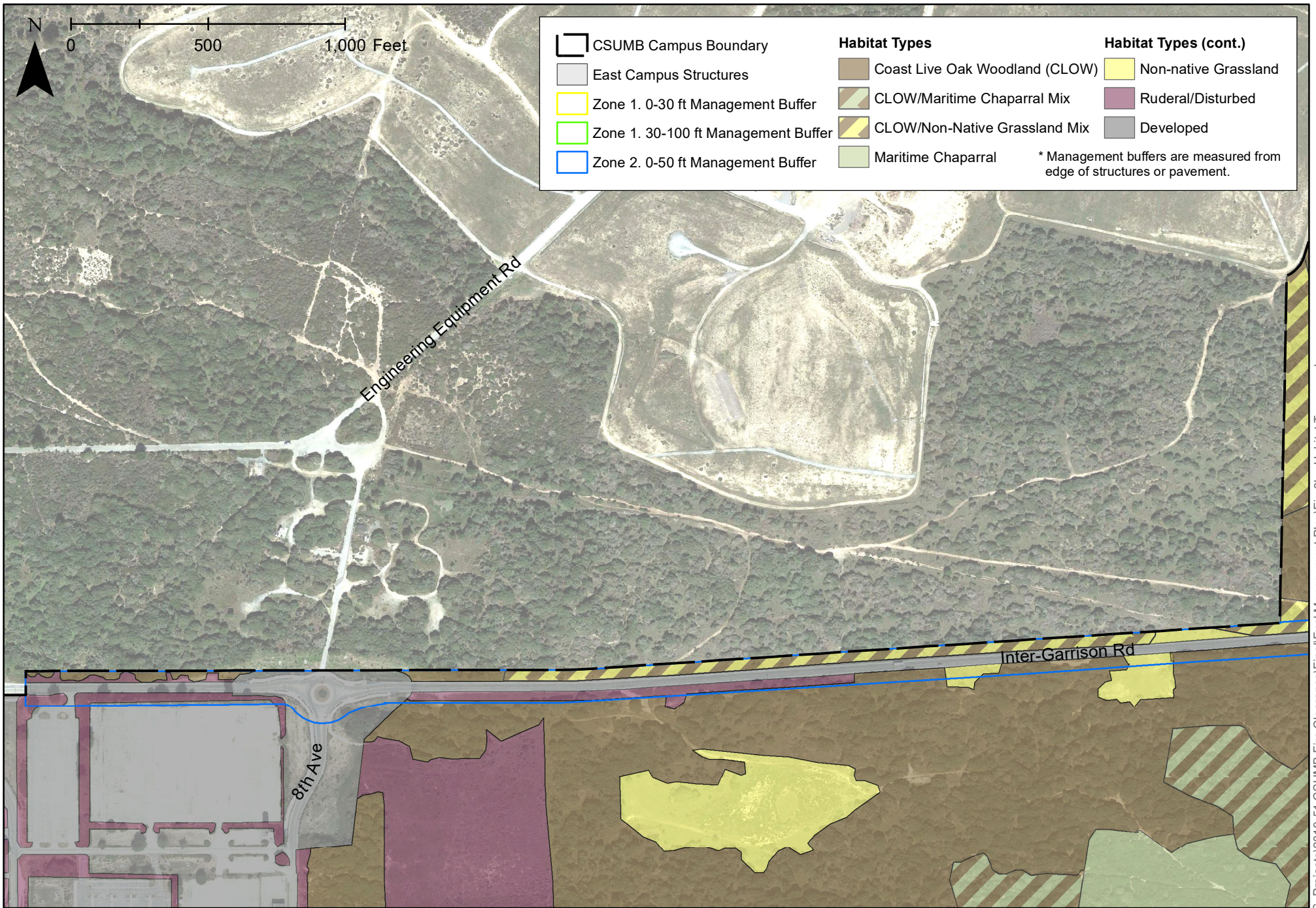
Date
8/23/2022

Scale
1 in = 800 ft



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Figure
3a



**CSUMB Fuel Management Plan – East Campus Housing Area
Habitat Types**

Date
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Scale
1 in = 500 ft



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Figure
3b