

# 06

# NATURAL ENVIRONMENT

## + OPEN SPACE

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## 6.1 Biological Resources

The Multiple Species Conservation Program (MSCP) is a comprehensive, long-term habitat conservation planning program to preserve native habitat for multiple species. This is accomplished by identifying areas planned to be conserved in perpetuity, referred to as the Multi-Habitat Planning Area (MHPA), to achieve a workable balance between new development and species conservation. Open space lands within the MHPA are addressed in the Conservation and Recreation elements of the Community Plan and are implemented by the City's MSCP Subarea Plan. Within the Multi-Habitat Planning Area, development is limited to protect and ensure the viability of "covered" species, as well as to preserve a network of open space, habitat, and wildlife linkages in San Diego.

As the College Area has been extensively developed, the majority of the plan consists of developed areas shown in **Figure 6-1**. Undisturbed areas of vegetation are present, particularly along slopes and valleys between the mesas located on the northwestern and northeastern portion of the plan area. Most of the vegetation within these undisturbed areas are scrub and chaparral shrubland and is located within the MHPA and calculated in **Table 6-1**.

Undisturbed vegetation is located along slopes and valleys between mesas located on the northwestern and northeastern portion of the College Area and development is limited to support citywide efforts for preservation and protection of open space and habitat.

**Table 6-1: Vegetation Types and Acreage**

Vegetation Group	Acreage
Chaparral	84
Forest/Woodland	2
Grass/Herb	11
Nonnative Vegetation	1
Riparian Forest	5
Riparian Scrub	4
Scrub	211
<b>TOTAL</b>	<b>318</b>

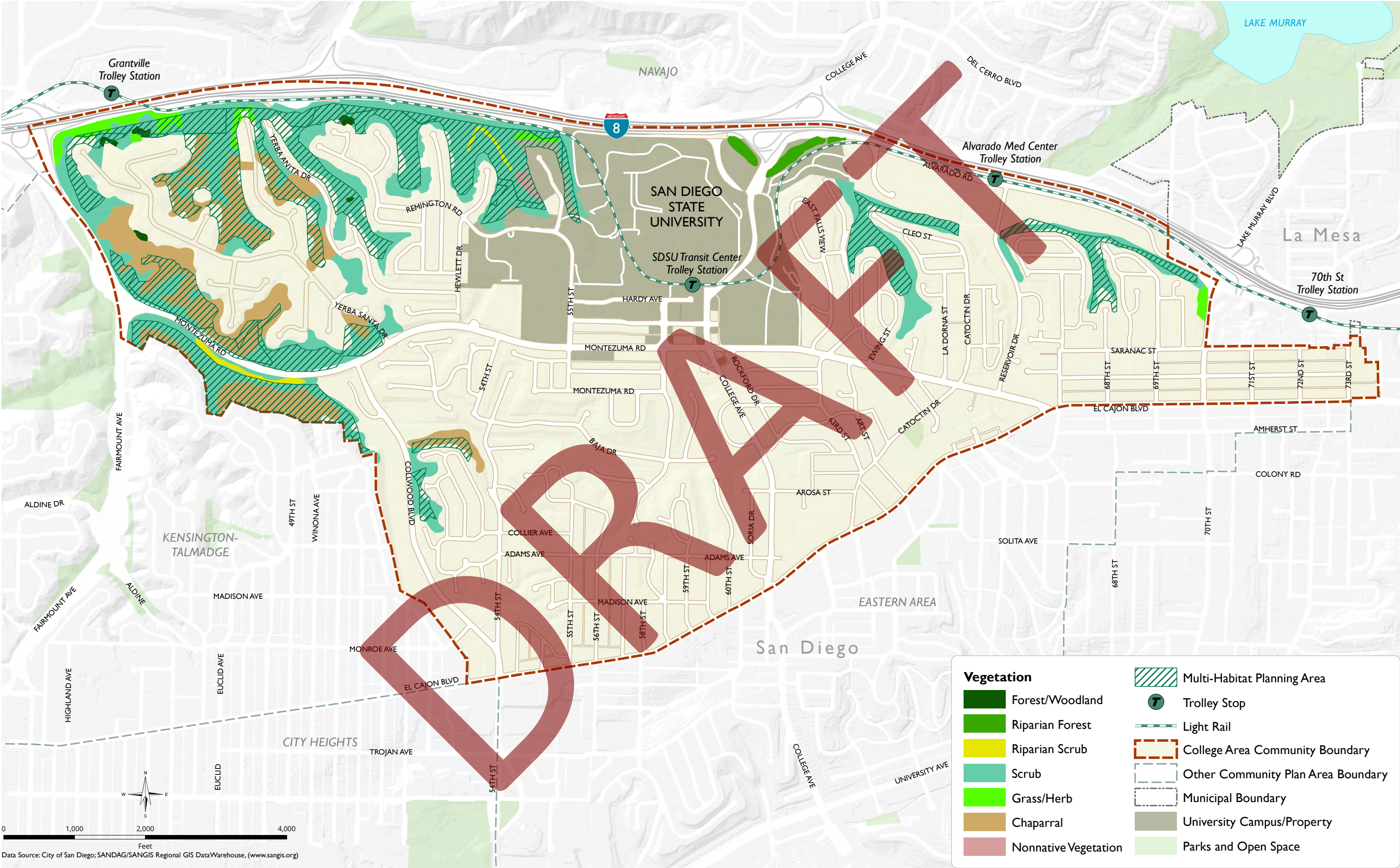
Source: City of San Diego GIS



Undisturbed areas of vegetation are present particularly along slopes and valleys between mesas. (photo credit: Google Streetview)



Figure 6-1 Vegetation and Multi-Habitat Planning Area





## 6.2 Hydrology and Flooding

The Federal Emergency Management Agency's (FEMA) delineates flood zones: **Figure 6-2** illustrates the 100-year floodways, 100-year floodplains, and 500-year floodplains within the College Area. Alvarado Creek, a tributary from Lake Murray to the San Diego River and the Pacific Ocean, runs just outside of the northwestern plan area, but dips into the planning boundary in the northeast along Alvarado Road. This creek results in some parcels being within a 100-year or 500-year floodplain, most of which are used by the University, with small portions along the channelized creek being in a 100-year floodway zone. The rest of the plan area – the vast majority – is not within a flood zone.

Except for a small portion of the northern Community Plan Area near Alvarado Road, the rest of the College Area is not located within a flood zone.



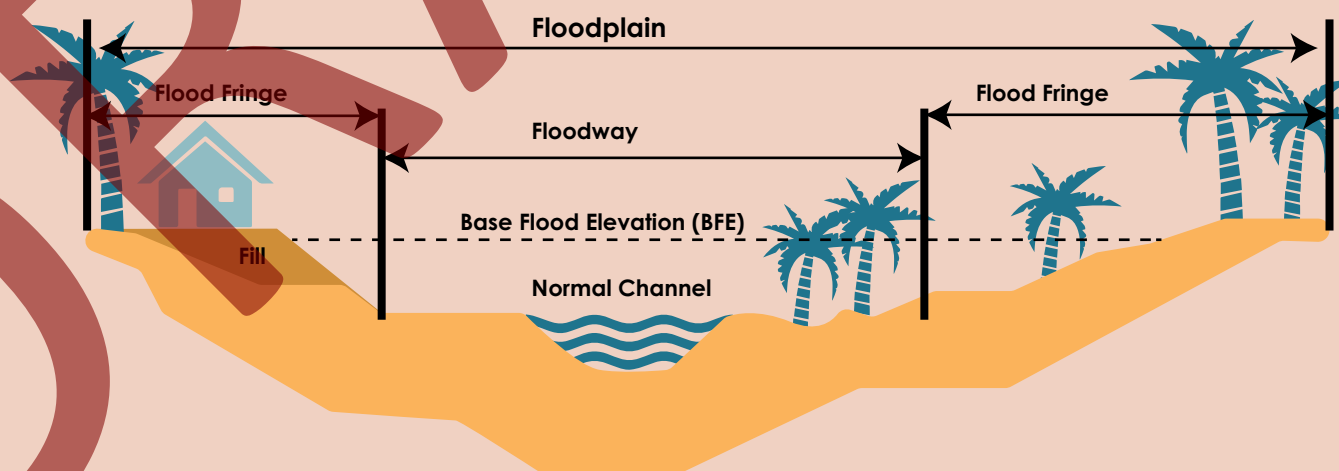
Alvarado Creek

### Calculating Flood Risk

- Flood risk is calculated based on the probability of a flood in a given area. Terms like “100-year flood” can be misleading; it does not mean that the “100-year flood” will occur only once every 100 years, but that statistically speaking, the odds for this flood occurring in any given year are 1 in 100 (1% chance). The table below shows the statistical chance of a flood occurring within a given year and its corresponding term.

Probability of Occurrence	Term
0.01	100-year
0.002	500-year

### “Floodplain” vs. “Floodway”



Source: FEMA



Figure 6-2 Hydrology and Flooding





## 6.3 Storm Water Infrastructure

Figure 6-3 illustrates the storm water infrastructure system in the College Area community. Most of the storm water is collected in drain structures located on the top of the mesas and then distributed in ephemeral streams that form in the valleys. The valleys are heavily vegetated and the impact of water flow within the valleys to human structures are minimal. Some of the water runoff along the northern edge of the planning boundary is released into Alvarado Creek. While the vegetated valleys and yards of single family homes provide some pervious landscape for storm water to permeate, the plan area largely contains impervious surfaces. For areas with surface parking lots and large building footprints, such as around the University and along El Cajon Boulevard, much of the rainfall can be expected to become urban runoff and eventually make its way into local tributaries.

**A tributary is a stream that feeds into a larger stream or lake.**

The City of San Diego maintains drainage facilities to assist in the removal of storm water runoff in an efficient, economic, environmentally, and aesthetically acceptable manner. In order to maintain the storm water system's effectiveness, the City has developed a new Municipal Waterways Maintenance Plan (MWMP) for storm water channels in neighborhoods across San Diego, including the College Area. The MWMP identifies specific storm water channels, new channels, and detailed methods for maintaining them. There are multiple improvements proposed in the plan area, mostly around Alvarado Creek and along the vegetated valleys.



Source: San Diego Municipal Waterways Maintenance Plan

**Flora are plants of a particular region or habitat. Likewise, Fauna are animals of a particular region or habitat.**

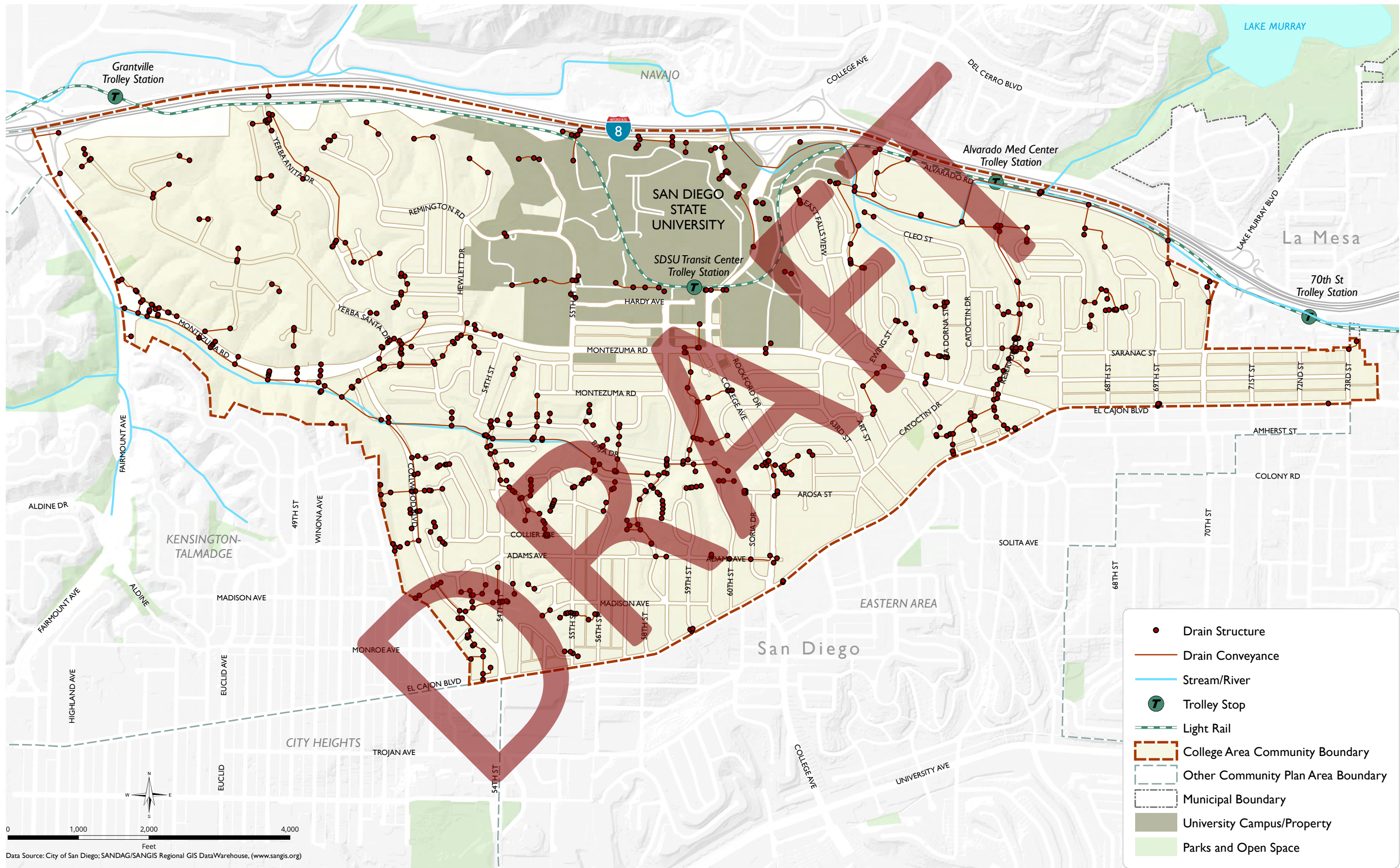
Storm water pollution affects human life and local flora and fauna. Oil and grease from parking lots and roads, pesticides, cleaning solvents, and other toxic chemicals can contaminate storm water and be transported into water bodies. The City's Storm Water Pollution Prevention Program identifies actions to reduce pollutants in urban runoff and storm water. These actions include, but are not limited to, public education, employee training, water quality monitoring, source identification, code enforcement, watershed management, and Best Management Practices development/implementation within the City of San Diego's jurisdictional boundaries. The Storm Water Pollution Prevention Program represents the City on storm water and National Pollutant Discharge Elimination System (NPDES) storm water permit issues before the principal permittee, the County Department of Environmental Health and the Regional Water Quality Control Board. Compliance with the permit requirements are tracked and monitored by the Storm Water Pollution Prevention Program and the Regional Water Quality Control Board.



Impermeable (top photo) and pervious (bottom photo) surfaces handle stormwater differently. Pervious surfaces are preferable.



Figure 6-3 Stormwater Infrastructure





## 6.4 Urban Forest

Trees provide shade and beauty, support neighborhood identity, and help balance the density of development with greenery. The City's General Plan establishes the importance of urban forestry and calls for development of a sustainable urban forest. The City's Climate Action Plan establishes a specific goal to increase urban tree canopy cover with targets of 15 percent by 2020 and 35 percent by 2035. In 2017, the City Council approved the Urban Forest Management Plan, a document to coordinate the work of multiple City departments and bring together existing policies, guidelines, and actions necessary to preserve, protect, maintain, and plant trees.

Many of the benefits trees provide are correlated with the girth and structure of the tree canopy; the benefits are correlated with the size of the layers of branches, stems, and leaves that cover the ground when viewed from above. An analysis based on land cover data derived from high-resolution aerial imagery and LiDAR found that about 10% of the plan area is covered by tree canopy, which is 5% below the City's goal of 15% by 2020.

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Figure 6-4 shows the tree coverage in the College Area. While there is some tree coverage within the natural vegetated valleys, much of it is low brush. Many of the single family residential streets are well lined with trees. Similar to storm water runoff, densely built areas with large surface parking lots and building footprints typically have a smaller tree canopy, such as around the University campus and along El Cajon Boulevard. The other major corridors - College Avenue and Montezuma Road - lack a cohesive tree canopy network. Many of the residential and commercial streets are lined with palm trees, which contribute to the sense of place and reflect the mild climate of the community. While palm trees do add to urban greenery, typically they do not have as wide a canopy as deciduous trees, which make them difficult to reflect on a tree canopy map. Additionally, tall palm trees, such as the Mexican Fan Palm, do not provide much shade relief to pedestrians at the street level.

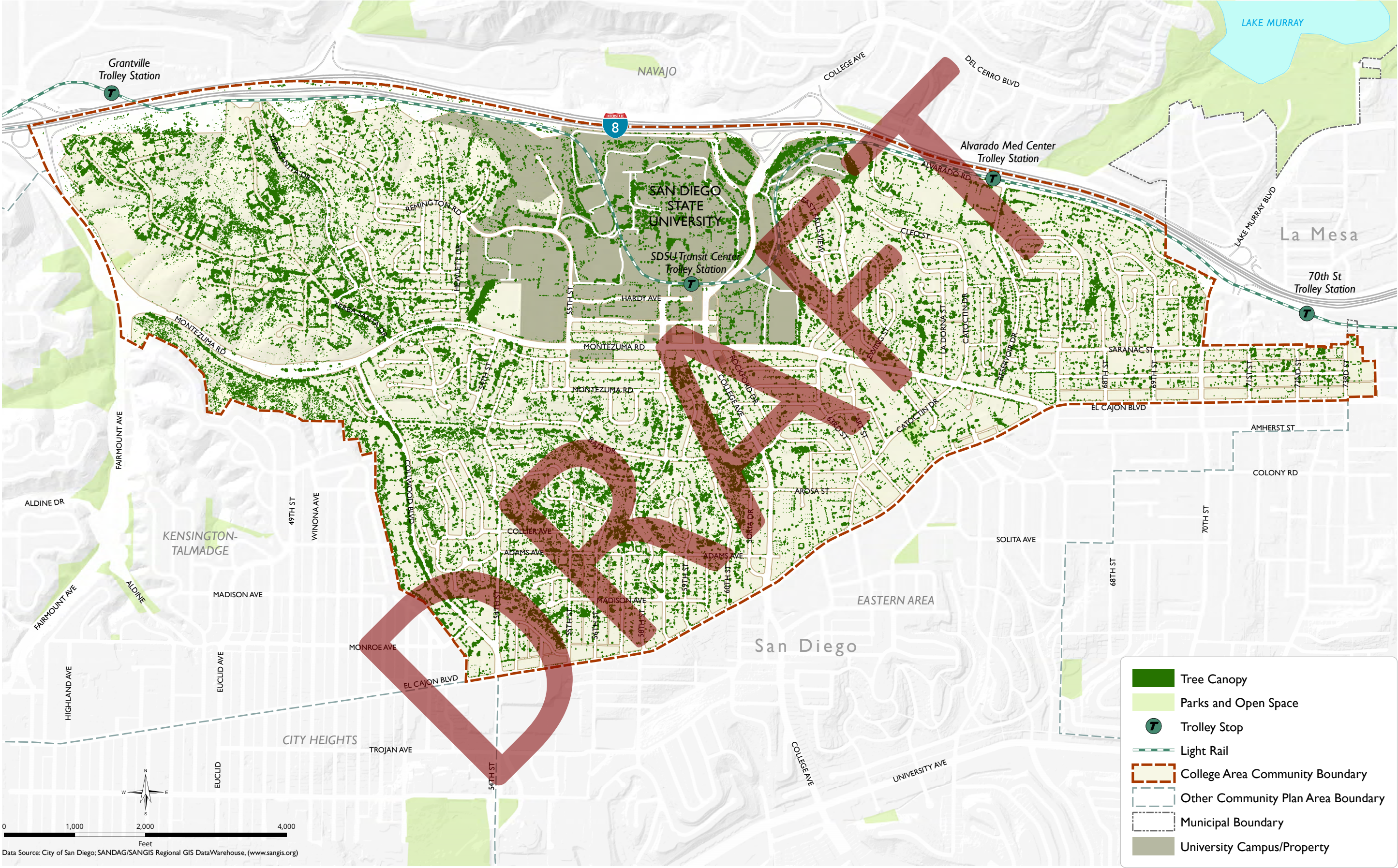


Many of the residential streets are well lined with trees, but major corridors and densely built areas within the plan area typically have a smaller tree canopy. Palm trees, which are commonly found throughout the plan area, do not provide much shade relief to pedestrians.





Figure 6-4 Tree Canopy Coverage





## 6.5 Open Space and Recreation

The College Area’s existing parks, recreation facilities, and open space areas are shown in Figure 6.5. The City has agreements for joint community use of school parks with three schools in the plan area: Hardy Elementary, the Language Academy, and Harriet Tubman Charter School. There is one neighborhood park in the community, Montezuma Neighborhood Park (1.2 acres), which is along Catoctin Drive. Montezuma Neighborhood park is located just south of the Language Academy, and just north of the Mesa Commons development that fronts El Cajon Boulevard. **Table 6-2** lists the various types of parks and open spaces in the community, and the total acreage for each type. Based on a 2019 population of approximately 22,700<sup>1</sup>, College Area currently has a ratio of 0.4 acres of dedicated park space per 1,000 residents, which is low compared to other communities in the City.

However, as the College Area contains many private open spaces and sports fields and recreational facilities on the SDSU campus, the park ratio deficiency is less than it may seem. The SDSU campus, which is about 192 acres, has recreation facilities, open spaces, and parks many of which are available for public use.

College Area currently has a ratio of .4 park acres per 1,000 residents, which is low compared to other communities in the City.

**Table 6-2: Parks and Open Spaces**

Parks and Open Spaces	Acres
Neighborhood Parks	1.2
Joint Use Parks	6.6
Dedicated Open Space	1.0
<b>Total Dedicated Park Space</b>	<b>8.8</b>
Designated Open Space	275.6
<b>Total Designated Open Space</b>	<b>275.6</b>



<sup>1</sup> SANDAG Data Surfer 2019 estimates.



This map illustrates the College Area Community Plan Area, highlighting parks, schools, and transit infrastructure. The area is bounded by a dashed orange line, with other community plan area boundaries shown in dashed blue. The map includes a legend, scale bar, and north arrow.

**Legend:**

- Neighborhood Park (Dark Green)
- Joint Use Parks (Light Green)
- Dedicated Open Space (Medium Green)
- Designated Open Space (Patterned Green)
- Public Schools (Blue)
- Parks and Open Space Outside Planning Area (Light Green)
- Trolley Stop (T in a circle)
- Light Rail (Dashed Green Line)
- College Area Community Boundary (Dashed Orange Line)
- Other Community Plan Area Boundary (Dashed Blue Line)
- Municipal Boundary (Dashed Grey Line)
- University Campus/Property (Grey)

**Key Features:**

- Parks:** Montezuma Neighborhood Park, Language Academy, Harriet Tubman Charter School, Hardy Elementary, Kensington/College OS.
- Schools:** Harriet Tubman Charter School, Hardy Elementary, Language Academy.
- Transit:** Grantville Trolley Station, Alvarado Med Center Trolley Station, SDSU Transit Center Trolley Station, 70th St Trolley Station.
- Geography:** San Diego State University, Lake Murray, Eastern Area, City Heights, Kensington-Talmadge.
- Streets:** El Cajon Blvd, Montezuma Rd, Hardy Ave, College Ave, Alvarado Rd, Del Cerro Blvd, Lake Murray Blvd, 70th St, 68th St, 69th St, 71st St, 72nd St, 73rd St, 68th St, 70th St, 71st St, 72nd St, 73rd St, 68th St, 70th St, 71st St, 72nd St, 73rd St.

**Scale:** 0 to 4,000 Feet.

**Data Source:** City of San Diego; SANDAG/SANGIS Regional GIS DataWarehouse, (www.sangis.org)



## 6.6 Natural Environment and Open Space Summary

This section summarizes key information related to land use for the College Area presented in this chapter.

- Undisturbed vegetation is located along slopes and valleys, between the mesas located on the northern portion of the College Area, and development is **limited** in these **sensitive areas** in order to support citywide efforts for preservation and protection of open space and habitat.
- Except for a small portion of northern area near **Alvarado Road**, the rest of the College Area is **not located** within a flood zone.
- For areas with **surface parking lots** and large building footprints, such as around the University and along El Cajon Boulevard, much of the rainfall can be expected to become **urban runoff**.
- About **10%** of the plan area is covered by tree canopy, which is **5%** below the City's Climate Action Plan goal of **15%** by 2020.
- College Area currently has a ratio of **0.4 park acres** per 1,000 residents, which is low compared to other communities in the City.

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