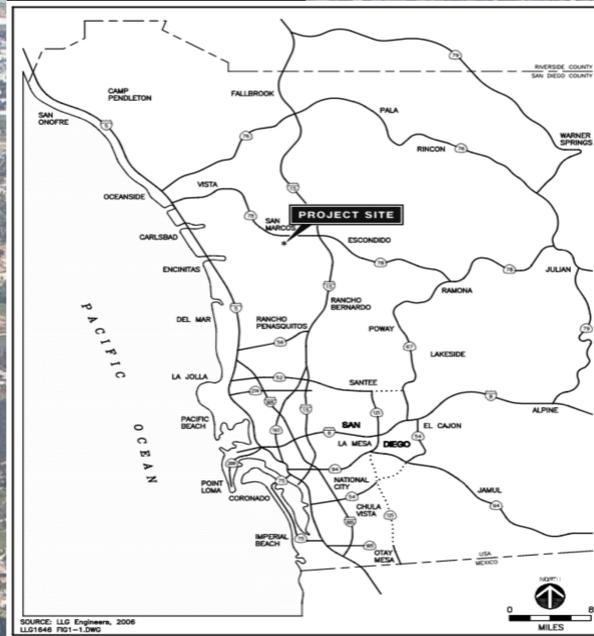




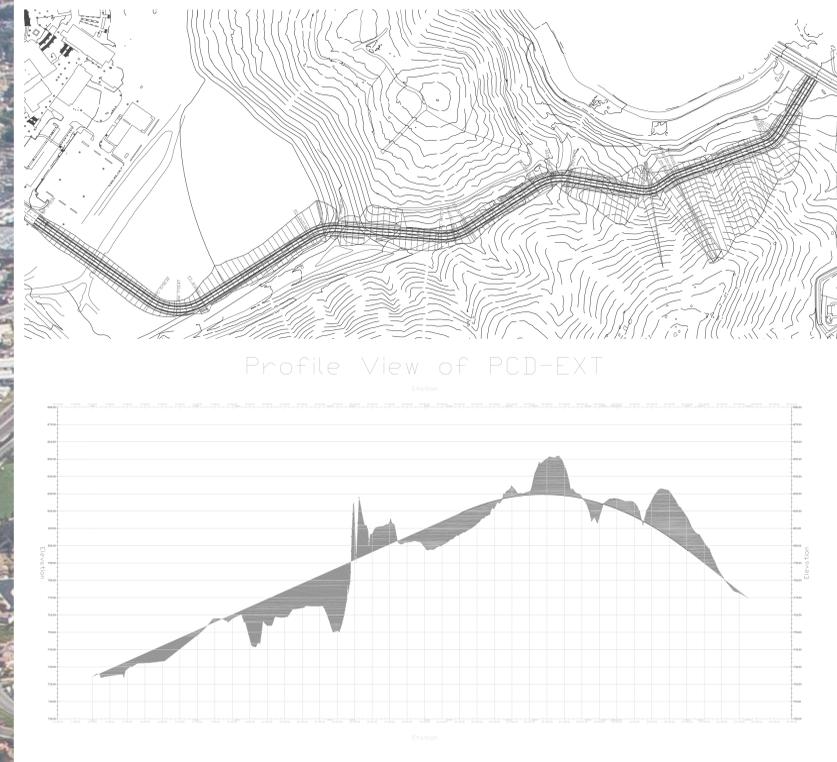
Palm Canyon Drive Extension to La Moree Road



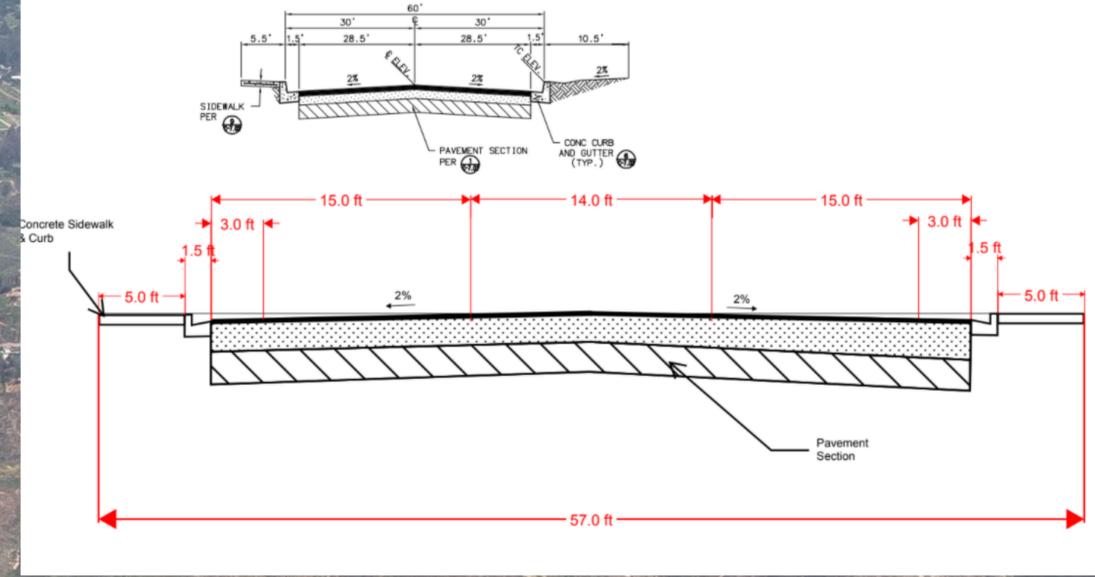
Vicinity Map:



GEOMETRIC DESIGN



ROAD CROSS SECTION



Project Description:

Design and construct a road connecting the end of Palm Canyon Drive to La Moree Rd to facilitate future development along the south side of CSU San Marcos. In addition, pad grading accommodations and storm water management will be implemented for future development of buildings and the main road. This project involves a traffic analysis, drainage study, storm water management plan, and grading analysis.

Transportation

1. Analysis methodology and criteria used in accordance with SANTEC/ITE traffic impact study guidelines
2. Vehicle Analysis
Scenarios:
 - a. Existing Conditions and Existing Plus Project for 2019
 - b. Horizon Year and Horizon Year Plus Project for 2030 Road Segments for LOS Analysis

Team:



Jackie Villanueva
- Project Manager



Zach Parella
- Site Superintendent



Josef Barho
- Site Development Engineer



Micah Kawano
- Storm Water Engineer



Jesse Babauta
- Senior Civil Engineer



Aylen Duran
- Geotechnical Engineer

ENVIRONMENTAL

Effect and Mitigation Measures of Project:

1. **Air Quality**
 - a. Effects: Increase of traffic between La Moree and CSUSM Campus will result in an increase of air pollution around the area.
 - b. Mitigation: Added bike lanes and sidewalks will allow for the chance for a more environmentally friendly form of transportation to reduce air pollution from vehicles.
2. **Grading**
 - a. Effects: Breaking through the hillside of the area to create the road connecting La Moree to the CSUSM will require erosion control and environmental protection codes, as well as existing utilities.
 - b. Mitigation: Proper soil analysis, environmental protection checks, erosion controls, and research on existing utilities in the area.
3. **Water**
 - a. Effects: New concrete surfaces will polluted water from rainfall to gather and run off.
 - b. Mitigation: Permanent BMP's will be place along the entire road including gutters for sewer connection to clear off polluted rain fall on the road.

Hydrology

1. Stormwater Runoff
 - a. Examine existing conditions of stormwater runoff and analyze existing basin areas.
 - b. Determine Storm flow values for a 10-year and 100-year event.
2. Proposed Design
 - a. After the road design and building pad design are complete, we need to determine the new storm flow values.
 - b. Once new storm flow values are determined, new stormwater mitigation strategies will need to be implemented.
 - c. With respect to the Green Street Criteria, a new road design and stormwater system will be designed.