Traffic Signal Design Project

JUNE INC. | Design Team T-3

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Project Description

JUNE Inc. is working with Iteris in developing two new signalized intersections for the City of Irvine to improve traffic circulation. Stop signs at the existing four-way intersection on Anteater Dr. and California Ave. will be replaced with signals to accommodate a heavier traffic flow. The new t-intersection on Culver Dr. and Vista Del Campo will also require signals due to future increased volumes. A full set of design plans are needed for construction. The plans, specifications, and cost estimates (PS&E) will be prepared in accordance with the City of Irvine's standards for traffic signals.

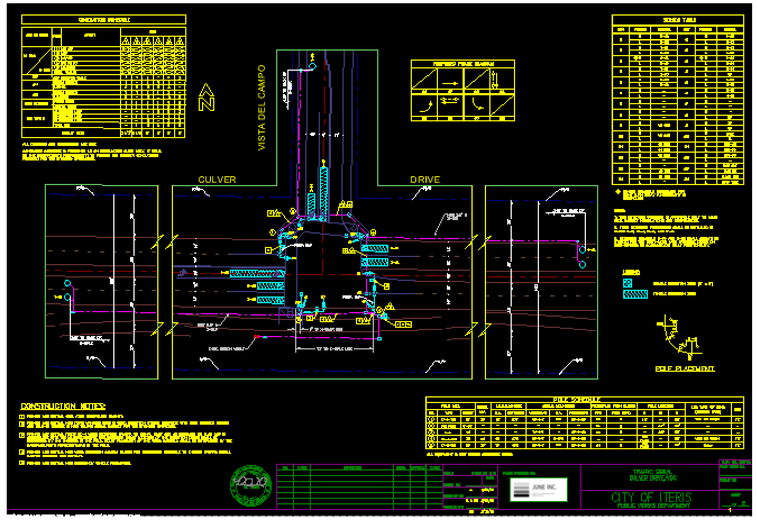
Constraints & Parameters

- Pedestrian push buttons must be ADA compliant
- Advanced loop detectors must be installed where approach speeds are 25 mph or greater
- The highest case load must be used for pole design
- Designs must be within the Right of Way

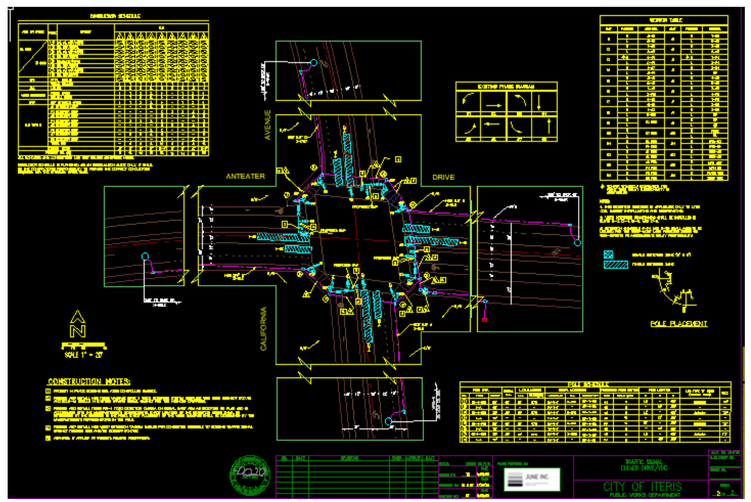
Design Approach

- Provide safe traffic flow at intersection
- Manage/reduce traffic congestion
- Produce a feasible plan for signalized intersection

Culver Drive/Vista Del Campo Intersection



Anteater Drive/California Avenue Intersection



Design Guidelines

- City of Irvine Standards and Design Manual Section 104 – guideline for traffic signal plans and equipment
- 2018 Caltrans Standard Plans – guideline for pole schedule
- Ch. 4 of the California Manual on Traffic Control Devices (MUTCD) – guideline for pedestrian signal design

Cost Analysis

Culver Dr./Vista Del Campo	$300,000
Anteater Dr./California Ave.	$250,000
Maintenance	$20,000/year

Alternative Designs

- Implementation of flashing yellow vehicle head at T-intersection
- Cabinet placement directly in line with the pedestrian ramp
- Implementation of radar detectors

Plans for Next Phase

- Synchro/Sim Traffic Model Development
- Signal Timing & Coordination Analysis
- "Before" & "After" Study Comparison
- Total Cost Estimate