City of Folsom
TRAFFIC SAFETY COMMITTEE
AGENDA
4:00 p.m., Thursday, January 26, 2017
Public Works Conference Room

ADMINISTRATIVE

A. Roll Call:
Hillman, Newman, Pew, Rackovan, Soulsby, Washburn, Wilson

B. Approve Action Summary:
October 27, 2016

BUSINESS FROM FLOOR/GOOD OF THE ORDER

ACTION/DISCUSSION ITEMS

Other Business

1. Oath of Office
2. Selection of Chair/Vice Chair
3. Meeting Schedule for 2017-18

Neighborhood Issues

4. Natoma Street/Sibley Street Stop Signs
5. Parkshore Drive/W.A.P.A. driveway intersection safety

Project Review

6. Leidesdorff Street Bicycle Boulevard

INFORMATIONAL ITEMS

ADJOURNMENT

APPROVED:

Dave Nugen, Public Works Director

Agenda.Jan.17

City of Folsom
TRAFFIC SAFETY COMMITTEE
ACTION SUMMARY
4:00 p.m., Thursday, October 27, 2016
Public Works Conference Room

Meeting called to order at 4:05 p.m. by Chair Pew.

Roll Call:

	Hillman	Kilkenny	Nelson	Pew	Rackovan	Washburn	Wilson
Present		√		√	√		√
Absent	√		√			√	

BUSINESS FROM FLOOR/GOOD OF THE ORDER. None.

ACTION SUMMARY – July 28, 2016 action summary was approved with no revision.

ACTION/DISCUSSION ITEMS

1. Quick Quack Car Wash – approved 4-0 with all recommendations shown in the MRO traffic study, as well as a recommendation from Wilson to ensure that the turn radius in the east corner of the future development portion of the project be designed with proper turn radius for fire apparatus.

	Hillman	Kilkenny	Nelson	Pew	Rackovan	Washburn	Wilson
Move				√			
Second							√
Aye		√		√	√		√
Nay							
Abstain							
Absent	√		√			√	

2. Parkway Apartments - approved 4-0 with all recommendations shown in the MRO traffic study.

	Hillman	Kilkenny	Nelson	Pew	Rackovan	Washburn	Wilson
Move		√					
Second							√
Aye		√		√	√		√
Nay							
Abstain							
Absent	√		√			√	

INFORMATIONAL ITEMS – None.

Meeting adjourned at 4:28 p.m.

NEW BUSINESS
Agenda Item No. 1
TSC 17-01
1/26/17 Meeting

TRAFFIC SAFETY COMMITTEE
STAFF REPORT

DATE: January 19, 2017

TO: Traffic Safety Committee

FROM: Public Works Department

SUBJECT: OATH OF OFFICE

BACKGROUND/ANALYSIS

Pursuant to Government Code Section 40813, the City Clerk has appointed Mark Rackovan, Public Works Representative to the Traffic Safety Committee as a Deputy of the City Clerk's Office for the express purpose of administering the Oath of Office to all Traffic Safety Committee members, excepting current City employees assigned to the Committee and the FCUSD who has already been sworn in.

The Oath will be administered verbally to all At-Large representatives and then written oaths will be signed by each member and the person administering the oath.

STAFF RECOMMENDATION/TRAFFIC SAFETY COMMITTEE ACTION

None.

NEW BUSINESS
Agenda Item No. 2
TSC 17-02
1/26/17 Meeting

TRAFFIC SAFETY COMMITTEE
STAFF REPORT

DATE: January 19, 2017

TO: Traffic Safety Committee

FROM: Public Works Department

SUBJECT: SELECTION OF CHAIR/VICE CHAIR

BACKGROUND/ANALYSIS

Section 10.02 of the Folsom Municipal Code defines the duties of the Traffic Safety Committee, including the appointment of officers. With the start of new terms for the At-Large members, the Committee needs to appoint both a Chairperson and a Vice-Chairperson. The terms of both officers shall be two years, ending in December 31, 2018 or upon leaving office.

The responsibilities of the officers are detailed in the attached excerpt from Section 10.02.050 of the Municipal Code. Please note that the Public Works Representative cannot be appointed as an officer.

STAFF RECOMMENDATION/TRAFFIC SAFETY COMMITTEE ACTION

The Public Works Department requests that the Traffic Safety Committee nominate and appoint a Chairperson and Vice-Chairperson to serve one, two-year term which will expire December 31, 2018. Upon being nominated, the appointed officers shall assume their new positions and preside over the meeting.

Folsom Municipal Code
10.02 Traffic Safety Committee
10.02.050 Officers

A. The officers of the committee shall be the chairperson and vice-chairperson.
B. The chairperson and the vice-chairperson shall be elected by the committee every 2 years by majority vote of the committee members. The public works representative is not eligible to serve as an officer. An officer can be replaced by majority vote of the committee at any time. No public hearing shall be required prior to removal of the officer and no cause for removal need be shown.
C. The chairperson and vice-chairperson of the committee, or such other members as may be presiding in the aforementioned positions, shall not be deprived of any of the rights or privileges of any member by reason of his/her occupying the chair and may move, second, and debate from the chair, subject only to such limitations of debate as are by these rules imposed on all members.
D. The chairperson shall preside and preserve order at all regular and special meetings of the committee. The chairperson shall state every question coming before the committee, announce the decisions of the committee on all subjects, and decide all questions of order without debate, subject to an appeal to the committee on which a member shall speak but once, the chairperson having precedence in speaking on questions of order.
E. In the absence of the chairperson, the vice-chairperson shall perform the duties and obligations of the office of chairperson.
F. A secretary shall be assigned to the committee by the public works director. The secretary shall serve as staff support to the committee and shall be responsible for preparing agendas and agenda packets, scheduling meetings and meeting places, calling and recording roll, calling and recording votes, preparing summary minutes of the committee meetings, and other duties as required. The secretary shall not be an official voting member nor considered an officer of the committee.
G. The terms of office of the chairperson and vice-chairperson shall be 2 years. If no successor is named by the conclusion of any officer's term, the officer shall continue in the office until a successor has been named. (Ord. 911 § 2 (part), 1999)

NEW BUSINESS
Agenda Item No. 3
TSC 17-03
1/26/17 Meeting

TRAFFIC SAFETY COMMITTEE
STAFF REPORT

DATE: January 19, 2017

TO: Traffic Safety Committee

FROM: Public Works Department

SUBJECT: MEETING SCHEDULE FOR 2017/18

BACKGROUND/ANALYSIS

Section 10.02 of the Folsom Municipal Code defines the duties of the Traffic Safety Committee, including the establishment of a meeting schedule. A copy of the relevant section of the Municipal Code is attached for your information.

Since its establishment, the Committee has met on either a monthly or quarterly basis, on the fourth Thursday of each month with the exception of November and December, due to potential conflicts with the Thanksgiving and Christmas holidays. A special meeting would often be held in early December to replace the November and December meetings.

Meeting times have varied over the years. From its establishment in 1994 until 1998, meetings began at 8:30 a.m. In 1998 the meeting time was changed to 4:00 p.m. in order to still occur during normal business hours but to provide a better opportunity for the public to attend. During the recession, due to fewer requests from the public and budget issues, the City often had to cancel meetings. However, in 2015 the Committee reverted to monthly meetings (on an as-needed basis). Over the two-year period ending in December 2016, of the twenty monthly meetings that were scheduled, seven were cancelled due to a lack of agenda items.

STAFF RECOMMENDATION/TRAFFIC SAFETY COMMITTEE ACTION

The Public Works Department recommends that the Committee consider maintaining a monthly schedule (on an as-needed basis) on the fourth Thursday of those months, at 4:00 p.m.

10.02.060 Meetings.

A. Regular meetings of the committee shall be held at City Hall, 50 Natoma Street, Folsom, California. Regular meetings shall be held on a day and time established by the committee. There shall be no minimum number of meetings per quarter. A regularly scheduled meeting may be canceled at any time.

B. Special meetings may be called in the manner specified by applicable state law.

C. Four members of the committee shall constitute a quorum. When there is no quorum at a regular meeting, the chairperson, or any member of such body, shall adjourn such meeting until the next regular meeting.

D. The chairperson or in the absence of the chairperson, the vice-chairperson, shall take the chair at the hour appointed for the meeting and shall call the committee to order. In the absence of the chairperson and vice-chairperson, the public works director or his/her representative shall call the committee to order whereupon a temporary chairperson will be elected from among the members present. Upon the arrival of the chairperson or vice-chairperson, the temporary chairperson shall relinquish the chair upon the conclusion of the item before the committee. (Ord. 911 § 2 (part), 1999)

NEW BUSINESS
Agenda Item No. 4
TSC 17-004
1/26/17 Meeting

TRAFFIC SAFETY COMMITTEE
STAFF REPORT

DATE: January 19, 2017

TO: Traffic Safety Committee

FROM: Public Works Department

SUBJECT: NATOMA STREET/SIBLEY STREET STOP SIGNS

BACKGROUND

City staff was tasked with analyzing the intersection of Natoma Street and Sibley Street to determine if all-way stop sign control in order to improve intersection safety.

ANALYSIS

The intersection is currently two-way stop controlled, with stop signs on the Sibley Street approaches. The City's on-call traffic engineering consultant was tasked with conducting the analysis (attached, except for technical appendices). In summary, the analysis concluded that all-way stop control due to a combination of vehicle delay, collision history and sight distance constraints.

STAFF RECOMMENDATION/TRAFFIC SAFETY COMMITTEE ACTION

Staff recommends that the Committee endorse the conclusions of the traffic analysis for installation of all-way stop control. If endorsed by the Committee, the recommendation will then be submitted to the City Council for final approval.


Natoma St
Mormon Street Natoma St Alley
Reading St
Sibley St
Dale Ave
Orange Grove Way Sibley St Alley
Natoma Street Persifer St Alley
211 ft
© 2016 Google
Google Earth

Kimley»Horn

Memorandum

To: Mark Rackovan, P.E.

From: Matt Weir, P.E., T.E., PTOE

Re: **Intersection Evaluation, Natoma Street @ Sibley Street**
On-Call Traffic Engineering, Task Order 16-003 – Folsom, California

Date: November 8, 2016

The purpose of this memorandum is to document the results of a traffic engineering evaluation completed for the Natoma Street intersection with Sibley Street in Folsom. We understand that the City has received a request to study this location with indications that safety is a concern. The purpose of this evaluation was to evaluate traffic safety (sight distance and crash rate) and the potential need for modified traffic control (all-way stop control), as well as to consider potential operation conditions (i.e., queuing, delay, Level of Service, etc.) that would be anticipated to result from conversion to all-way stop control.

Data Collection

We completed a site visit of the subject intersection on Thursday, October 6, 2016, to observe intersection lane configurations, existing traffic control, speed limits, lane utilization, adjacent land uses, and other readily apparent features that were deemed to be relevant to the Scope of Services. In addition, we completed an evaluation of sight distance for the Sibley Street approaches and Natoma Street left-turns based on observed horizontal and vertical geometric conditions.

We collected 72-hour weekday roadway segment volume counts (12:00 AM Tuesday to 11:59 PM Thursday), one for each approach, at the Natoma Street intersection with Sibley Street. Vehicular speed data was also collected for the Natoma Street approaches. PM peak-hour intersection turning movements were also collected. **Exhibit 1** depicts the existing segment volumes, speeds, and lane geometry. The traffic count sheets are provided in **Attachment A**.

Traffic Control Warrants and Operations Analysis

We completed a traffic control warrant evaluation for the study intersection. This effort involved an All-Way Stop Control (AWSC) warrant evaluation based on the methodologies noted in Section 2B.07 of the *California Manual on Uniform Traffic Control Devices (CMUTCD), 2014 Edition (with December 2015 revisions)*.

The evaluation of the AWSC warrant requirements determined that the warrant is satisfied for the existing conditions based on Criterion D. The CMUTCD guidance for Criterion D states that AWSC is warranted "Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values." The reported crashes, observed volumes, and calculated delay meet or exceed the threshold of 80 percent of the minimum values for Criteria B, C.1, and C.2 as shown in **Table 1** below. Analysis worksheets are provided in **Attachment B**.

Also worth noting is that the volumes at the intersection nearly meet Criterion C. The average 8-hour volume on the major approaches is 501, which is higher than the required 300. The minor approach volumes are 196, just four (4) vehicles short of the full threshold of 200 for Criterion C. Given daily and seasonal fluctuations in traffic, it is likely the volumes at the intersection reach the levels that would meet the Criterion C warrant.

Table 1 – Criterion D Minimum Requirements and Observations

Criteria and Requirement	Threshold (80%)	Observed	Finding
B – Crashes in 12-month period susceptible to correction by AWSC	4	4	Sufficient
C.1 – Average 8-hour VPH on major approaches	≥ 240	501	Sufficient
C.2 – Average 8-hour VPH on minor approaches	≥ 160	196	Sufficient
C.2 – Average delay on minor street ≥ 30 seconds	24	52.9	Sufficient
VPH = Vehicles per hour			

Intersection Level of Service (LOS) was determined for the existing PM peak-hour conditions, as well as for the potential conversion to AWSC. The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this evaluation were determined using methods defined in the *Highway Capacity Manual, 2010 (HCM)*. The HCM includes procedures for analyzing side-street stop controlled (SSSC) and ASWC intersections. **Table 2** presents intersection LOS definitions as defined in the HCM. For this analysis Levels of Service were determined using the Synchro software.

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay (sec/veh)	Control Delay per Vehicle (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80
Source: Highway Capacity Manual, 2010		

Vehicle queuing for critical movements at the study intersection was also evaluated. The 95th percentile vehicle queues for these movements were approximated using Synchro. The 95th percentile queue length indicates that traffic queues are anticipated to be shorter than or equal to this length 95 percent of the time, and longer than this length only 5 percent of the time. Queue length is measured by number of vehicles and it is assumed that each vehicle occupies 25-feet.

The results of this operations and queuing evaluation are presented in **Table 3**. This queuing data indicates that the addition of AWSC would result in an increase of Natoma Street approach queuing of up to 3 vehicles while reducing the northbound Sibley Street queuing from 11 to 5 vehicles during the PM peak-hour. The analysis worksheets are provided in **Attachment C**.

Table 3 – PM Peak-Hour Intersection Delay, LOS, and 95th Percentile Queues

Scenario (Traffic Control)	Delay (seconds) / LOS	95th Percentile Queue[1] (# of vehicles)			
		EB	WB	NB	SB
Existing (SSSC)	25.1 (52.9 NBL) / F	0	0	11	0
Modified (AWSC)	15 / B	1	3	5	0

Note: Side-Street Stop Control (SSSC) delay and LOS are reported with the intersection delay followed by the worst movement's delay. The reported LOS corresponds to the worst movement.
[1] Reported queues are the rounded number of vehicles (1 vehicle = 25 feet)

Intersection Sight Distance

We completed an evaluation of sight distance for the Sibley Street intersection approach, as well as the Natoma Street left-turns, based on observed horizontal and vertical geometric conditions. These evaluations were performed in accordance with the guidelines presented in the *Geometric Design of Highways and Streets*, 2011, published by the American Association of State Highway and Transportation Officials (AASHTO), and the *Highway Design Manual*, published by Caltrans. The results of this evaluation are presented in **Table 4** (see **Exhibit 2** for a graphical depiction of the sight distance observations).

Table 4 – Summary of Sight Distance Observations

ID	Approach	Movement Direction	Observed SD (ft.)		Maximum Required ISD (ft.)[1]	Status[2]	Achievable SD (ft.)[3]
			Looking Left	Looking Right			
A	Northbound (Sibley)	Left	500	225	445	Unacceptable	400[4]
B		Right	500	N/A	385	Acceptable	-
C	Southbound (Sibley)	Left	450	135	445	Obstructed	475[4]
D		Right	450	N/A	385	Acceptable	-
E	Eastbound (Natoma)	Left	500	N/A	325	Acceptable	-
F	Westbound (Natoma)	Left	500	N/A	325	Acceptable	-

Notes: SD = Sight Distance, ISD = Intersection Sight Distance
[1] Passenger Vehicles, Design speed of 40 mph assumed for both approaches (western approach posted 35 mph, 85th % 35 mph, eastern approach posted 25 mph, 85th % 34 mph).
[2] Obstructed indicates that an object at a height above the elevation of the adjacent roadway blocks the drivers' view
[3] Achievable Sight Distance refers to the condition anticipated to be achieved with removal or maintenance of roadside vegetation, including the mentioned intermediate obstructions.
[4] Looking right.

The sight distances to the right for both minor street approaches are insufficient. Currently, there is vegetation and fencing obstructing views for these motorists. These obstructions necessitate that motorists pull up closer to the edge of the roadway so that they can see farther in either direction. The "Achievable" sight distances in **Table 4** were measured from a location vehicles were observed to position themselves to estimate the sight distance without obstructions (instead of 14.5-feet offset per AASHTO guidelines). Even if the vegetation and other potential obstructions are removed, the achievable sight distance will still not be acceptable at the northbound approach (looking right) due to the crest vertical curve along Natoma Street.

It is worth noting that, according to AASHTO, sight distance will not be a significant concern if stop signs are installed at the major approaches on Natoma Street (conversion to AWSC). The AASHTO guidelines read "At intersections with all-way stop control, the first stopped vehicle on one approach should be visible to the drivers of the first stopped vehicles on each of the other approaches." The guidance further state that AWSC may be the best option where sight distances for other control types cannot be obtained. The current sight distances are therefore sufficient for an AWSC configuration at the intersection.

Intersection Crash Evaluation

A crash evaluation was completed using readily available data provided by the City. Crash data was evaluated for the AWSC warrant as described in this memorandum. Additionally, the intersection's crash rate was calculated and compared to the expected intersection crash rate (statewide average rate for similar intersections per *Collision Data on California State Highways*, State of California Business, Transportation and Housing Agency, Department of Transportation Division of Research, Innovation and System Information, 2012).

Based on data provided by the City, there were ten documented crashes at this intersection over the period from January 1, 2013 through October 20, 2016. According to Caltrans' crash rate tables in the above-referenced document, the basic average rate for this type of facility (Suburban, Four-Leg Intersection, Stop & Yield Signs) is 0.26. The basic rate for crashes is 0.9% fatal crashes and 37.4% injury crashes, with the remaining as property damage only (PDO) crashes. The observed crash rate per million vehicles entering the intersection is 0.76, nearly three times higher than the Caltrans basic rate. Three crashes, or 30%, resulted in injury and seven, or 70%, resulted in property damage only (PDO). None of the crashes in the study period resulted in a fatality. Review of this data suggests a pattern of crashes that can be attributed to the intersection's geometric or operating conditions. The crash data sheets are provided in **Attachment D** to this memorandum.

Summary and Recommendations

The evaluation of the AWSC warrant requirements determined that the warrant is satisfied for the existing conditions (Criterion D). In addition, as discussed above, two of the intersection movements have observed sight distances that are lower than the required intersection sight distance, one of which cannot be mitigated even with driver behavior due to Natoma Street's vertical geometry. Finally, the intersection's crash rate is nearly three times higher than the Caltrans base rate for similar facilities. Accordingly, the City should pursue the removal or maintenance of roadside vegetation to eliminate the intermediate obstructions to achieve the required intersection sight distances (southbound Sibley looking right), and consider the installation of AWSC (northbound Sibley looking right). As shown in **Table 4** and as depicted in **Exhibit 2**, this strategy is anticipated to alleviate the sight distance obstruction for the southbound approach. If AWSC modification is made to the intersection, then the sight distance modifications will not be necessary and the resulting traffic operations will be as shown in **Table 3**.

Attachments:

Exhibit 1 – Existing Volumes, Speeds, and Lane Geometry
Exhibit 2 – Sight Distance and Vegetation Removal Recommendations

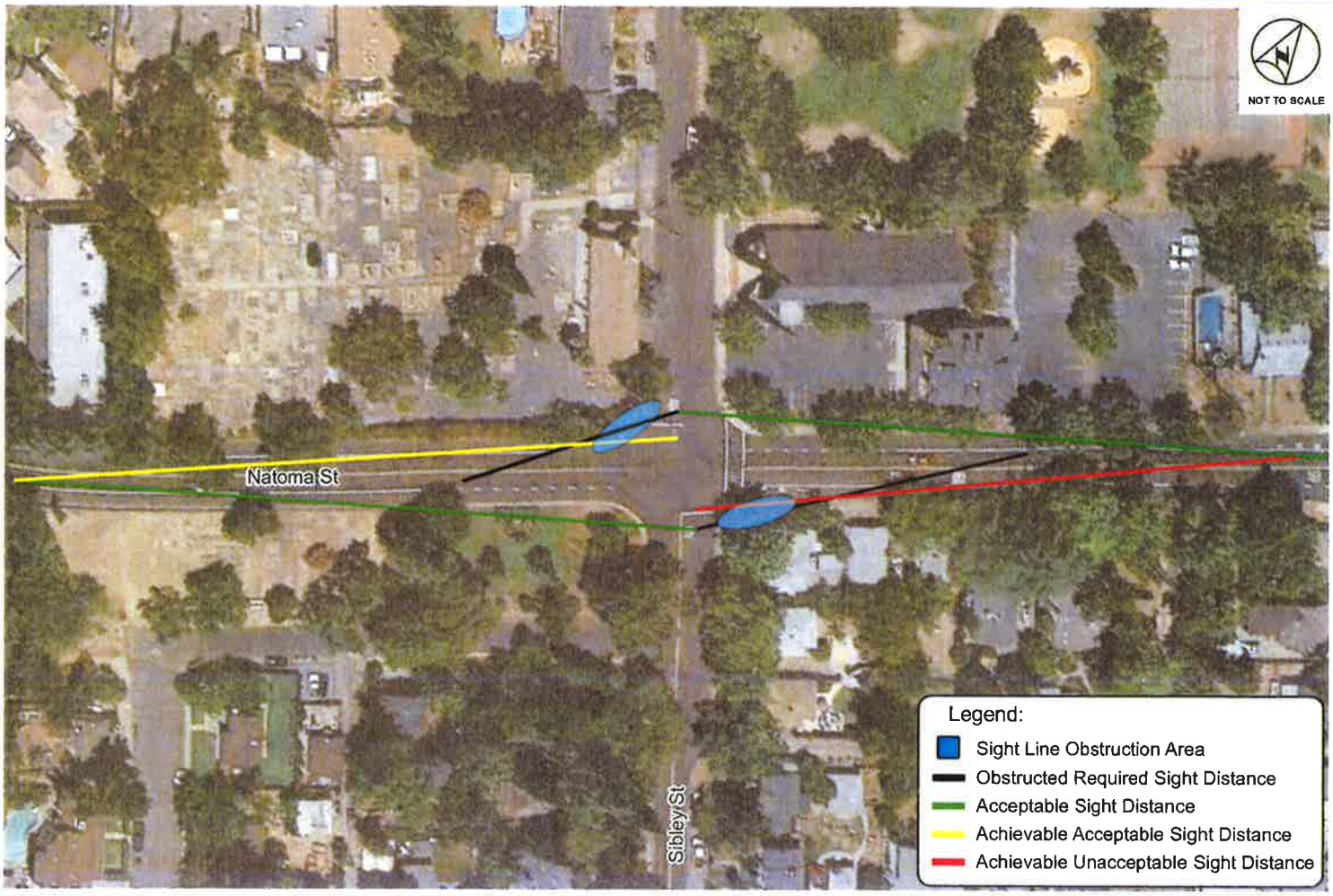
Attachment A – Traffic Count Data Sheets
Attachment B – Warrant Analysis Worksheets
Attachment C – Intersection Analysis Worksheets
Attachment D – Crash Data Sheets

On-Call Task Order 16-003: Natoma Street and Sibley Street Intersection

Kimley»Horn

Exhibit 1
Existing Volumes, Speeds, and Lane Geometry

On-Call Task Order 16-003: Natoma Street and Sibley Street Intersection



Kimley»Horn

Exhibit 2
Sight Distance and Vegetation Removal Recommendations

NEW BUSINESS
Agenda Item No. 5
TSC 17-005
1/26/17 Meeting

TRAFFIC SAFETY COMMITTEE
STAFF REPORT

DATE: January 19, 2017

TO: Traffic Safety Committee

FROM: Public Works Department

SUBJECT: PARKSHORE DRIVE/W.A.P.A. DRIVEWAY INTERSECTION

BACKGROUND

City staff is evaluating the intersection of Parkshore Drive at the Western Area Power Authority (WAPA) secure driveway to determine if safety and/or operational improvements are needed.

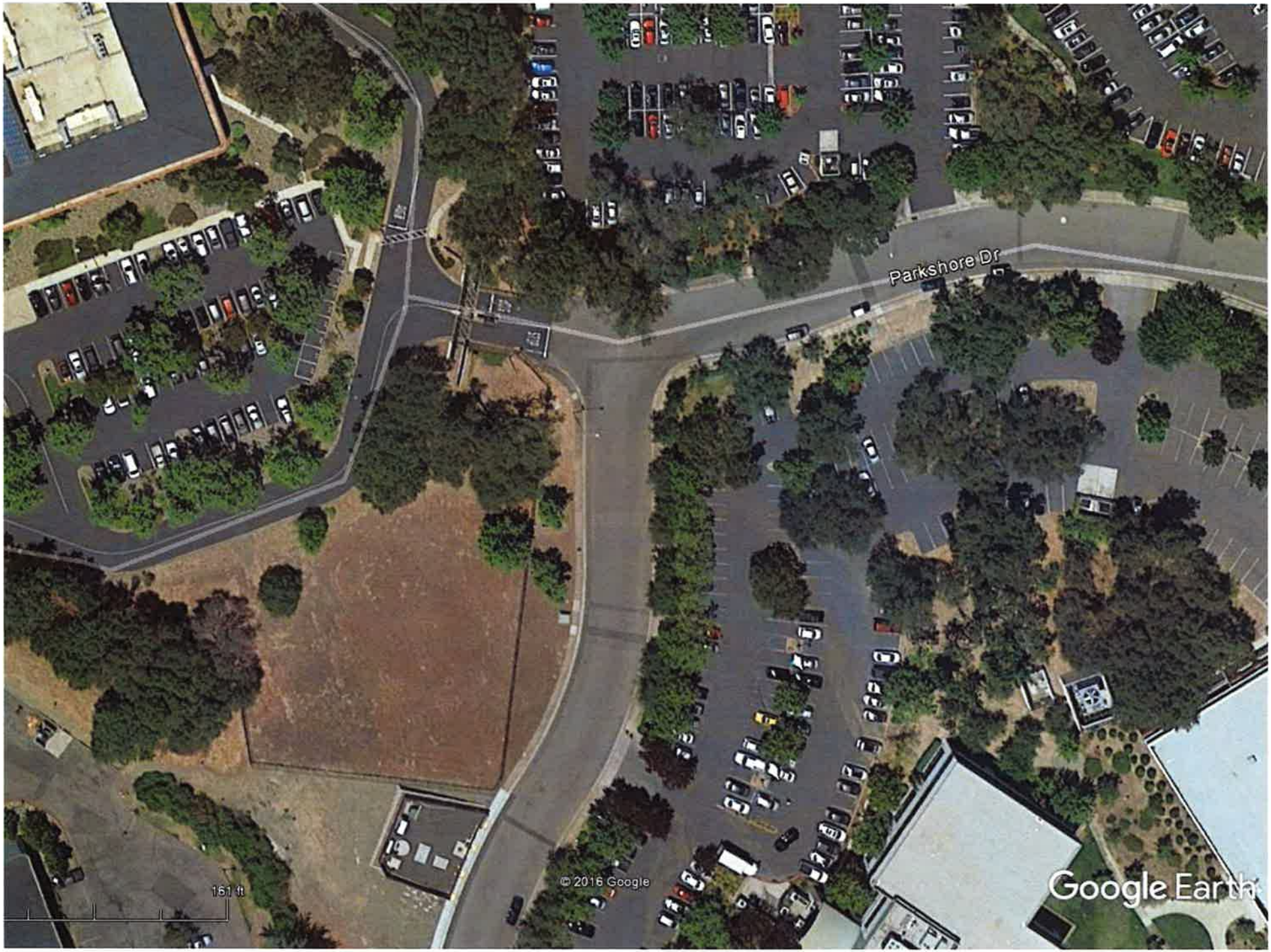
ANALYSIS

The subject intersection is unique, in that it is an intersection of a private driveway and a public street, where the public street on a ninety degree angle. The orientation of this intersection creates some confusion amongst motorists determining right-of-way, and whether or not parking is allowed within the intersection.

The City has not yet conducted an all-way stop control analysis, and does not anticipate that the intersection will meet any of the standard warrants for stop sign control.

STAFF RECOMMENDATION/TRAFFIC SAFETY COMMITTEE ACTION

Staff recommends the installation of parking restrictions first, followed by an analysis of stop sign warrants. This request will be brought back to the Committee for final discussion once the analysis has been completed.


Parkshore Dr
© 2016 Google
Google Earth
151 ft

NEW BUSINESS
Agenda Item No. 6
TSC 17-006
1/26/17 Meeting

TRAFFIC SAFETY COMMITTEE
STAFF REPORT

DATE: January 19, 2017

TO: Traffic Safety Committee

FROM: Public Works Department

SUBJECT: LEIDESDORFF STREET BICYCLE BOULEVARD

BACKGROUND/ANALYSIS

The City of Folsom is preparing to implement a bicycle boulevard along Leidesdorff Street between River Way and Riley Street. The project will feature a dedicated bicycle path constructed within the public right-of-way, parallel to Leidesdorff Street.

Jim Konopka, Trails Coordinator, will summarize the project and answer any questions the Committee may have.

STAFF RECOMMENDATION/TRAFFIC SAFETY COMMITTEE ACTION

No action required; provide input on the project to City staff for possible incorporation into the final project.

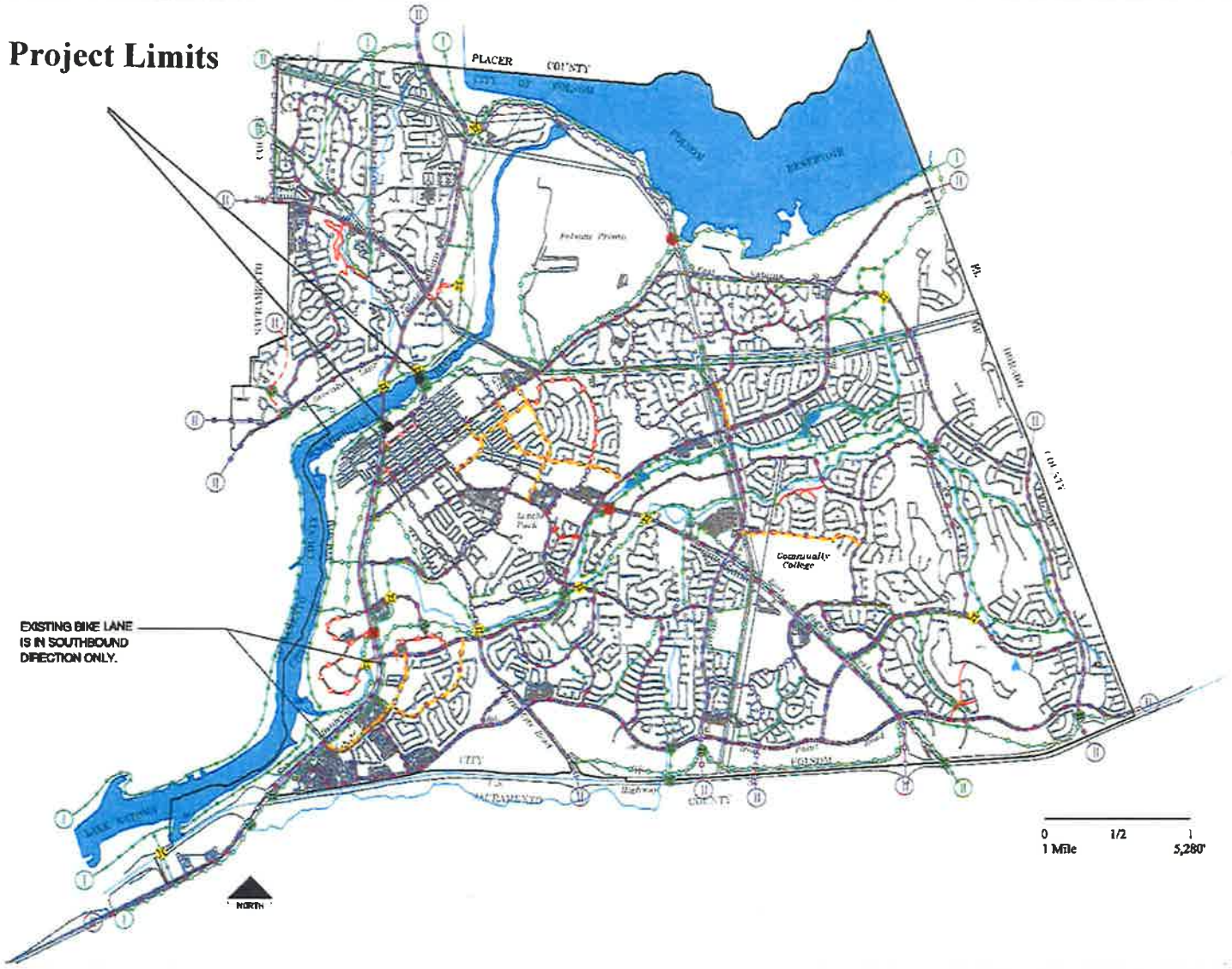
Lake Natoma Trail — Rendering

BEFORE

AFTER

CITY OF FOLSOM
DISTINCTIVE BY NATURE

Kimley-Horn and Associates, Inc.



CITY OF FOLSOM
Parks and Recreation Department

Bikeway Master Plan
PROPOSED BIKEWAY SYSTEM

LEGEND

Existing Bikeways
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Bike Boulevard
- Unpaved Hiking Trail
- Bike / Pedestrian Undercrossing
- Bike / Pedestrian Overcrossing

Proposed Bikeways
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Bike Boulevard
- Unpaved Hiking Trail
- Bike / Pedestrian Undercrossing
- Bike / Pedestrian Overcrossing
- Proposed Route Connects to Existing or Planned Bikeway with the Corresponding Class Number
- Proposed Route Terminates

City of FOLSOM Parks & Recreation

Location Map

July 5, 2007

SOURCE: Kimley Horn & Associates, 2011; USDA NAIP Aerial Photograph, 2009; AES, 2012

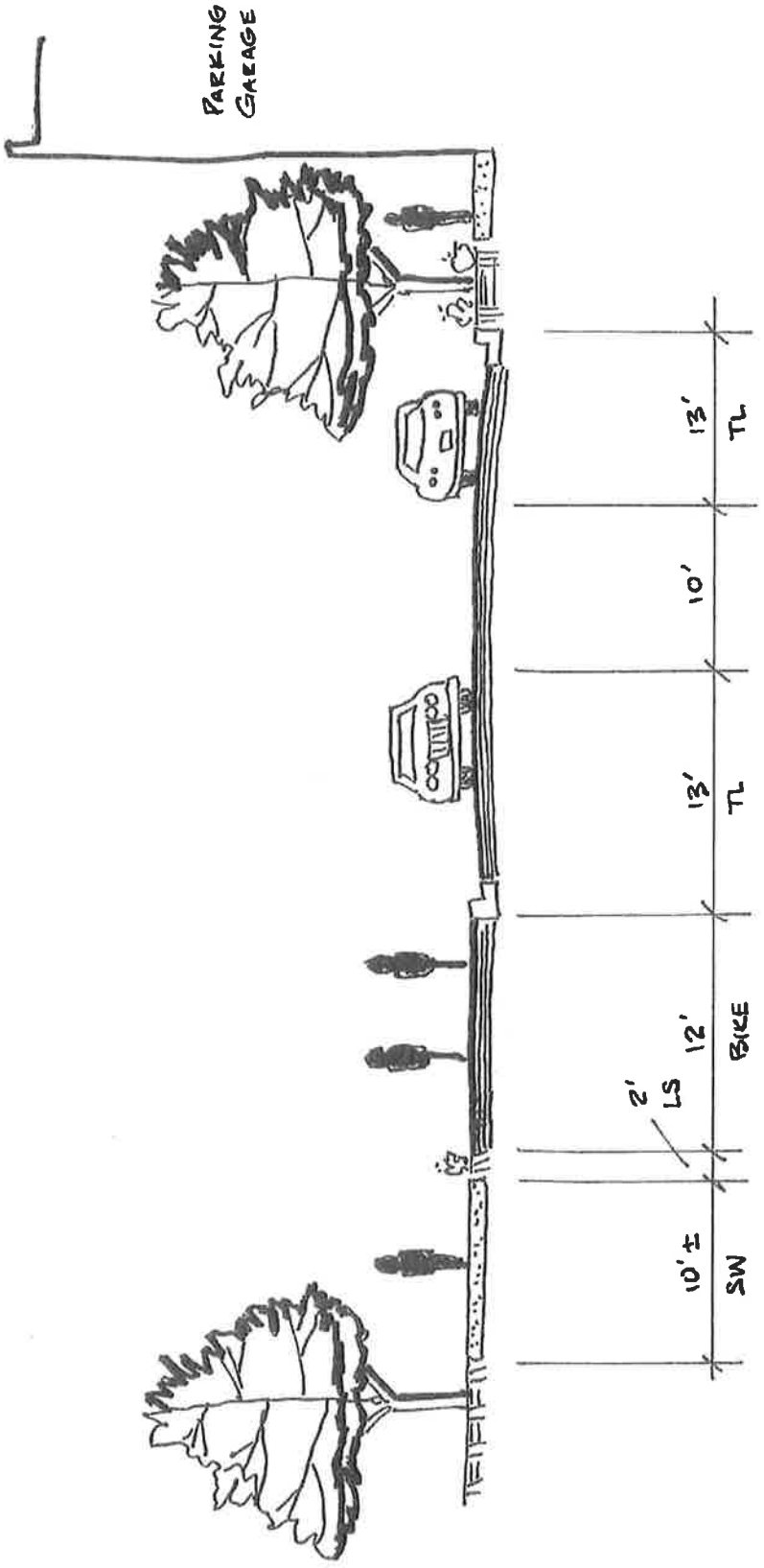
Exhibit A
Approved Project

Kimley-Horn
and Associates, Inc.

Sheet No. ____ of ____

Job ____ Subject ____ Job No. ____

Designed by ____ Date ____ Checked by ____ Date ____



KIMLEY-HORN & ASSOC.

BICYCLE BLVD.
PREFERRED OPTION
4/26/11

Kimley-Horn
and Associates, Inc.

Job _____ Subject _____ Sheet No. _____ of _____

Designed by _____ Date _____ Checked by _____ Job No. _____ Date _____

KIMLEY - HORN & ASSOC.

BICYCLE BLVD.
PREFERED OPTION
4/26/11