Environmental Assessment 24-06

Initial Study and Mitigated Negative Declaration for Use Permit 24-04 for a drive-through car wash with a 20-stall self-serve vacuum system and a quick-serve drive-through restaurant, Variance 24-01 to reduce the minimum required distance between the car wash and nearby residences, and Tentative Parcel Map 24-01 to subdivide a 2.02-acre parcel into three commercial lots. The proposal is located at the southeast corner of Colusa Highway (State Route 20) and Olive Street.

Prepared for:

City of Yuba City
1201 Civic Center Blvd.
Yuba City, CA 95993

Prepared By:

Denis Cook
Land Use Planning Consultant

and

City of Yuba City
Development Services Dept.
Planning Division

February 2025

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CITY OF YUBA CITY
Development Services Department
Planning Division
1201 Civic Center Blvd. Yuba City, CA 95993 Phone (530) 822-4700

1. Introduction

1.1. Introduction

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to identify any potential environmental impacts in the City of Yuba City, California (City) from proposed Use Permit (UP) 24-04, Variance (V) 24-01, and Tentative Parcel Map (TPM) 24-01 (collectively "Project"), located on 2.02 acres at the southeast corner of Colusa Avenue (State Route 20) and Olive Street

UP 24-04 is a request to construct a 2,870 square foot quick-serve drive through restaurant and a 5,053 square foot car wash, with 20 outdoor canopy covered vacuum stations. Also included will be 32 parking spaces as well as the drive-through queuing lanes for both businesses.

V 24-01 proposes to reduce the Zoning Regulation's minimum required distance between a car wash operation (including the outdoor vacuum stations) and nearest residentially zoned property from 100 feet to approximately 10 feet. The nearest residence to the site is approximately 85 feet away.

TPM 24-01 will divide the 2.02-acre parcel into three parcels consisting of a Parcel 1, a 0.93-acre lot proposed to contain the car wash, Parcel 2, a 0.71-acre lot proposing to contain the quick food restaurant, and Parcel 3, a 0.38-acre lot that currently contains a drive-through coffee kiosk.

The existing coffee drive-through kiosk facility is not a part of this proposal other than to create a separate parcel for it (proposed Parcel 3).

The proposed car wash is also subject to design review by the Planning Commission.

This Use Permit, Variance and Tentative Parcel Map are considered a project under the California Environmental Quality Act (CEQA), as the City has discretionary authority over the Project by the City of Yuba City Planning Commission.

This IS/MND has been prepared in conformance with CEQA Guidelines Section 15070. The purpose of the IS/MND is to determine the potential significant impacts associated with the proposed commercial uses, the variance, and the three-lot land division, and provide an environmental assessment for consideration by the Planning Commission. In addition, this document is intended to provide the basis for input from public agencies, organizations, and interested members of the public.

1.2. Regulatory Information

An Initial Study (IS) is an environmental assessment document prepared by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the California Code of Regulations Title 14 (Chapter 3, §15000 et seq.), commonly referred to as the CEQA Guidelines - Section 15064(a)(1) states an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that a proposed project under review may have a significant effect on the environment and should be further analyzed to determine mitigation

measures or project alternatives that might avoid or reduce project impacts to less than significant. A negative declaration may be prepared instead; if the lead agency finds that there is no substantial evidence, in light of the whole record that the project may have a significant effect on the environment. A negative declaration is a written statement describing the reasons why a proposed project, not exempt from CEQA pursuant to §15300 et seq. of Article 19 of the Guidelines, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a negative declaration shall be prepared for a project subject to CEQA when either:

a) The IS shows there is no substantial evidence, in light of the whole record before the agency, that a proposed project may have a significant effect on the environment, or

b) The IS identified potentially significant effects, but:

    a. Revisions in a project plans or proposals made by or agreed to by the applicant before the proposed negative declaration and initial study is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and

    b. There is no substantial evidence, in light of the whole record before the agency, that a proposed project as revised may have a significant effect on the environment. If revisions are adopted by the Lead Agency into a proposed project in accordance with the CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration (MND) is prepared.

1.3. Document Format

This IS/MND contains four chapters, and technical appendices. Chapter 1, Introduction, provides an overview of the proposed Project and the CEQA environmental documentation process. Chapter 2, Project Description, provides a detailed description of proposed Project objectives and components. Chapter 3, Impact Analysis, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 4, List of Preparers, provides a list of key personnel involved in the preparation of the IS/MND.

1.4. Purpose of Document

The proposed UP/V/TPM will undergo a public review process by the Planning Commission that, if approved, would result in a car wash facility with 20 outdoor vacuum stations, a drive-through quick-food restaurant on two proposed parcels, and an existing drive-through coffee kiosk on proposed Parcel 3, all on approximately 2.02 acres. This public review process is needed to assure that the Project will be compatible with existing or expected neighboring uses and that adequate public facilities are available to serve the Project.

This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 et seq.) and the State CEQA Guidelines (Title 14 CCR §15000 et seq.). CEQA

requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

The initial study is a public document used by the decision-making lead agency to determine whether the Project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the Project is adverse or beneficial, the lead agency is required to use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze at hand. If the agency finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a negative declaration shall be prepared. If in the course of the analysis, it is recognized that the Project may have a significant impact on the environment, but that with specific recommended mitigation measures incorporated into the Project, these impacts shall be reduced to less than significant, a mitigated negative declaration shall be prepared.

In reviewing all of the available information for the above referenced Project, the City of Yuba City Planning Division has analyzed the potential environmental impacts created by this Project and a mitigated negative declaration has been prepared.

1.5. Intended Uses of this Document

In accordance with CEQA, a good-faith effort has been made during preparation of this IS/MND to contact affected public agencies, organizations, and persons who may have an interest in the proposed Project. In reviewing the Draft IS/MND, affected and interested parties should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the effects of the proposed Project would be avoided or mitigated.

The Draft IS/ND and associated appendices will be available for review on the City of Yuba City website at http://www.yubacity.net. The Draft IS/MND and associated appendixes also will be available for review during regular business hours at the City of Yuba City Development Services Department (1201 Civic Center Boulevard, Yuba City, California 95993). The 20-day review period will commence on February 7, 2025 and end on February 26, 2025at the conclusion of the Planning Commission hearing.

Written comments on the Draft IS/MND should be sent to the following address:

City of Yuba City
Development Services Department
1201 Civic Center Boulevard
Yuba City, CA 95993
e-mail: developmentservices@yubacity.net
Phone: 530.822.4700

2. Project Description

2.1. Project Title

Town Center - Use Permit 24-04, Variance 24-01, and Tentative Parcel Map 24-01.

2.2. Lead Agency Name and Address

City of Yuba City
Development Services Department, Planning Division
1201 Civic Center Blvd.
Yuba City, CA 95993

2.3. Contact Person and Phone Number

Doug Libby, AICP
Deputy Director of Development Services
(530) 822-3231
developmentservices@yubacity.net

2.4. Project Location

The 2.02-acre property is located on the southeast corner of Colusa Avenue (State Route 20) and Olive Street. Assessor's Parcel Number (APN) 52-161-042.

2.5. Project Applicant

Ryan Rogers
1528 Colusa Ave.
Yuba City, CA 95993

2.6. Property Owner

Clark and 20 Development L.P.
P.O. Box 510
Marysville, CA 95901

2.7. General Plan Designation

Regional Commercial (RC) land use designation.

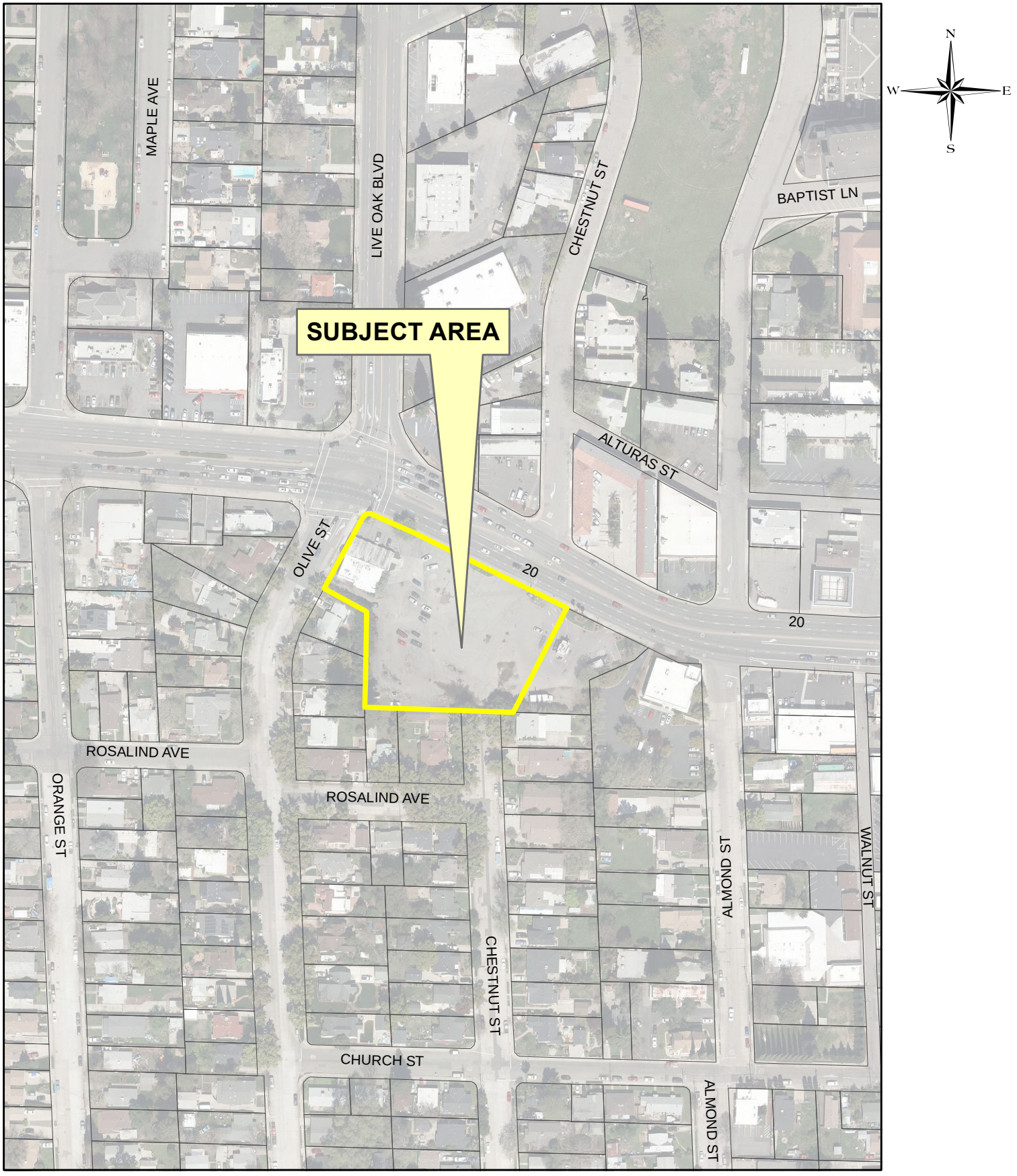


Figure 1: Location Map

2.8. Specific Plan

The property is not within a specific plan area.

2.9. Zoning

General Commercial (C-3) Zone District.

2.10. Project Description

Use Permit (UP) 24-04, Variance (V) 24-01, and Tentative Parcel Map (TPM) 24-01 is for a 2.02-acre property located at the southeast corner of Colusa Avenue (State Route 20) and Olive Street.

UP 24-04 is a request to construct a 5,053 square foot car wash, with 20 outdoor canopy covered vacuum stations. On proposed Lot 1, a 2,870 square foot quick-serve drive through restaurant on proposed Lot 2. The quick food drive through aisle will provide approximately 17 vehicle queuing spaces. Also included will be 32 parking spaces in addition to both drive-through queuing lanes.

V 24-01 proposes to reduce the Zoning Regulation's minimum required distance between a car wash operation (including the outdoor vacuum stations) and nearest residentially zoned property from 100 feet to approximately 10 feet with the nearest residence being approximately 85 feet away.

TPM 24-01 will divide the 2.02-acre property into three commercial parcels. The lot sizes will be:

Lot 1: 0.93 acre - currently vacant, proposed for the car wash, vacuum stations and queuing aisles.

Lot 2: 0.71 acre - currently vacant, proposed for the quick food restaurant and drive-through.

Lot 3: 0.38 acre - it currently contains a drive-through coffee facility which is not a part of this proposal other than to create an individual parcel for it.

There will be common access easements throughout the property for vehicle access and maintenance. Both the landscaping and outdoor lighting will be unified for the car wash and quick-serve restaurant.

Signage for each proposed use will be under a separate ministerial permit to be considered at a later time.

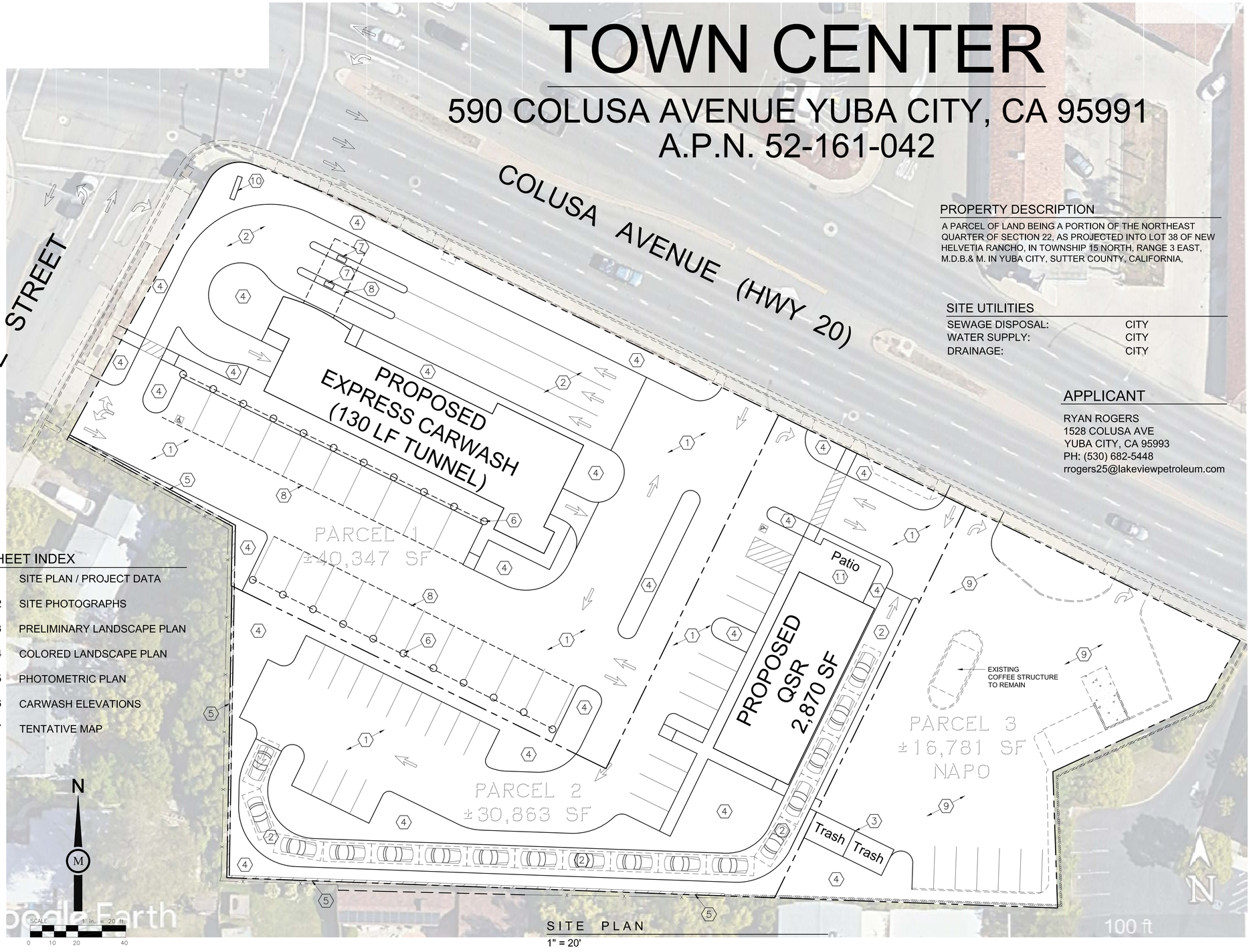
2.11. Surrounding Land Uses and Setting

Setting: The 2.02-acre property is flat and mostly vacant except for a coffee drive-through facility at the east end of the site that will remain.

Table 1: Bordering Uses	
North	Colusa Avenue, with commercial uses across the street.
South:	Single family residences.
East:	A commercial business.
West:	For a portion of the common boundary - single-family residences; the remainder is frontage onto Olive Street.

TOWN CENTER

590 COLUSA AVENUE YUBA CITY, CA 95991
A.P.N. 52-161-042



SITE PLAN
1" = 20'

SHEET INDEX

PROPERTY DESCRIPTION

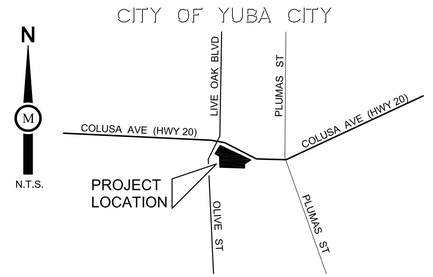
A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 22, AS PROJECTED INTO LOT 38 OF NEW HELVETIA RANCHO, IN TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.B.& M. IN YUBA CITY, SUTTER COUNTY, CALIFORNIA,

SITE UTILITIES

SEWAGE DISPOSAL:	CITY
WATER SUPPLY:	CITY
DRAINAGE:	CITY

APPLICANT

RYAN ROGERS
1528 COLUSA AVE
YUBA CITY, CA 95993
PH: (530) 682-5448
rrogers25@lakeviewpetroleum.com



VICINITY MAP
NOT TO SCALE

LOT DATA:

A.P.N.:	52-161-042
TOTAL ACREAGE:	87,991 SF (2.02 AC)
EXISTING PARCELS:	1
PROPOSED PARCELS:	3
EXISTING ZONE:	C-3 GENERAL COMMERCIAL
PROPOSED ZONE:	SAME
EXISTING USE:	COFFEE DRIVE THROUGH
PROPOSED USE:	QSR, EXPRESS CARWASH WITH VACUUM STATIONS, EXISTING COFFEE USE TO REMAIN (NAPO)

SITE COVERAGE

QSR:	2,870 SF (3.3%)
CARWASH STRUCTURE:	5,053 SF (5.7%)
EXIST. COFFEE BLDGS:	515 SF (0.6%)
CANOPIES:	5,680 SF (6.5%)
LANDSCAPE AREA:	19,336 SF (22.0%)
PAVED SURFACE AREA:	54,537 SF (61.9%)

PARKING DATA:

CARWASH STRUCTURE (5,053 SF):	2 SPACES
QSR (2,870 / 250 SF):	12 SPACES
EXIST. COFFEE USE (515 SF / 300 SF):	2 SPACES
REQUIRED:	16 SPACES
STANDARD SPACE (9'x18'):	30 SPACES
ACCESSIBLE SPACE (9'x18'):	2 SPACES
COVERED VACUUM SPACE (14'x18'):	20 SPACES
PROVIDED:	52 SPACES

CONSTRUCTION NOTES

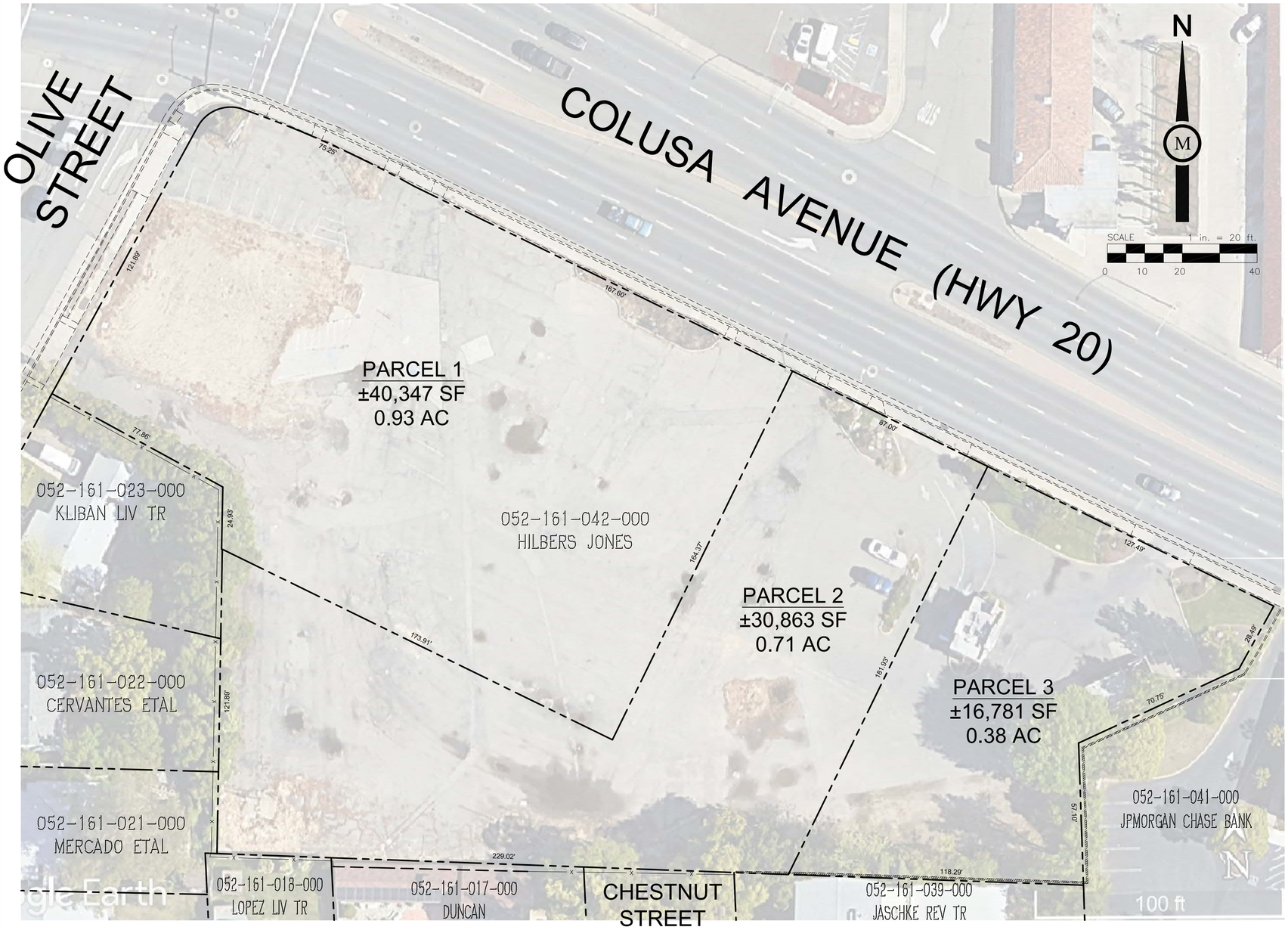
1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT
3. NEW COVERED TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. NEW 6 FT. HIGH SPLIT-FACE CMU WALL
6. NEW VACUUM STATION (TYP. OF 20)
7. NEW PAY STATION (TYP. OF 2)
8. NEW OVERHEAD CANOPY
9. EXISTING TO REMAIN
10. NEW MULTI-TENANT MONUMENT SIGN
11. NEW OUTDOOR SEATING AREA (400 SF)

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

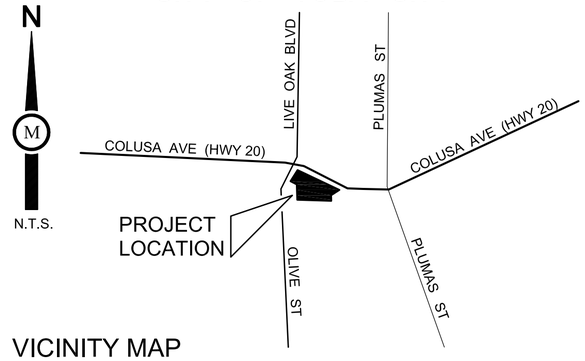
TOWN CENTER
590 COLUSA AVENUE, YUBA CITY, CA 95991

SITE PLAN / PROJECT DATA

2-19-24



CITY OF YUBA CITY



VICINITY MAP

NOT TO SCALE

PROPERTY DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 22, AS PROJECTED INTO LOT 38 OF NEW HELVETIA RANCHO, IN TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.B.& M. IN YUBA CITY, SUTTER COUNTY, CALIFORNIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST COMER OF LOT 40 OF "SUTTER COURT", FILED IN BOOK 5 OF SURVEYS, PAGE 69, SUTTER COUNTY RECORDS, BEING ALSO A POINT ON THE EASTERLY RIGHT OF WAY OF THAT CERTAIN CITY STREET KNOWN AS OLIVE STREET; THENCE NORTH 28° 38' 30" EAST ALONG THE WEST LINE OF SAID LOT 40 AND THE EASTERLY LINE OF OLIVE STREET, A DISTANCE OF 121.89 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT; THENCE ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF S0° 48' 30" WITH A RADIUS OF 15.00 FEET, AN ARC DISTANCE OF 21.16 FEET TO A POINT ON THE SOUTHERLY LINE OF CALIFORNIA STATE HIGHWAY 20 (AKA COLUSA HIGHWAY), SAID POINT BEING A POINT ON A CURVE, THE RADIUS AT WHICH POINT BEARS SOUTH 19° 27' 00" WEST; THENCE ALONG SAID CURVE AND ALONG THE SOUTHERLY LINE OF SAID HIGHWAY TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 09° 3'6' 10" WITH A RADIUS OF 449.00 FEET, AN ARC DISTANCE OF 75.25 FEET; THENCE SOUTH 63° 58' 12" EAST, ALONG THE SOUTHERLY LINE OF SAID HIGHWAY, 383.19 FEET; THENCE LEAVING SAID HIGHWAY SOUTH 29° 03' 09" WEST, A DISTANCE OF 28.72 FEET TO THE MOST NORTHERLY CORNER OF LOT 21 OF THE "ALTA ADDITION TO YUBA CITY, SUTTER CO., CAL.", FILED IN BOOK 1 .OF SURVEYS, PAGE 42, SUTTER COUNTY RECORDS; THENCE SOUTH 65° 09' 35" WEST, ALONG THE NORTHWESTERLY LINE OF SAID LOT 21, A DISTANCE OF 70. 79 FEET TO THE NORTHEAST CORNER OF LOT 31 OF SAID ALTA ADDITION; THENCE SOUTH 01 • 58' 39" EAST ALONG THE EAST LINE OF SAID LOT 31, A DISTANCE OF 56.96 FEET TO THE INTERSECTION OF THE NORTHERLY LINE OF LOT 63 OF SAID SUTTER COURT PRODUCED EAST; THENCE NORTH 87° 56' 00" WEST ALONG THE PRODUCTION OF THE NORTH LINE OF SAID LOT 63 AND ALONG THE NORTH LINE OF LOTS 63, 43, 42, AND 41, A DISTANCE OF 347.97 FEET TO A POINT ON THE EAST LINE OF LOT 36 OF SAID SUTTER COURT; THENCE NORTH 01 • 10' 00" EAST ALONG THE EAST LINE OF LOTS 36, 37, 38, AND 39, A DISTANCE OF 146.96 FEET TO THE SOUTHEAST CORNER OF LOT 40 OF SAID SUTTER COURT; THENCE NORTH 61° 21' 30" WEST ALONG THE SOUTH LINE OF SAID LOT 40, A DISTANCE OF 78.00 FEET TO THE POINT OF BEGINNING; SAID PARCEL BEING FURTHER DESCRIBED AS THAT CERTAIN PARCEL SHOWN ON RECORD OF SURVEY FOR MARK TURNER, FLIED IN BOOK 14, RECORDS OF SURVEYS, PAGE 149, SUTTER COUNTY RECORDS.

APN: 52-161-042

LOT DATA:

A.P.N.:	52-161-042
TOTAL ACREAGE:	87,991 SF (2.02 AC)
EXISTING PARCELS:	1
PROPOSED PARCELS:	3
EXISTING ZONE:	C-3 GENERAL COMMERCIAL
PROPOSED ZONE:	SAME

General Notes

1. ACCESS SERVING PARCELS 1, 2, AND 3 IS FROM COLUSA AVENUE.
2. PARCEL 1 ALSO HAS ACCESS FROM OLIVE STREET.
3. RECIPROCAL CROSS-ACCESS AND PARKING WILL BE PROVIDED.

Flood Zone Classification

THIS PROPERTY DOES NOT LIE WITHIN A FLOODPLAIN

Surveyor Note

PREPARED BY OR UNDER THE SUPERVISION OF
ANDREW KLINSTIVER, III, L.S. 7182
andy@milestone-ae.com

TENTATIVE PARCEL MAP 24-__

for CLARK and 20 DEVELOPMENT, LP

A parcel of land being a portion of the Northeast Quarter of Section 22, as projected into Lot 38 of New Helvetia Rancho, in Township 15 North, Range 3 East, M.D.B.&M. in Yuba City.

County of SUTTER State of CALIFORNIA

SEPTEMBER 2024 Sheet 1 of 1

Milestone Associates
Imagineering
1000 LINCOLN ROAD, STE. H202, YUBA CITY, CA 95991
TEL (530) 755-4700 FAX (530) 755-4567

PREPARED BY OR UNDER THE SUPERVISION
OF ANDREW KLINSTIVER, III, L.S. 7182

2.12. Other Public Agencies Whose Approval May be Required.

- Feather River Air Quality Management District, Dust Control Plan, Indirect Source Review.
- Central Valley Regional Water Quality Control Board.

2.13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

All geographically relevant Native American tribes were timely notified of the Project, and consultation was not requested.

2.14. Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist and subsequent discussion on the following pages.

	Aesthetics		Agriculture & Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
X	Geology/Soils	X	Greenhouse Gas Emissions		Hazzard & Hazardous Materials
	Hydrology/Water Quality		Land Use Planning		Mineral Resources
X	Noise		Population/Housing		Public Services
	Recreation		Transportation	X	Tribal Cultural Resources
	Utilities/Service Systems		Wildfire		Mandatory Findings of Significance

Determination: On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has

been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that, although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Doug Libby

Signature

February 7, 2025
Date

Doug Libby, AICP, Deputy Director of Development Services

2.15. Evaluation of Environmental Impacts:

A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

"Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described below, may be cross referenced). A Mitigated Negative Declaration also requires preparation and adoption of a Mitigation Monitoring and Reporting Program (MMRP)

Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. In this case, a brief discussion should identify the following:

Earlier Analysis Used: Identify and state where they are available for review.

Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they addressed site-specific conditions for the project.

Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts. Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

3. Environmental Checklist and Impact Evaluation

The following section presents the initial study checklist recommended by the California Environmental Quality Act (CEQA; Appendix G) to determine potential impacts of a project. Explanations of all answers are provided following each question, as necessary.

3.1. Aesthetics

Table 3-1: Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) In nonurbanized areas substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	

3.1.1. Environmental Setting/Affected Environment

Background views are generally considered to be long-range views in excess of 3 to 5 miles from a vantage point. Background views surrounding the project site are limited due to the flat nature of the site and the surrounding urban landscape. Overall, the vast majority of Sutter County is relatively flat, with the Sutter Buttes being the exception. The Sutter Buttes, located several miles northwest of the Project site, are visibly prominent throughout Yuba City and Sutter County. The Sutter Buttes comprise the long-range views to the northwest and are visible from the much of the City, except in areas where trees or intervening structures block views of the mountain range.

The City's General Plan, more specifically the Community Design Element "establishes policies to ensure the creation of public and private improvements that will maintain and enhance the image, livability, and aesthetics of Yuba City in the years to come."

The following principles and policies are applicable:

- Maintain the identity of Yuba City as a small-town community, commercial hub, and residential community, surrounded by agricultural land and convey, through land uses and design amenities, Yuba City's character and place in the Sacramento Valley.

- Recognizing the livability and beauty of peer communities with highly designed visual landscapes, commit to a focus on the visual landscape of Yuba City.
- Maintain, develop, and enhance connections between existing and planned neighborhoods.
- Create and build upon a structured open space and parks network, centered on two large urban parks and the Feather River Corridor.
- Strive for lush, landscaped public areas marked by extensive tree plantings.
- Design commercial and industrial centers to be visually appealing, to serve both pedestrians and automobiles, and to integrate into the adjacent urban fabric.

In addition to the City's General Plan, the City provides Design Guidelines. The goal of the City's design guidelines is to ensure the highest quality of building design: designs that are aesthetically pleasing; designs that are compatible with the surroundings in terms of scale, mass, detailing, and building patterns; designs that accommodate the pedestrian, automobile, bicycle, and transit circulation; and designs that consider public safety, public interaction, and historic resources. The design guidelines apply to all commercial development, including this proposed commercial building.

3.1.2. Federal Regulatory Setting

Federal regulations relating to aesthetics include Organic Administration Act (1897), Multiple Use – Sustained Yield Act (1960), Wilderness Act (1964), Federal Lands Policy and Management Act (1976), Wild and Scenic Rivers Act. The proposed Project is not subject to these regulations since there are no federally designated lands or rivers in the vicinity.

3.1.3. State Regulatory Setting

The California State Scenic Highway Program was created by the California Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. The corridor protection program does not preclude development but seeks to encourage quality development that does not degrade the scenic value of the corridor. Jurisdictional boundaries of the nominating agency are also considered. The agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program. County and city roads can also become part of the Scenic Highway System. To receive official designation, the county or city must follow the same process required for official designation of state scenic highways. There are no designated state or local scenic highways in the vicinity of the Project site.

California Building Code Title 24 Outdoor Lighting Standards: The requirements vary according to which "Lighting Zone" the equipment is in. The Standards contain lighting power allowances for newly installed equipment and specific alterations that are dependent on which Lighting Zone the project is located in. Existing outdoor lighting systems are not required to meet these lighting power allowances. However, alterations that increase the connected load, or replace more than 50 percent of the existing luminaires, for each outdoor lighting application that is regulated by the Standards, must meet the lighting power allowances for newly installed equipment.

An important part of the Standards is to base the lighting power that is allowed on how bright the surrounding conditions are. The eyes adapt to darker surrounding conditions, and less light is needed to properly see; when the surrounding conditions get brighter, more light is needed to see. The least power is allowed in Lighting Zone 1 and increasingly more power is allowed in Lighting Zones 2, 3, and 4. By default, government designated parks, recreation areas and wildlife preserves are Lighting Zone 1; rural areas are Lighting Zone 2; and urban areas are Lighting Zone 3. Lighting Zone 4 is a special use district that may be adopted by a local government. The proposed Project is located in an urban area; thereby, it is in Lighting Zone 3.

3.1.4. Impact Assessment/Environmental Consequences:

a) Have a substantial adverse effect on a scenic vista?

The property is located within the urban area on the Colusa Avenue commercial strip (State Highway 20). From Colusa Avenue passers-by, this proposal for single-story commercial buildings will be seen as similar in appearance, size and height to neighboring commercial buildings. As such the scenic views would remain similar to what now exists. There are no scenic vistas proximate to this project site so potential impacts are considered to be a less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no designated scenic areas within Yuba City or Sutter County, so there would be no impacts on a designated scenic area.

The vacant site is unremarkable in that it is flat with no topographic features, rock outcroppings, large trees or buildings. Therefore, damage to the scenic resources associated with development of this property is considered to be a less than significant impact.

c) In nonurbanized areas substantially degrade the existing visual character of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point. If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

The proposed site improvements and buildings are subject to the City's adopted Design Guidelines as well as all development standards including landscaping, lighting, parking, trash enclosure, etc., which will be considered by the Planning Commission. The current view of the property is of an infill site - vacant property surrounded by developed properties, well within the urban area. The preliminary determination by City Staff is that the proposed car wash building will meet the City's design criteria and all site development standards. At this time there is no specific quick service restaurant proposed

or its design. The design review of that facility will occur following the conclusion of this process if and when a specific design is proposed. It will be conducted by staff. For purposes of this study, it is assumed that the proposal will meet required citywide design and development standards. As such the impacts from the Project from a design standpoint are expected to be less than significant.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

The property is located within the urban area with existing street lighting and a signal at the nearby intersection. This Project, with its outdoor parking lot lighting, will generate lighting that is typically expected around a commercial use. The businesses will generate more outdoor light than nearby residential areas, but the residences will be screened by a six-foot high masonry wall, a row-hedge and trees and all onsite lighting will comply with the City's existing standards for height and shielding. Therefore, the Project lighting is not expected to generate any significant adverse effects on local residences or other sensitive uses and the impact is considered to be less than significant.

3.2. Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared (1997) by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

Table 3-2: Agricultural and Forestry Resources

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

3.2.1. Environmental Setting/Affected Environment

Sutter County is located within the northern portion of California's Central Valley in the area known as the Sacramento Valley. It contains some of the richest soils in the State. These soils, combined with abundant surface and subsurface water supplies and a long, warm growing season, make Sutter County's agricultural resources very productive. Sutter County is one of California's leading agricultural counties, with 83 percent of the County's total land acreage currently being used for agricultural purposes. However, while Sutter County provides rich agricultural opportunities, the subject site is within an urban area and has been designated for urban uses for many years.

3.2.2. Federal Regulatory Setting

Farmland Protection Policy Act: The Natural Resources Conservation Service (NRCS), a federal agency within the U.S. Department of Agriculture (USDA), is the agency primarily responsible for implementation of the Farmland Protection Policy Act (FPPA). The FPPA was enacted after the 1981 Congressional report, Compact Cities: Energy-Saving Strategies for the Eighties indicated that a great deal of urban sprawl was the result of programs funded by the federal government. The purpose of the FPPA is to minimize federal programs' contribution to the conversion of farmland to non-agricultural uses by ensuring that federal programs are administered in a manner that is compatible with state, local, and private programs designed to protect farmland. Federal agencies are required to develop and review their policies and procures to implement the FPPA every two years (USDA-NRCS, 2011).

2014 Farm Bill: The Agricultural Act of 2014 (the Act), also known as the 2014 Farm Bill, was signed by President Obama on Feb. 7, 2014. The Act repeals certain programs, continues some programs with modifications, and authorizes several new programs administered by the Farm Service Agency (FSA). Most of these programs are authorized and funded through 2018.

The Farm Bill builds on historic economic gains in rural America over the past five years, while achieving meaningful reform and billions of dollars in savings for the taxpayer. It allows USDA to continue record accomplishments on behalf of the American people, while providing new opportunity and creating jobs across rural America. Additionally, it enables the USDA to further expand markets for agricultural products at home and abroad, strengthen conservation efforts, create new opportunities for local and regional food systems and grow the bio-based economy. It provides a dependable safety net for America's farmers, ranchers and growers and maintains important agricultural research, and ensure access to safe and nutritious food for all Americans.

Forestry Resources: Federal regulations regarding forestry resources are not relevant to the proposed Project because no forestry resources exist on the project site or in the vicinity.

3.2.3. State Regulatory Setting

California Environmental Quality Act (CEQA) Definition of Agricultural Lands: Public Resources Code Section 21060.1 defines "agricultural land" for the purposes of assessing environmental impacts using the Farmland Mapping & Monitoring Program (FMMP). The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

California Department of Conservation, Division of Land Resource Protection: The California Department of Conservation (DOC) applies the NRCS soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. Pursuant to the DOC's FMMP, these designated agricultural lands are included in the Important Farmland Maps (IFM) used in planning for the present and future of California's agricultural land resources. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

The list below provides a comprehensive description of all the categories mapped by the DOC. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is referred to as Farmland.

- *Prime Farmland.* Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- *Farmland of Statewide Importance.* Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- *Unique Farmland.* Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- *Farmland of Local Importance.* Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- *Grazing Land.* Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- *Urban and Built-up Land.* Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- *Other Land.* Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act): The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Section

51200-51297.4, and therefore is applicable only to specific land parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. However, an agricultural preserve must consist of no less than 100 acres. In order to meet this requirement two or more parcels may be combined if they are contiguous, or if they are in common ownership.

The Williamson Act program is administered by the Department of Conservation (DOC), in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period, or a 20-year period for property restricted by a Farmland Security Zone Contract, wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. An application for immediate cancellation can also be requested by the landowner, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city. Non-renewal or immediate cancellation does not change the zoning of the property. Participation in the Williamson Act program is dependent on county adoption and implementation of the program and is voluntary for landowners.

Farmland Security Zone Act: The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35% reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses.

Forestry Resources: State regulations regarding forestry resources are not relevant to the proposed Project because no forestry resources exist on the project site or in the vicinity.

3.2.4. Impact Assessment/Environmental Consequences:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The approximately 2.02-acre site is designated by the 2018 Department of Conservation Important Farmland Map for Sutter County as "Urban and Built-Up Land" as it is well within the developed urban area. The Project site is not considered to be Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The property is small for agricultural use and surrounded by urban uses that are typically not considered to be compatible with agricultural uses. For these reasons there will be no impacts of this proposal on the conversion of agricultural land to non-agricultural uses.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The proposed Project site is currently zoned for urban type uses and is not under a Williamson Act contract. There will therefore be no impact related to a Williamson Act contract. See discussion above under item 3.2.4.a.

c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4256), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The proposed Project is located in the Sacramento Valley in a relatively flat area that may at one time been utilized for agriculture but commercially developed years ago for urban use. There is no timberland located on the Project site or within the vicinity. There will be no impact on existing zoning of forestland and the proposed Project will not cause the rezoning of any forestlands.

d) Result in the loss of forestland or conversion of forest land to non-forest use?

There is no forested land on the Project site or within the vicinity of the Project; therefore, there will be no impact on forest land.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The urban property is surrounded by properties already served by City services and developed with urban uses. There are no forestlands on the Project site or in the vicinity. No properties within the area are under a Williamson Act contract. Therefore, as there are no neighboring agricultural lands or forested lands, there will be no impacts on agricultural or forest lands.

3.3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Table 3-3: Air Quality				
Would the project?	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?			X	

3.3.1. Environmental Setting/Affected Environment

Yuba City is located within the Sacramento Valley Air Basin (SVAB), which consists of the northern half of the Central Valley and approximates the drainage basin for the Sacramento River and its tributaries. The SVAB is bounded on the west by the Coast Range, on the north by the Cascade Range, on the east by the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. The intervening terrain is flat, and approximately 70 feet above sea level. The SVAB consists of the counties of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba and portions of Placer and Solano Counties.

Hot dry summers and mild rainy winters characterize the Mediterranean climate of the Sacramento Valley. The climate of the SVAB is dominated by the strength and position of the semi-permanent high-pressure cell over the Pacific Ocean north of Hawaii. In summer, when the high-pressure cell is strongest and farthest north, temperatures are high and humidity is low, although the incursion of the sea breeze into the Central Valley helps moderate the summer heat. In winter, when the high-pressure cell is weakest and farthest south, conditions are characterized by occasional rainstorms interspersed with stagnant and sometimes foggy weather. Throughout the year, daily temperatures may range from summer highs often exceeding 100 degrees Fahrenheit and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

In addition to prevailing wind patterns that control the rate of dispersion of local pollutant emissions, the region experiences two types of inversions that affect the vertical depth of the atmosphere through which pollutants can be mixed. In the warmer months in the SVAB (May through October), sinking air forms a "lid" over the region. These subsidence inversions contribute to summer photochemical smog problems by confining pollution to a shallow layer near the ground. These

warmer months are characterized by stagnant morning air or light winds with the delta sea breeze arriving in the afternoon out of the southwest. Usually, the evening breeze transports the airborne pollutants to the north and out of the SVAB. During about half of the day from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating federal or State standards. The Schultz Eddy normally dissipates around noon when the Delta sea breeze begins. In the second type of inversion, the mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants in the valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The air near the ground cools by radiative processes, while the air aloft remains warm. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. These inversions typically occur during winter nights and can cause localized air pollution "hot spots" near emission sources because of poor dispersion. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air and pollutants near the ground. Although these subsidence and radiative inversions are present throughout much of the year, they are much less dominant during spring and fall, and the air quality during these seasons is generally good."

Local Climate: The climate of Sutter County is subject to hot dry summers and mild rainy winters, which characterize the Mediterranean climate of the SVAB. Summer temperatures average approximately 90 degrees Fahrenheit during the day and 50 degrees Fahrenheit at night. Winter daytime temperatures average in the low 50s and nighttime temperatures are mainly in the upper 30s. During summer, prevailing winds are from the south. This is primarily because of the north-south orientation of the valley and the location of the Carquinez Straits, a sea-level gap in the coast range that is southwest of Sutter County.

Criteria Air Pollutants: Criteria air pollutants are a group of pollutants for which federal or State regulatory agencies have adopted ambient air quality standards. Criteria air pollutants are classified in each air basin, county, or in some cases, within a specific urbanized area. The classification is determined by comparing actual monitoring data with State and federal standards. If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "non-attainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

Ambient Air Quality Standards: Both the federal and state government have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The federal and state ambient air quality standards have been set at levels whose concentrations could be generally harmful to human health and welfare and to protect the most sensitive persons from experiencing health impacts with a margin of safety. Applicable ambient air quality standards are identified later in this section. The air pollutants for which federal and State standards have been promulgated and which are most relevant to air quality planning and regulation in the air basins include ozone, carbon monoxide, nitrogen oxides, suspended particulate matter, sulfur dioxide, and lead. In addition, toxic air contaminants are of concern in Sutter County. Each of these pollutants is briefly described below.

Ozone (O3): is a gas that is formed when reactive organic gases (ROGs) and nitrogen oxides (NOX), both byproducts of internal combustion engine exhaust and other processes undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

Carbon Monoxide (CO): is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the SVAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Nitrogen Oxides (NOX): is the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Many of the nitrogen oxides are colorless and odorless. However, one common pollutant, nitrogen dioxide (NO2) along with particles in the air can often be seen as a reddish-brown layer over many urban areas. Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOX are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels.

Nitrogen oxides can also be formed naturally.

Respirable Particulate Matter (PM10) and Fine Particulate Matter (PM2.5): consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of suspended particulate matter, like pollen and windstorms, occur naturally. However, in populated areas, most fine suspended particulate matter is caused by road dust, diesel soot, and combustion products, abrasion of tires and brakes, and construction activities.

Sulfur Dioxide (SO2): is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of the burning of high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.

Lead: occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead. Since the use of leaded gasoline is no longer permitted for on-road motor vehicles, lead is not a pollutant of concern in the SVAB.

Toxic Air Contaminants (TACs): are known to be highly hazardous to health, even in small quantities. TACs are airborne substances capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects (i.e., injury or illness). TACs can be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations.

TAC impacts are assessed using a maximum individual cancer risk (MICR) that estimates the probability of a potential maximally exposed individual (MEI) contracting cancer as a result of sustained exposure to toxic air contaminants over a constant period of 24 hours per day for 70 years for residential receptor locations. The CARB and local air districts have determined that any stationary source posing an incremental cancer risk to the general population (above background risk levels) equal to or greater than 10 people out of 1 million to be excessive. For stationary sources, if the incremental risk of exposure to project-related TAC emissions meets or exceeds the threshold of 10 excess cancer cases per 1 million people, the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold. To assess risk from ambient air concentrations, the CARB has conducted studies to

determine the total cancer inhalation risk to individuals due to outdoor toxic pollutant levels. The CARB has conducted studies to determine the total cancer inhalation risk to individuals due to outdoor toxic pollutant levels. According to the map prepared by the CARB showing the estimated inhalation cancer risk for TACs in the State of California, Sutter County has an existing estimated risk that is between 50 and 500 cancer cases per 1 million people. A significant portion of Sutter County is within the 100 to 250 cancer cases per 1 million people range. There is a higher risk around Yuba City where the cancer risk is as high as 500 cases per 1 million people. There are only very small portions of the County where the cancer risk is between 50 and 100 cases. This represents the lifetime risk that between 50 and 500 people in 1 million may contract cancer from inhalation of toxic compounds at current ambient concentrations under an MEI scenario.

3.3.2. Federal Regulatory Setting

Clean Air Act: The federal Clean Air Act of 1970 (as amended in 1990) required the U.S. Environmental Protection Agency (EPA) to develop standards for pollutants considered harmful to public health or the environment. Two types of National Ambient Air Quality Standards (NAAQS) were established. Primary standards protect public health, while secondary standards protect public welfare, by including protection against decreased visibility, and damage to animals, crops, landscaping and vegetation, or buildings. NAAQS have been established for six "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), ozone (O3), particulate matter (PM10 and PM2.5), and lead (Pb).

3.3.3. State Regulatory Setting

California Air Resources Board: The California Air Resources Board (CARB) is the state agency responsible for implementing the federal and state Clean Air Acts. CARB has established California Ambient Air Quality Standards (CAAQS), which include all criteria pollutants established by the NAAQS, but with additional regulations for Visibility Reducing Particles, sulfates, hydrogen sulfide (H2S), and vinyl chloride. The proposed Project is located within the Sacramento Valley Air Basin, which includes Butte, Colusa, Glenn, Tehama, Shasta, Yolo, Sacramento, Yuba Sutter and portions of Placer, El Dorado and Solano counties. Air basins are classified as attainment, nonattainment, or unclassified. The FRAQMD is comprised Sutter and Yuba Counties. Attainment is achieved when monitored ambient air quality data is in compliance with the standards for a specified pollutant. Non-compliance with an established standard will result in a nonattainment designation and an unclassified designation indicates insufficient data is available to determine compliance for that pollutant.

California Clean Air Act: The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO2, and NO2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

CARB Portable Equipment Registration Program: This program was designed to allow owners and operators of portable engines and other common construction or farming equipment to register their

equipment under a statewide program so they may operate it statewide without the need to obtain a permit from the local air district.

U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program: The California Clean Air Act (CCAA) requires CARB to achieve a maximum degree of emissions reductions from off-road mobile sources to attain State Ambient Air Quality Standards (SAAQS); off- road mobile sources include most construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996. These standards, along with ongoing rulemaking, address emissions of nitrogen oxides (NOX) and toxic particulate matter from diesel engines. CARB is currently developing a control measure to reduce diesel PM and NOX emissions from existing off-road diesel equipment throughout the state.

California Global Warming Solutions Act: Established in 2006, Assembly Bill 32 (AB 32) requires that California's GHG emissions be reduced to 1990 levels by the year 2020. This will be implemented through a statewide cap on GHG emissions, which will be phased in beginning in 2012. AB 32 requires CARB to develop regulations and a mandatory reporting system to monitor global warming emissions level.

3.3.4. Regional Regulatory Setting

Feather River Air Quality Management District (FRAQMD): The FRAQMD is a bi-county district formed in 1991 to administer local, state, and federal air quality management programs for Yuba and Sutter Counties within the Sacramento Valley Air Basin. The goal of the FRAQMD is to improve air quality in the region through monitoring, evaluation, education and implementing control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations and by supporting and implementing measures to reduce emissions from motor vehicles.

The FRAQMD adopted its Indirect Source Review guidelines document for assessment and mitigation of air quality impacts under CEQA in 1998. The guide contains criteria and thresholds for determining whether a project may have a significant adverse impact on air quality, and methods available to mitigate impacts on air quality. FRAQMD updated its Indirect Source Review Guidelines to reflect the most recent methods recommended to evaluate air quality impacts and mitigation measures for land use development projects in June 2010. This analysis uses guidance and thresholds of significance from the 2010 FRAQMD Indirect Source Review Guidelines to evaluate the proposed project's air quality impacts.

According to FRAQMD's 2010 Indirect Source Review Guidelines, a project would be considered to have a significant impact on air quality if it would:

- Generate daily construction or operational emissions that would exceed 25 pounds per day for reactive organic gases (ROG), 25 pounds per day for oxides of nitrogen (NOX), or 80 pounds per day for PM10; or generate annual construction or operational emissions of ROG or NOX that exceed 4.5 tons per year.

Northern Sacramento Valley Planning Area 2015 Air Quality Attainment Plan: As specified in the California Clean Air Act of 1988 (CCAA), Chapters 1568-1588, it is the responsibility of each air district in California to attain and maintain the state's ambient air quality standards. The CCAA requires that an Attainment Plan be developed by all nonattainment districts for O3, CO, SOx, and NOx that are either receptors or contributors of transported air pollutants. The purpose of the Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan (TAQAP) is to comply

with the requirements of the CCAA as implemented through the California Health and Safety Code. Districts in the NSVPA are required to update the Plan every three years. The TAQAP is formatted to reflect the 1990 baseline emissions year with a planning horizon of 2020. The Health and Safety Code, sections 40910 and 40913, require the Districts to achieve state standards by the earliest practicable date to protect the public health, particularly that of children, the elderly, and people with respiratory illness.

Health and Safety Code Section 41503(b): Requires that control measures for the same emission sources are uniform throughout the planning area to the extent that is feasible. To meet this requirement, the NSVPA has coordinated the development of an Attainment Plan and has set up a specific rule adoption protocol. The protocol was established by the Technical Advisory Committee of the Sacramento Valley Basin-wide Air Pollution Control Council and the Sacramento Valley Air Quality Engineering and Enforcement Professionals, which allow the Districts in the Basin to act and work as a united group with the CARB as well as with industry in the rule adoption process. Section 40912 of the Health and Safety Code states that each District responsible for, or affected by, air pollutant transport shall provide for attainment and maintenance of the state and federal standards in both upwind and downwind Districts. This section also states that each downwind District's Plan shall contain sufficient measures to reduce emissions originating in each District to below levels which violate state ambient air quality standards, assuming the absence of transport contribution

Construction Generated Emissions of Criteria Air Pollutants: The District recommends the following best management practices:

- Implement the Fugitive Dust Control Plan.
- Construction equipment exhaust emissions shall not exceed FRAQMD Regulation III, Rule 3.0,
- Visible Emissions limitations (40 percent opacity or Ringelmann 2.0).
- The contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation.
- Limiting idling time to 5 minutes – saves fuel and reduces emissions.
- Utilize existing power sources or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
- Portable engines and portable engine-driven equipment units used at the Project work site, with the exception of on-road and off-road motor vehicles, may require California Air Resources Board (ARB) Portable Equipment Registration with the State or a local district permit. The owner/operator shall be responsible for arranging appropriate consultations with the ARB or the District to determine registration and permitting requirements prior to equipment operation at the site.

3.3.5. Impact Assessment/Environmental Consequences:

a) Conflict with or obstruct implementation of the applicable air quality plan?

A technical memorandum titled "Town Center Air Quality Study, Yuba City, California" (Air Quality Study) was prepared for this Project by Environmental Permitting Specialists dated November 5, 2024 (A copy of the complete study is attached as Appendix A). As the study directly answered the CEQA questions below, much of this response is quoted from that study.

Table 2 below provides a summary of the anticipated air pollutants generated by the Project and compared to adopted thresholds of significance.

Table 2:
Comparison of Project Emissions with Thresholds of Significance
(in pounds per day)

	Phase		Significance Threshold	Exceeds Threshold?
	Construction	Operational		
ROG	3.66	5.77	25	No
NOx	3.22	3.02	25	No
PM 10	3.51	2.07	80	No
PM 2.5	1.87	0.55	Not Established	N/A
Note: Annual emissions are below 1 ton/year for all pollutants for both phases and therefore are less than the significant threshold of 4.5 tons/year.				

Source: Air Quality Study

Per the air quality Study "Emissions from this Project would not obstruct implementation of an applicable Plan as the Project does not generate any new emissions on a regional scale. Air Quality Plans are prepared for a region or a county and not on a project level. So, while the project would generate emissions locally (within the Project site), there would not be any change in emissions on a regional scale. There are 18 other car washes and 20 other fast-food restaurants within 2.5 miles of the project. The current project shifts in emissions away from other facilities. If the current project were not built, the public would use one of the other fast-food restaurants or car washes." Even though the number of nearby car washes mentioned in the Air Quality Study seems high, the concept is understood. The impacts would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Study states that "The emissions associated with this project are more than one tenth of the values considered significant. As a result, no violations of the air quality standards will occur." *The impacts would be less than significant.*

c) Expose sensitive receptors to substantial pollutant concentrations?

The FRAQMD defines sensitive receptors as: facilities that house or attract children, the elderly, and people with illnesses, or others who are especially sensitive to the effects of air pollutants. Per the Air Quality Study "Emission rates are too small to subject nearby sensitive receptors. Note that there are no air quality standards for VOCs or Rog. The maximum daily emission rates for the remaining air pollutants range from below 0.0001 pounds/day to 3.8 pounds/day. These rates are too small to subject sensitive receptors to substantial pollutant concentration." As such, the impacts on sensitive receptors would be less than significant.

d) Result in other emissions such as those leading to odors adversely affecting a substantial number of people?

As stated in the Air Quality Study "There are no sources of odorous emissions with the operation of a carwash. There might be slight odors from food preparation." Even though there may be some food preparation/cooking odors, they are not atypical odors nor are they normally considered offensive. As such, the impacts from odors would be less than significant.

3.4. Biological Resources

Table 3.4: Biological Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on states or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

3.4.1. Environmental Setting/Affected Environment

The 2.02 acres are level, vacant, and within the Yuba City urbanized area. The property is surrounded by existing single-family residences, commercial development, and public streets. There are no riparian areas or known critical habitat areas on-site or in the immediate vicinity.

3.4.2. Federal & State Regulatory Setting

Threatened and Endangered Species: State and federal "endangered species" legislation has provided California Department of Fish & Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are

collectively referred to as "species of special status." Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Migratory Birds: State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Birds of Prey: Birds of prey are also protected in California under provisions of the California Fish and Game Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Wetlands and Other Jurisdictional Waters: Natural drainage channels and adjacent wetlands may be considered "Waters of the United States" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts.

Waters of the U.S. generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters, which are subject to the ebb and flow of the tide.
- All interstate waters including interstate wetlands.
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated Carabell/Rapanos decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable, and therefore, jurisdictional water.

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high-

water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

CEQA Guidelines Section 15380: Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria that define "endangered" and "rare" as specified in CEQA Guidelines section 15380(b).

3.4.3. Local Regulatory Setting

The General Plan provides the following policies for the protection of biological resources within the Project area:

8.4-G-1 Protect special status species, in accordance with State regulatory requirements.

8.4-G-2 Protect and enhance the natural habitat features of the Feather River and new open space corridors within and around the urban growth area.

8.4-G-3 Preserve and enhance heritage oaks in the Planning Area.

8.4-G-4 Where appropriate, incorporate natural wildlife habitat features into public landscapes, parks, and other public facilities

8.4-I-1 Require protection of sensitive habitat area and special status species in new development site designs in the following order: 1) avoidance; 2) onsite mitigation; 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species.

8.4-I-2 Require preservation of oak trees and other native trees that are of a significant size, by requiring site designs to incorporate these trees to the maximum extent feasible.

8.4-I-3 Require to the extent feasible, use of drought tolerant plants in landscaping for new development, including private and public projects.

3.4.4. Impact Assessment/Environmental Consequences:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The site has previously been built on, then cleared of buildings and parking lot. A review of the site identified no trees, no wetland areas or creek corridors, or areas that appear to be sensitive habitat. And the site is surrounded by urban development. The site is about a mile from the Feather River and

its bordering riparian habitat. Per the EIR prepared for the General Plan update, there were no known special status species identified within by the General Plan in the vicinity. Therefore, the impact on biological resources would be less than significant.

c) Have a substantial adverse effect on states or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No wetlands or federal jurisdictional waters of the U.S. are present within the proposed Project area or general vicinity. There would be no impact on any wetland areas or waterways.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed Project would not disturb any waterways, as the nearest waterway is the Feather River, being over one-half mile to the east. Therefore, migratory fish would not be affected. Nor are there any trees on the property that could be potential nesting habitat for raptors and migratory birds that may choose to nest in the vicinity of the Project. As such there would be no significant impacts on fish or wildlife habitat.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No trees or other known biological resources that would be protected by local policies or ordinances remain on the proposed Project site. Therefore, there would be no significant impacts on biological resources caused by this Project.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or any other approved local, regional, or state habitat conservation plans in the vicinity of this Project. As a result, no impacts are anticipated.

3.5. Cultural Resources

Table 3.5: Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.			X	
b) Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5.		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

3.5.1. Federal Regulatory Setting

National Historic Preservation Act of 1966 (as amended), Section 106: The significance of cultural resources is evaluated under the criteria for inclusion in the National Register of Historic Places (NRHP), authorized under the National Historic Preservation Act of 1966, as amended. The criteria defined in 36 CFR 60.4 are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or may be likely to yield, information important to prehistory or history.

Sites listed or eligible for listing on the NRHP are considered to be historic properties. Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP.

3.5.2. State Regulatory Setting

CEQA requires consideration of project impacts on archaeological or historical sites deemed to be "historical resources." Under CEQA, a substantial adverse change in the significant qualities of a historical resource is considered a significant effect on the environment. For the purposes of CEQA, a "historical resource" is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (Title 14 CCR §15064.5[a][1]-[3]). Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC §5020.1[j]).

The eligibility criteria for the California Register are the definitive criteria for assessing the significance of historical resources for the purposes of CEQA (Office of Historic Preservation). Generally, a resource is considered "historically significant" if it meets one or more of the following criteria for listing on the California Register:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1[c])

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, § 4852(c)).

Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC §5020.1[j]).

California Health and Safety Code Section 7050.5: Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

3.5.3. Native American Consultation

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archaeological resources (PRC § 21074; 21083.09). AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC § 21080.3.1, 21080.3.2, 21082.3).

In response to AB 52, the City supplied the following Native American tribes with a Project description and map of the proposed Project area and a request for comments:

- United Auburn Indian Community of the Auburn Rancheria
- Yocha Dehe Wintun Nation
- Estom Yomeka Maidu Tribe of the Enterprise Rancheria
- Mechoopda Indian Tribe

- Pakan'yani Maidu of Strawberry Valley
- Mooretown Rancheria of Maidu Indians
- Ione Band of Miwok Indians

Additional detail on tribal comments is provided in Section 3.18, Tribal Cultural Resources.

3.5.4. Impact Assessment/Environmental Consequences:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

There are no existing structures on the property as the site was previously cleared of any structures. As such, the potential for a significant impact to any historical resources, directly or indirectly, is less than significant.

b) Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5.

No tribes responded to the City's request for comments on the Project, so it is unlikely that any archeological resources are present. However, there still remains the potential for previously unknown sub-surface resources to be present. As such the "Unanticipated Discoveries" mitigation should be utilized. This mitigation measure is provided in Section 3.18 to ensure impacts on any potential cultural resources remain less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries?

The property was previously developed and cleared and is now vacant. No formal cemeteries or other places of human internment are known to exist on the proposed Project site. See b) above for unanticipated discoveries.

3.6. Energy

Table 3-6: Energy				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

3.6.1 State Regulatory Setting

California has implemented numerous energy efficiency and conservation programs that have resulted in substantial energy savings. The State has adopted comprehensive energy efficiency standards as part of its Building Standards Code, California Codes of Regulations, Title 24. In 2009, the California Building Standards Commission adopted a voluntary Green Building Standards Code, also known as CALGreen, which became mandatory in 2011. Both Title 24 and CALGreen are implemented by the City of Yuba City in conjunction with its processing of building permits.

CALGreen sets forth mandatory measures, applicable to new residential and nonresidential structures as well as additions and alterations, on water efficiency and conservation, building material conservation, interior environmental quality, and energy efficiency. California has adopted a Renewables Portfolio Standard, which requires electricity retailers in the state to generate 33% of electricity they sell from renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) by the end of 2020. In 2018, SB 100 was signed into law, which increases the electricity generation requirement from renewable sources to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

3.6.2. Impact Assessment/Environmental Consequences

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Project construction would involve fuel consumption and use of other non-renewable resources. Construction equipment used for such improvements typically operate on diesel fuel or gasoline. The same fuels typically are used for vehicles that transport equipment and workers to and from a construction site. However, construction-related fuel consumption would be finite, short-term, and consistent with construction activities of a similar character. This energy use would not be considered wasteful, inefficient, or unnecessary.

Electricity may be used for equipment operation during construction activities. It is expected that more electrical construction equipment would be used in the future, as it would generate fewer air pollutant and GHG emissions. This electrical consumption would be consistent with construction activities of a similar character; therefore, the use of electricity in construction activities would not be considered wasteful, inefficient, or unnecessary, especially since fossil fuel consumption would be reduced. Moreover, under California's Renewables Portfolio Standard, a greater share of electricity would be provided from renewable energy sources over time, so less fossil fuel consumption to generate electricity would occur.

The Project would be required to comply with CALGreen and with the building energy efficiency standards of California Code of Regulations Title 24, Part 6 in effect at the time of Project approval. Compliance with these standards would reduce energy consumption associated with Project operations, although reductions from compliance cannot be readily quantified. Overall, Project construction would typically not consume energy resources in a manner considered wasteful, inefficient, or unnecessary.

Project impacts related to energy consumption are considered less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed Project would be required to be consistent with applicable state and local plans to increase energy efficiency. Thus, the Project's impacts on energy usage would be less than significant.

3.7. Geology and Soils

Table 3.7: Geology and Soils				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly create potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?				X
d) Be located on expansive soil, as defined in the California Building Code creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?		X		

3.7.1 Environmental Setting/Affected Environment

Topography and Geology: According to the Sutter County General Plan, Sutter County is located in the flat surface of the Great Valley geomorphic province of California. The Great Valley is an alluvial

plain approximately 50 miles wide and 400 miles long in the central portion of California. The Great Valley's northern portion is the Sacramento Valley, drained by the Sacramento River, and its southern portion is the San Joaquin Valley, drained by the San Joaquin River. The geology of the Great Valley is typified by thick sequences of alluvial sediments derived primarily from erosion of the mountains of the Sierra Nevada to the east, and to a lesser extent, erosion of the Klamath Mountains and Cascade Range to the north. These sediments were transported downstream and subsequently laid down as a river channel, floodplain deposits, and alluvial fans.

Seismic Hazards: Earthquakes are due to a sudden slip of plates along a fault. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks such as water, power, gas, communication, and transportation lines. Other damage-causing effects of earthquakes include surface rupture, fissuring, settlement, and permanent horizontal and vertical shifting of the ground. Secondary impacts can include landslides, seiches, liquefaction, and dam failure.

Seismicity: Although all of California is typically regarded as seismically active, the Central Valley region does not commonly experience strong ground shaking resulting from earthquakes along known and previously unknown active faults. Though no active earthquake faults are known to exist in Yuba City, active faults in the region could generate ground motion felt within the County. Numerous earthquakes of magnitude 5.0 or greater on the Richter scale have occurred on regional faults, primarily those within the San Andreas Fault System in the region. There are several potentially active faults underlying the Sutter Buttes, which are associated with deep-seated volcanism.

The faults identified in Sutter County include the Quaternary Faults, located in the northern section of the County within the Sutter Buttes, and the Pre-Quaternary Fault, located in the southeast of the City, just east of where Highway 70 enters into the County. Both Faults are listed as non-active faults but have the potential for seismic activity.

Ground Shaking: As stated in the Sutter County Multi-Hazard Mitigation Plan, although the County has felt ground shaking from earthquakes with epicenters located elsewhere, no major earthquakes or earthquake related damage has been recorded within the County. Based on historic data and known active or potentially active faults in the region, parts of Sutter County have the potential to experience low to moderate ground shaking. The intensity of ground shaking at any specific site depends on the characteristics of the earthquake, the distance from the earthquake fault, and on the local geologic and soils conditions. Fault zone maps are used to identify where such hazards are more likely to occur based on analyses of faults, soils, topography, groundwater, and the potential for earthquake shaking sufficiently strong to trigger landslide and liquefaction.

Liquefaction: Liquefaction, which can occur in earthquakes with strong ground shaking, is mostly found in areas with sandy soil or fill and a high-water table located 50 feet or less below the ground surface. Liquefaction can cause damage to property with the ground below structures liquefying making the structure unstable causing sinking or other major structural damage. Evidence of liquefaction may be observed in "sand boils," which are expulsions of sand and water from below the surface due to increased pressure below the surface.

Liquefaction during an earthquake requires strong shaking and is not likely to occur in the city due to the relatively low occurrence of seismic activity in the area; however, the clean sandy layers paralleling the Sacramento River, Feather River, and Bear River have lower soil densities and high overall water table are potentially a higher risk area if major seismic activity were to occur. Areas of bedrock, including the Sutter Buttes have high density compacted soils and contain no liquefaction

potential, although localized areas of valley fill alluvium can have moderate to high liquefaction potential.

Landslides: Landslides are downward and outward movements of slope forming materials which may be rock, soil, artificial fill, or combinations of such materials. The size of landslides varies from those containing less than a cubic yard of material to massive ones containing millions of cubic yards. Large landslides may move down slope for hundreds of yards or even several miles. A landslide may move rapidly or so slow that a change of position can be noted only over a period of weeks or years. A similar, but much slower movement is called creep. The susceptibility of a given area to landslides depends on a great many variables. With the exception of the Sutter Buttes, Yuba City is located in a landslide-free zone due to the flat topography. The Sutter Buttes are considered to be in a low landslide hazard zone as shown in Bulletin 198 by the California Division of Mines and Geology.

Soil Erosion: Erosion is a two-step process by which soils and rocks are broken down or fragmented and then transported. The breakdown processes include mechanical abrasion, dissolution, and weathering. Erosion occurs naturally in most systems but is often accelerated by human activities that disturb soil and vegetation. The rate at which erosion occurs is largely a function of climate, soil cover, slope conditions, and inherent soil properties such as texture and structure. Water is the dominant agent of erosion and is responsible for most of the breakdown processes as well as most of the transport processes that result in erosion. Wind may also be an important erosion agent. The rate of erosion depends on many variables including the soil or rock texture and composition, soil permeability, slope, extent of vegetative cover, and precipitation amounts and patterns. Erosion increases with increasing slope, increasing precipitation, and decreasing vegetative cover. Erosion can be extremely high in areas where vegetation has been removed by fire, construction, or cultivation. High rates of erosion may have several negative impacts including degradation and loss of agricultural land, degradation of streams and other water habitats, and rapid silting of reservoirs.

Subsidence: Subsidence is the sinking of a large area of ground surface in which the material is displaced vertically downward, with little or no horizontal movement. Subsidence is usually a direct result of groundwater, oil, or gas withdrawal. These activities are common in several areas of California, including parts of the Sacramento Valley and in large areas of the San Joaquin Valley. Subsidence is a greater hazard in areas where subsurface geology includes compressible layers of silt and clay. Subsidence due to groundwater withdrawal generally affects larger areas and presents a more serious hazard than does subsidence due to oil and gas withdrawal. In portions of the San Joaquin Valley, subsidence has exceeded 20 feet over the past 50 years. In the Sacramento Valley, preliminary studies suggest that much smaller levels of subsidence, up to two feet may have occurred. In most of the valley, elevation data are inadequate to determine positively if subsidence has occurred. However, groundwater withdrawal in the Sacramento Valley has been increasing and groundwater levels have declined in some areas. The amount of subsidence caused by groundwater withdrawal depends on several factors, including: (1) the extent of water level decline, (2) the thickness and depth of the water bearing strata tapped, (3) the thickness and compressibility of silt-clay layers within the vertical sections where groundwater withdrawal is occurring, (4) the duration of maintained groundwater level decline, (5) the number and magnitude of water withdrawals in a given area, and (6) the general geology and geologic structure of the groundwater basin. The damaging effects of subsidence include gradient changes in roads, streams, canals, drains, sewers, and dikes. Many such systems are constructed with slight gradients and may be significantly damaged by even small elevation changes. Other effects include damage to water wells resulting from sediment compaction and increased likelihood of flooding of low-lying areas.

Expansive Soils: Expansive soils are prone to change in volume due to the presence of moisture. Soft clay soils have the tendency to increase in volume when moisture is present and shrink when it is dry (shrink/swell). Swelling soils contain high percentages of certain kinds of clay particles that are capable of absorbing large quantities of water, expanding up to 10 percent or more as the clay becomes wet. The force of expansion is capable of exerting pressure on foundations, slabs, and other confining structures.

Soils: The Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service) has mapped over 40 individual soil units in the county. The predominant soil series in the county are the Capay, Clear Lake, Conejo, Oswald, and Olashes soils, which account for over 60 percent of the total land area. The remaining soil units each account for smaller percentages the total land area. The Capay and Clear Lake soils are generally present in the western and southern parts of the county. The Conejo soils occur in the eastern part closer to the incorporated areas of the county. Oswald and Olashes soils are located in the central portion of the county extending north to south, with scattered areas along the southeastern edge of the county. Soil descriptions for the principal soil units in the county are provided below. These descriptions, which were developed by the NRCS, are for native, undisturbed soils and are primarily associated with agricultural suitability. Soil characteristics may vary considerably from the mapped locations and descriptions due to development and other uses. Geotechnical studies are required to identify actual engineering properties of soils at specific locations to determine whether there are specific soil characteristics that could affect foundations, drainage, infrastructure, or other structural features.

3.7.2 Federal Regulatory Setting

Historic Sites Act of 1935: This Act became law on August 21, 1935 (49 Stat. 666; 16 U.S.C. 461-467) and has been amended eight times. This Act establishes as a national policy to preserve for public use historic sites, buildings, and objects, including geologic formations.

National Earthquake Hazards Reduction Program: The National Earthquake Hazards Reduction Program (NEHRP), which was first authorized by Congress in 1977, coordinates the earthquake-related activities of the Federal Government. The goal of NEHRP is to mitigate earthquake losses in the United States through basic and directed research and implementation activities in the fields of earthquake science and engineering. Under NEHRP, FEMA is responsible for developing effective earthquake risk reduction tools and promoting their implementation, as well as supporting the development of disaster-resistant building codes and standards. FEMA's NEHRP activities are led by the FEMA Headquarters (HQ), Federal Insurance and Mitigation Administration, Risk Reduction Division, Building Science Branch, in strong partnership with other FEMA HQ Directorates, and in coordination with the FEMA Regions, the States, the earthquake consortia, and other public and private partners.

3.7.3 State Regulatory Setting

California Alquist-Priolo Earthquake Fault Zoning Act: The Alquist-Priolo Earthquake Fault Zoning Act (originally enacted in 1972 and renamed in 1994) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The statute prohibits the location of most types of structures intended for human occupancy across the traces of active faults and regulates construction in the corridors along active faults.

California Seismic Hazards Mapping Act: The Seismic Hazards Mapping Act is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Earthquake Fault Zoning Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Uniform Building Code: The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the Uniform Building Code with necessary California amendments. The Uniform Building Code is a widely adopted model building code in the United States published by the International Conference of Building Officials. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.

Paleontological Resources: Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4 (a)(1)). California Public Resources Code Section 5097.5 (see above) also applies to paleontological resources.

3.7.4 Impact Assessment/Environmental Consequences:

a. Directly or indirectly create potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

According to the Yuba City General Plan, no active earthquake faults are known to exist in Sutter County, although active faults in the region could produce ground motion in Yuba City (Dyett & Bhatia, 2004). The closest known fault zone is the Bear Mountain Fault Zone, located approximately 20 miles northeast of Yuba City (California Geological Survey [CGS], 2015). Potentially active faults do exist in the Sutter Buttes, but those faults are considered small and have not exhibited activity in recent history. Because the distance from the City to the closest known active fault zone is large, the potential for exposure of people or structures to substantial adverse effects from fault rupture is low. Considering that the Building Code incorporates construction standards for minimizing earthquake damage to buildings, and the low potential for a significant earthquake activity in the vicinity, the potential for adverse impacts from an earthquake is less than significant.

ii. Strong seismic ground shaking?

In the event of a major regional earthquake, fault rupture or seismic ground shaking could potentially injure people and cause collapse or structural damage to existing and proposed structures. Ground shaking could potentially expose people and property to seismic-related hazards, including localized liquefaction and ground failure. However, all new structures are required to adhere to current California Building Code standards. These standards require adequate design, construction, and maintenance of structures to prevent exposure of people and structures to major geologic hazards. General Plan Implementing Policies 9.2-I-1 through 9.2-I-8 and the building codes reduce the potential impacts to less than significant.

iii. Seismic-related ground failure, including liquefaction?

The proposed Project is not located within a liquefaction zone according to the California Department of Conservation's California Geologic Survey regulatory maps. Regardless, all new structures are required to adhere to current California Building Code standards. These standards require adequate design, construction, and maintenance of structures to prevent exposure of people and structures to major geologic hazards. Therefore, the potential impact from ground failure is less than significant.

iv. Landslides?

According to the Environmental Impact Report prepared for the General Plan, due to the flat topography, erosion, landslides, and mudflows are not considered to be a significant risk in the City limits or within the City's Sphere of Influence.

b) Result in substantial soil erosion or the loss of topsoil?

The proposed development of the property would result in less than two acres of ground being disturbed during site grading. Even though the area is relatively flat, during site grading a large storm could result in the loss of topsoil into the City/Sutter County drainage system. However, as part of the grading and construction of the Project area, the applicant will be required to follow Best Management Practices (BMP's) and provide erosion control measures to minimize soil runoff during the construction process. Therefore, impacts from soil erosion are less than significant.

c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Be located on expansive soil, as defined in the California Building Code creating substantial direct or indirect risks to life or property?

The extreme southwest corner of the Yuba City Sphere of Influence is the only known area with expansive soils. The Project area is not located within that area and therefore will not be impacted by the presence of expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The new car wash and quick service restaurant will be connected to the City's wastewater collection and treatment system. No new septic systems will be utilized. As such, there will be no new impacts from septic systems.

f) *Directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?*

Due to prior ground disturbances from the numerous times the site has been graded it is unlikely that any paleontological resources exist on the site. However, the mitigation measure provided below shall apply if any paleontological resources are discovered:

Paleontological Mitigation Measure 1: Mitigation Measure # 1 shall be placed as a note on the Demolition and Grading Plans. If paleontological resources are found, the construction manager shall halt all activity and immediately contact the Development Services Department @ 530-822-4700.

Mitigation shall be conducted as follows:

1. Identify and evaluate paleontological resources by intense field survey in the vicinity that potential paleontological resource was found, as determined by the paleontologist;
2. Assess effects on identified sites;
3. Consult with the institutional/academic paleontologists conducting research investigations within the geological formations that are slated to be impacted;
4. Obtain comments from the researchers;
5. Comply with researchers' recommendations to address any significant adverse effects were determined by the City to be feasible.

In considering any suggested mitigation proposed by a consulting paleontologist, the City's Community Development Department Staff shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, Specific or General Plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

With application of this mitigation any impacts on paleontological resources will be less than significant.

3.8. Greenhouse Gas Emissions

Table 3.8: Greenhouse Gas Emissions				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		X		

3.8.1 Federal Regulatory Setting

The United States Environmental Protection Agency (USEPA) Mandatory Reporting Rule (40 CFR Part 98), which became effective December 29, 2009, requires that all facilities that emit more than 25,000 metric tons CO2-equivalent per year beginning in 2010, report their emissions on an annual basis. On May 13, 2010, the USEPA issued a final rule that established an approach to addressing GHG emissions from stationary sources under the Clean Air Act (CAA) permitting programs. The final rule set thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration and title V Operating Permit programs are required for new and existing industrial facilities.

In addition, the Supreme Court decision in Massachusetts v. EPA (Supreme Court Case 05-1120) found that the USEPA has the authority to list GHGs as pollutants and to regulate emissions of greenhouse gases (GHG) under the CAA. On April 17, 2009, the USEPA found that CO2, CH4, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride may contribute to air pollution and may endanger public health and welfare. This finding may result in the USEPA regulating GHG emissions; however, to date the USEPA has not proposed regulations based on this finding.

3.8.2 State & Local Regulatory Setting

The City's Resource Efficiency Plan as designed under the premise that the City, and the community it represents, is uniquely capable of addressing emissions associated with sources under the City's jurisdiction and that the City's emission reduction efforts should coordinate with the state strategies of reducing emissions in order to accomplish these reductions in an efficient and cost-effective manner. The City developed this document with the following purposes in mind:

- Local Control: The Yuba City Efficiency Plan allows the City to identify strategies to reduce resource consumption, costs, and GHG emissions in all economic sectors in a way that maintains local control over the issues and fits the character of the community. It also may position the City for funding to implement programs tied to climate goals.
- Energy and Resource Efficiency: The Efficiency Plan identifies opportunities for the City to increase energy efficiency and lower GHG emissions in a manner that is most feasible within the community. Reducing energy consumption through increasing the efficiency of energy

technologies, reducing energy use, and using renewable sources of energy are effective ways to reduce GHG emissions. Energy efficiency also provides opportunities for cost-savings.

- Improved Public Health: Many of the GHG reduction strategies identified in the Efficiency Plan also have local public health benefits. Benefits include local air quality improvements; creating a more active community through implementing resource-efficient living practices; and reducing health risks, such as heat stroke, that would be otherwise elevated by climate change impacts such as increased extreme heat days.

Demonstrating Consistency with State GHG Reduction Goals—A GHG reduction plan may be used as GHG mitigation in a General Plan to demonstrate that the City is aligned with State goals for reducing GHG emissions to a level considered less than cumulatively considerable.

3.8.3 Impact Assessment/Environmental Consequences:

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, similar to a greenhouse. The accumulation of GHGs has been implicated as a driving force for Global Climate Change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the climate caused by natural fluctuations and the impact of human activities that alter the composition of the global atmosphere. Both natural processes and human activities emit GHGs. Global Climate Change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, the vast majority of the scientific community now agrees that there is a direct link between increased emission of GHGs and long-term global temperature. Potential global warming impacts in California may include, but are not limited to, loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA).

The proposed grading and public improvements caused by the proposed site improvements and construction of the proposed commercial buildings will create GHG emissions due to the use of motorized construction equipment. Once completed, vehicle traffic generated by auto use will contribute GHG gases. Due to the small size of the Project, it is not expected to create significant greenhouse gas emissions. However, on a cumulative scale, possible reasonable reductions could be applied to the Project in order to further minimize those impacts. Specifically addressing this proposal, the City's Resource Efficiency Plan addresses greenhouse gas concerns and provides a description of greenhouse gas reduction measures. A mitigation measure is included that requires the Project incorporate the relevant greenhouse gas reduction measures. With this mitigation the impacts from greenhouse gases will be less than significant.

Greenhouse Gas Mitigation Measure 1: The site grading process and construction of the facility shall comply with the GHG Reduction Measures provided in the adopted Yuba City Resource Efficiency Plan.

3.9. Hazards and Hazardous Materials

Table 3.9: Hazards and Hazardous Materials				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.			X	

3.9.1 Federal Regulatory Setting

U.S. Environmental Protection Agency (USEPA): The USEPA was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard setting, and enforcement activities to ensure environmental protection. USEPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for

researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, USEPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act: The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act: The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (U.S. Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Clean Water Act/SPCC Rule: The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq., formerly the Federal Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the Clean Water Act, the U.S. EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112 (Title 40 CFR, Part 112) which is often referred to as the "SPCC rule" because the regulations describe the requirements for facilities to prepare, amend and implement Spill Prevention, Control, and

Countermeasure (SPCC) Plans: A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "Navigable Waters" of the United States.

Other federal regulations overseen by the U.S. EPA relevant to hazardous materials and environmental contamination include Title 40, CFR, Chapter 1, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40, CFR, Chapter 1, Subchapter D, Parts 116 and 117 designate hazardous substances under the Federal Water Pollution Control Act: Title 40, CFR, Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous. Title 40, CFR, Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

The NFPA 70®: National Electrical Code® is adopted in all 50 states. Any electrical work associated with the proposed Project is required to comply with the standards set forth in this code. Several federal regulations govern hazards as they are related to transportation issues. They include:

Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.

49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.

49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

3.9.2 State Regulatory Setting

California Environmental Protection Agency (CalEPA): The California Environmental Protection Agency (CalEPA) was created in 1991 by Governor's Executive Order. The six boards, departments, and office were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. The mission of CalEPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality under Title 22 of the California Code of Regulations (CCR).

Department of Toxic Substances Control (DTSC): DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC listed hazardous waste facilities and sites, DHS lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Unified Program: The Unified Program (codified CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100- 15620) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs:

- Hazardous Waste Generator (HWG) program and Hazardous Waste On-site Treatment activities;
- Aboveground Storage Tank (AST) program Spill Prevention Control and Countermeasure Plan requirements;
- Underground Storage Tank (UST) program;
- Hazardous Materials Release Response Plans and Inventory (HMRRP) program;
- California Accidental Release Prevention (CalARP) program;
- Hazardous Materials Management Plans and Hazardous Materials Inventory Statement (HMMP/HMIS) requirements.

The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Unified Program requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate,

coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements in the county. Most CUPAs have been established as a function of a local environmental health or fire department.

Hazardous Waste Management Program: The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement, and Unified Program activities in accordance with California Health and Safety Code Section 25135 et seq. The main focus of HWMP is to ensure the safe storage, treatment, transportation, and disposal of hazardous wastes.

State Water Resources Control Board (SWRCB): The State Water Resources Control Board (SWRCB) was created by the California legislature in 1967. The mission of SWRCB is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables SWRCB to provide comprehensive protection for California's waters.

California Department of Industrial Relations – Division of Occupational Safety and Health (Cal OSHA): In California, every employer has a legal obligation to provide and maintain a safe and healthful workplace for employees, according to the California Occupational Safety and Health Act of 1973 (per Title 8 of the CCR). The Division of Occupational Safety and Health (Cal/OSHA) program is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to employers and workers about workplace safety and health issues. Cal/OSHA regulations are administered through Title 8 of the CCR. The regulations require all manufacturers or importers to assess the hazards of substances that they produce or import and all employers to provide information to their employees about the hazardous substances to which they may be exposed.

California Fire Code: The California Fire Code is Part 9 of the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. The California Fire Code incorporates the Uniform Fire Code with necessary California amendments. This Code prescribes regulations consistent with nationally recognized good practice for the safeguarding to a reasonable degree of life and property from the hazards of fire explosion, and dangerous conditions arising from the storage, handling and use of hazardous materials and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or premises and provisions to assist emergency response personnel.

3.9.3 Local Regulatory Setting

Sutter County Airport Comprehensive Land Use Plan: The SCACLUP was adopted in April 1994 by the Sacramento Area Council of Governments (SACOG). SACOG is the designated Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo, and Yuba Counties under the provisions of the California Public Utilities Code, Chapter 4, Article 3.5, Section 21670.1 Airport Land Use Commission Law. The purpose of the ALUC law is to (1) protect public health, safety, and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise, and (2) Prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utilities of these airports into the future.

3.9.4 Impact Assessment/Environmental Consequences:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The hazardous materials that could result from construction of this Project will be those materials associated with grading and construction equipment, which typically includes solvents, oil, and fuel. Provided that these materials are legally and properly used and stored, the proposed Project will not create a significant hazard to the public or the environment. On an ongoing basis the proposed car wash and quick food restaurant are not expected to utilize or store hazardous materials. As such the impacts from hazardous materials associated with this proposal would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

See a) above.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within one-quarter mile of the Project. As such here will be no impacts on local schools.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section and, as a result, would create a significant hazard to the public or the environment?

The property is not on any listings of sites that are contaminated by hazardous wastes. Therefore, there is not a potential for significant impacts from a hazardous materials site.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The Project is not located within the Sutter County Airport Comprehensive Land Use Plan, nor is it within two miles of a public use airport. There will be no impacts.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Yuba City Fire Department and Police Department serve this area. Neither agency has expressed concern over impacts the Project may have on any emergency response plans nor were any emergency response issues noted in the Traffic Study. Accordingly, there will be no significant impacts on emergency response or evacuations plans

g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The Project site is located well within the Yuba City urban area, and the Yuba City urban area is surrounded by irrigated agricultural lands. There are no wildlands on the site or in the immediate vicinity. Accordingly, the potential for any significant impacts from potential wildland fires will be less than significant.

3.10. Hydrology and Water Quality

Table 3.10: Hydrology and Water Quality				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site?			X	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			X	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
iv. impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

3.10.1 Federal Regulatory Setting

Clean Water Act: The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

Federal Emergency Management Agency (FEMA) Flood Zones: The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has

developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes. Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded).

3.10.2 State Regulatory Setting

State Water Resources Control Board: The State Water Resources Control Board (SWRCB) is the agency with jurisdiction over water quality issues in the State of California. The WRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter- Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Project site is located within the Central Valley Regional Water Quality Control board.

Central Valley Regional Water Quality Control Board (CVRWQCB): administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). Additionally, CVRWQCB is responsible for issuing Waste Discharge Requirements Orders under California Water Code Section 13260, Article 4, Waste Discharge Requirements.

State Department of Water Resources: California Water Code (Sections 10004 et seq.) requires that the State Department of Water Resources update the State Water Plan every five years. The 2013 update is the most current review and included (but is not limited to) the following conclusions:

- The total number of wells completed in California between 1977 and 2010 is approximately 432,469 and ranges from a high of 108,346 wells for the Sacramento River Hydrologic Region to a low of 4,069 wells for the North Lahontan Hydrologic Region.
- Based on the June 2014 California Statewide Groundwater Elevation Monitoring (CASGEM) basin prioritization for California's 515 groundwater basins, 43 basins are identified as high priority, 84 basins as medium priority, 27 basins as low priority, and the remaining 361 basins as very low priority.
- The 127 basins designated as high or medium priority account for 96 percent of the average annual statewide groundwater use and 88 percent of the 2010 population overlying the groundwater basin area.
- Depth-to-groundwater contours were developed for the unconfined aquifer system in the Central Valley. In the Sacramento Valley, the spring 2010 groundwater depths range from less than 10 feet below ground surface (bgs) to approximately 50 feet bgs, with local areas showing maximum depths of as much as 160 feet bgs.

- The most prevalent groundwater contaminants affecting California's community drinking water wells are arsenic, nitrate, gross alpha activity, and perchlorate.

California Government Code 65302 (d): The General Plan must contain a Conservation Element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, river and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element including waters shall be developed in coordination with any County-wide water agency and with all district and city agencies which have developed, served, controlled, or conserved water for any purpose for the County or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5 if that information has been submitted by the water agency to the city or County. The Conservation Element may also cover:

- The reclamation of land and waters.
- Prevention and control of the pollution of streams and other waters.
- Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
- Prevention, control, and correction of the erosion of soils, beaches, and shores.
- Protection of watersheds.
- The location, quantity, and quality of the rock, sand, and gravel resources.
- Flood control.

Sustainable Groundwater Management Act: On September 16, 2014, Governor Edmund G. Brown Jr. signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the state's water needs. The three bills, SB 1168 (Pavley) SB 1319 (Pavley) and AB 1739 (Dickinson) together makeup the Sustainable Groundwater Management Act. The Sustainable Groundwater Management Act comprehensively reforms groundwater management in California. The intent of the Act is to place management at the local level, although the state may intervene to manage basins when local agencies fail to take appropriate responsibility. The Act provides authority for local agency management of groundwater and requires creation of groundwater sustainability agencies and implementation of plans to achieve groundwater sustainability within basins of high and medium priority.

3.10.3 Impact Assessment/Environmental Consequences:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Most of the City's public water supply comes from the Feather River. The water is pumped from the river to the Water Treatment Plant located in northern Yuba City. The plant also sometimes utilizes a groundwater well in addition to surface water supplies due to past drought conditions. Since these commercial facilities will only receive water from the City system, it is unlikely that the Project could impact the water quality in the City system.

Wastewater generated by the Project will flow into the City wastewater treatment facility, which is in compliance with state water discharge standards. The wastewater from the Project is not expected

to generate any unique type of waste that would cause the system to become out of compliance with state standards.

All storm water runoff associated with the Project will drain into the Gilsizer drainage facilities and ultimately into the Feather River. The water quality of the stormwater runoff is addressed through General Plan Implementing Policies 8.5-I-1 through 8.5-I-10 which require a wide range of developer and City actions involving coordination with the State Regional Water Quality Control Board, protecting waterways, and following Yuba City's adopted Best Management Practices for new construction.

With the level of oversight on the City's water supply, and enforcement of Best Management Practices at construction sites, there will not be significant impacts on the City's water and waste-water systems or storm water drainage system from the proposed new commercial facilities.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin?

The proposed uses will be connected to the City's water system. While consumer consumption of City water will increase with the Project, very little groundwater will be utilized as the City primarily utilizes surface water supplies.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site?

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

There will be an increased amount of stormwater drainage caused by new impermeable surfaces created by the proposed Project, which ultimately drains into the Feather River. The Project will be required to construct the local collection facilities and pay the appropriate fees to the Gilsizer County Drainage District for its fair share of improvements and expansion to the existing drainage system that it will be connected too. Also, as noted above, all new construction must involve use of Best Management Practices. Assuming all required standards are met there is not expected to be any significant impacts from additional storm water drainage from the site.

iv) impede or redirect flood flows?

According to the Federal Emergency Management Agency this portion of the City is outside of the 100-year flood plain. This is due to the existing levee system that contains seasonally high-water flows from the nearby Feather River from flooding areas outside of the levee system. Additional construction within the City that is outside of the levee system does not impact the levee system and therefore does not increase, impede, or otherwise have any effect on the highwater flows within the levee system. Therefore, there is no significant impact on the high-water flows within the Feather River levee system.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

According to the Federal Emergency Management Agency, this portion of the City is outside of the 100-year flood plain. The City is not close to the ocean or any large lakes so a seiche is unlikely to happen in or near the City. The City is located inland from the Pacific Ocean, so people or structures in the City would not be exposed to inundation by tsunami. Mudflows and landslides are unlikely to happen due to the relatively flat topography within the project area. Thus, it is unlikely that the Project site would be subject to inundation by a seiche, tsunami, mudflow or landslide. Therefore, there is not a potential for significant impacts from any of these types of events.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Regarding impacts on a groundwater management plan, the City primarily utilizes surface water, so any impact on groundwater would be less than significant. Regarding water quality, as noted in Part a) above, all new construction is required to utilize Best Management Practices. Assuming all required standards are met, water quality of runoff water from the Project will not create any significant impacts.

3.11. Land Use and Planning

Table 3:11: Land Use and Planning

Would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Physically divide an established community?			X	
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

3.11.1 Environmental Setting/Affected Environment

The proposed new businesses are located within an existing established retail commercial area but there are single-family residences along the back (south side) of the property. The city ordinance requires a minimum of 100 feet between a car wash and single-family residences due to car wash noise. A variance is requested to allow the car wash business within 85 feet of the nearest single-family residence.

3.11.2 Federal Regulatory Setting

There are no federal regulations pertaining to land use and planning relevant to the proposed Project.

3.11.3 Local Regulatory Setting

Yuba City General Plan Land Use Element: The Land Use Element of the General Plan establishes guidance for the ultimate pattern of growth in the City's Sphere of Influence. It provides direction regarding how lands are to be used, where growth will occur, the density/intensity and physical form of that growth, and key design considerations.

3.11.4 Impact Assessment/Environmental Consequences:

a) Physically divide an established community?

This Project will not physically divide an established community as the site is within an existing commercial area that is located on the corner of two major streets. As the Project is on the perimeter of a residential area it will not divide the local community. Therefore the impacts of this proposal on dividing the community will be less than significant.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed Project is consistent with the Community Commercial General Plan land use designation applied to the property. The Project also meets all of the land use and development standards of the C-3 Zone District, except for the minimum required distance between a car wash and the residences. Regarding the car wash, Section 8-5.13022(5) of the Zoning Regulations require the car wash be at least 100 feet from the nearest residential zone district. A variance is requested is to reduce that distance to 10 feet with the nearest home being 85 feet away. If the variance is approved, the Project would meet the reduced distance requirement. Since there are not conflicts with the appropriate plans or Zoning Regulations, the impacts for conflicts with any plan or programs is less than significant.

3.12. Mineral Resources

Table 3-12: Mineral Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

3.12.1 Federal Regulatory Setting

There are no federal regulations pertaining to mineral resources relevant to the proposed Project.

3.12.2 State Regulatory Setting

California Surface Mining and Reclamation Act of 1975: Enacted by the State Legislature in 1975, the Surface Mining and Reclamation Act (SMARA), Public Resources Code Section 2710 et seq., insures a continuing supply of mineral resources for the State. The act also creates surface mining and reclamation policy to assure that:

- Production and conservation of minerals is encouraged;
- Environmental effects are prevented or minimized;
- Consideration is given to recreational activities, watersheds, wildlife, range and forage, and aesthetic enjoyment;
- Mined lands are reclaimed to a useable condition once mining is completed; and
- Hazards to public safety both now and in the future are eliminated.

Areas in the State (city or county) that do not have their own regulations for mining and reclamation activities rely on the Department of Conservation, Division of Mines and Geology, Office of Mine Reclamation to enforce this law. SMARA contains provisions for the inventory of mineral lands in the State of California.

The State Geologist, in accordance with the State Board's Guidelines for Classification and Designation of Mineral Lands, must classify Mineral Resource Zones (MRZ) as designated below:

- MRZ-1. Areas where available geologic information indicates that there is minimal likelihood of significant resources.
- MRZ-2. Areas underlain by mineral deposits where geologic data indicate that significant mineral deposits are located or likely to be located.
- MRZ-3. Areas where mineral deposits are found but the significance of the deposits cannot be evaluated without further exploration.
- MRZ-4. Areas where there is not enough information to assess the zone. These are areas that have unknown mineral resource significance.

SMARA only covers mining activities that impact or disturb the surface of the land. Deep mining (tunnel) or petroleum and gas production is not covered by SMARA.

3.12.3 Impact Assessment/Environmental Consequences:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The property contains no known mineral resources and there is little opportunity for mineral resource extraction. The Yuba City General Plan does not recognize any mineral resource zone within the City limits, and no mineral extraction facilities currently exist within the City. Additionally, the site has nearby residential uses, which generally is considered incompatible with mineral extraction facilities. As such the Project will not have an impact on mineral resources.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

See a) above.

3.13. Noise

Table 3.13: Noise				
Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Generation of excessive ground borne vibration or ground borne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

3.13.1 Environmental Setting/Affected Environment for Noise

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

3.13.2 Environmental Setting/Affected Environment for Groundbourne Vibration

Vibration is the periodic oscillation of a medium or object. Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground borne vibrations may be described by amplitude and frequency. Vibration amplitudes are usually expressed in peak particle velocity (PPV), or root mean squared (RMS), as in RMS vibration velocity. The PPV and RMS (VbA) vibration velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal and is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. As it takes some time for the human body to respond to vibration signals, it is more prudent to use vibration velocity when measuring human response. The typical background vibration velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day.

3.13.3 Federal Regulatory Setting

Federal Vibration Policies: The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to ground-borne vibration levels of 90 VdB without experiencing structural damage. The FTA has identified the human annoyance response to vibration levels as 75 VdB.

3.13.4 State Regulatory Setting

California Noise Control Act: The California Noise Control Act was enacted in 1973 (Health and Safety Code §46010 et seq.), and states that the Office of Noise Control (ONC) should provide assistance to

local communities in developing local noise control programs. It also indicates that ONC staff would work with the Department of Resources Office of Planning and Research (OPR) to provide guidance for the preparation of the required noise elements in city and county General Plans, pursuant to Government Code § 65302(f). California Government Code § 65302(f) requires city and county general plans to include a noise element. The purpose of a noise element is to guide future development to enhance future land use compatibility.

Title 24 – Sound Transmission Control: Title 24 of the California Code of Regulations (CCR) codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings Title 24, Part 2 requires an acoustical report that demonstrates the achievements of the required 45 dBA CNEL. Dwellings are designed so that interior noise levels will meet this standard for at least ten years from the time of building permit application.

3.13.5 Local Regulatory Setting

The **City of Yuba City General Plan** presents the vision for the future of Yuba City and outlines several guiding policies and policies relevant to noise.

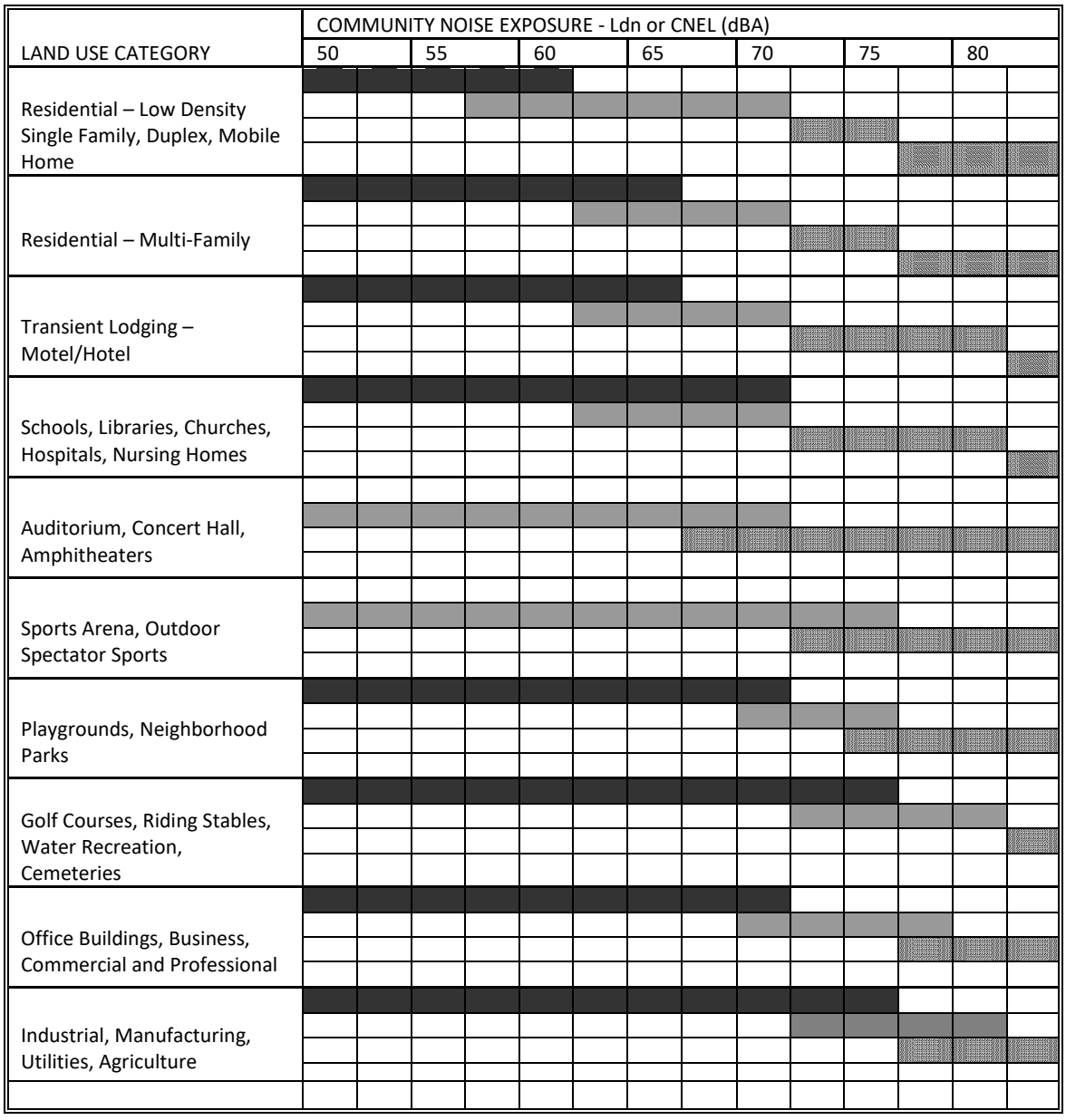
The following goals and policies from the City of Yuba City General Plan are relevant to noise.

Guiding Policies

- 9.1-G-1 Strive to achieve an acceptable noise environment for the present and future residences of Yuba City.
- 9.1-G-2 Incorporate noise considerations into land use planning decisions and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.
- Implementing Policies
- 9.1-I-1 Require a noise study and mitigation for all projects that have noise exposure greater than “normally acceptable” levels. Noise mitigation measures include, but are not limited to, the following actions:
- Screen and control noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment,
- Increase setbacks for noise sources from adjacent dwellings,
- Retain fences, walls, and landscaping that serve as noise buffers,
- Use soundproofing materials and double-glazed windows, and
- Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.
- 9.1-I-3 In making a determination of impact under the California Environmental Quality Act (CEQA), consider an increase of four or more dBA to be "significant" if the resulting noise level would exceed that described as normally acceptable for the affected land use in Figure 3.

- 9.1-I-4 Protect especially sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise, by enforcing “normally acceptable” noise level standards for these uses.
- 9.1-I-5 Discourage the use of sound walls. As a last resort, construct sound walls along highways and arterials when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility.
- 9.1-I-6 Require new noise sources to use best available control technology (BACT) to minimize noise from all sources.
- 9.1-I-7 Minimize vehicular and stationary noise sources and noise emanating from temporary activities, such as construction

Figure 3: Noise Exposure



	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable: New construction or development generally should not be undertaken.
Source: State of California, Governor's Office of Planning and Research, 2003. General Plan Guidelines.	

City of Yuba City Municipal Code:

Title 4, Chapter 17, Section 4-17.10(e) of the Yuba City Municipal Code prohibits the operation of noise-generating construction equipment before 6:00 a.m. or after 9:00 p.m. daily, except Sunday and State or federal holidays when the prohibited time is before 8:00 a.m. and after 9:00 p.m.

Section 8-5.1302.(5) of the Zoning Regulations (C-2) Zone District requires that the minimum distance between a car wash and residentially zoned property is 100 feet.

3.13.6 Impact Assessment/Environmental Consequences:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Yuba City Zoning Regulations [8-5.1302(5)] states that the minimum distance between a car wash and residentially zoned property is 100 feet. The request is for a variance to reduce that distance to approximately 10 feet for the vacuum system. A car wash is typically noisy due to the equipment operations. In this case it is primarily due to the vacuum systems. Because reduced separation between the nearest vacuum system and the zoning boundary (also the residential property line) is requested from 100 feet to 10 feet, a noise study was prepared. (Environmental Noise & Vibration Assessment-Town Center Development, Bollard Acoustical Consultants, October 24, 2024 – a copy is attached to this Initial Study as Appendix B) (Noise Study). The Noise Study also considered expected noise generated by the proposed quick-serve restaurant (QSR) and all associated activates.

The Noise Study focused on both noise and vibration that will be generated during Project construction and the ongoing operational noise from the Project. Sources of ongoing noise that was considered was from the car wash facility including the associated vacuum system, QSR drive through operations noise, both vehicles and the drive-through speaker, outdoor dining noise, onsite vehicle circulation noise, delivery truck noise, and mechanical equipment noise. The study evaluated those noise impacts on the nearby noise sensitive uses – existing single-family residences that back-up to the proposed Project's south side.

Variance: Variance 24-01 is requested as part of this proposal to reduce the Zoning Regulation standard minimum distance between the car wash business and the nearest residentially zoned property from 100 feet to approximately 10 feet. The 100-foot minimum ordinance was intended to protect nearby residences from car wash noise. The Noise Study addresses this. It determined the

nearest residence, being approximately 85 feet away, the Project noise would be under the four-decibel maximum noise level increase, determining the reduced distance to be a less than significant impact.

b. Generation of excessive ground borne vibration or ground borne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Project is not within an airport land use plan nor are there any public or private airports or airfields located in this vicinity. Therefore, this impact is not applicable to the Project.

3.***13***.7 Noise Mitigation Measures

Noise Mitigation Measure 1: Upon completion of the car wash, and prior to issuance of a final building permit, a noise verification study by a qualified noise consultant shall be performed to verify compliance with General Plan Policy 9.1-I-4 noise criteria, which determines that if the noise emanated from the Project exceeds the four-decibel standard over the existing ambient levels at the nearby residences the impact on those homes would be significant. If the new noise levels are determined by the new noise study to be significant, the operator must reduce the noise to an acceptable level prior to the issuance of the final for the building permit.

Noise Mitigation Measure 2: Hours of operation are limited to those requested by the applicant which are:

- Car wash: 7:00 a.m. to 9:30 p.m.
- QSR drive-through component: 6:00 a.m. to 11:00 p.m.

Noise Mitigation Measure 3: Due to the proximity of sensitive receptors to the Project area, all construction activities shall comply with the following noise abatement measures and be noted accordingly on construction contracts:

1. **Construction Hours/Scheduling:** The following are recommended to limit construction activities to the portion of the day when occupancy of the adjacent sensitive receptors is at the lowest:
   a. On-site Project construction equipment/activities shall not occur during the days and hours identified in Yuba City Municipal Code Section 4-17.10.
   b. Delivery materials or equipment to the site and truck traffic coming to and from the site shall not occur during the restricted hours specified in Yuba City Municipal Code Section 4-17.10.
2. **Construction Equipment Mufflers and Maintenance:** All construction equipment powered by internal combustion engines shall be properly muffled and maintained.
3. **Idling Prohibitions:** All construction equipment and vehicles shall be turned off when not in use. Unnecessary idling of internal combustion engines is prohibited.
4. **Equipment Location and Shielding:** All stationary noise-generating construction equipment, such as air compressors, shall be located as far as practical from the adjacent residences. Such

equipment shall be acoustically shielded when it must be located within close proximity to the adjacent residences.

5. **Quiet Equipment Section:** Select quiet equipment, particularly air compressors, whenever possible. All noise producing Project equipment and vehicles using internal-combustion engines shall be equipped with manufacturer-recommended mufflers and maintained in good working condition. Electrically powered equipment shall be used instead of pneumatic or internal-combustion -powered equipment, where feasible.
6. **Staging and Equipment Storage:** Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
7. **Equipment and Vehicle Movements:** Project area and site access road speed limits shall be established and enforced during the construction period.
8. **Schedule notification:** Nearby residences shall be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.
9. **Noise Disturbance Coordinator:** The Project developer shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The individual would most likely be the contractor of a contractor's representative. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting to early, bad muffler, etc.). and would require that reasonable measures warranted to correct the problem be implemented. The telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

3.14. Population and Housing

Table 4-14: Population and Housing				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

3.14.1 Environmental Setting/Affected Environment

The property is in a general commercial zoned area, but with several single-family residences to the rear of this site.

3.14.2 Federal Regulatory Setting

There are no federal regulations, plans, programs, or guidelines associated with population or housing that are applicable to the proposed Project.

3.14.3 State Regulatory Setting

California law (Government Code Section 65580, et seq.) requires cities and counties to include a housing element as a part of their general plan to address housing conditions and needs in the community. Housing elements are prepared approximately every five years (eight following implementation of Senate Bill [SB] 375), following timetables set forth in the law. The housing element must identify and analyze existing and projected housing needs and "make adequate provision for the existing and projected needs of all economic segments of the community," among other requirements. The City adopted its current Housing Element in 2021.

3.14.4 Regional Regulatory Setting

State law mandates that all cities and counties offer a portion of housing to accommodate the increasing needs of regional population growth. The statewide housing demand is determined by the California Department of Housing and Community Development (HCD), while local governments and councils of governments decide and manage their specific regional and jurisdictional housing needs and develop a regional housing needs assessment (RHNA).

In the greater Sacramento region, which includes the City of Yuba City, SACOG has the responsibility of developing and approving an RHNA and a Regional Housing Needs Plan (RHNP) every eight years (Government Code, Section 65580 et seq.). This document has a central role of distributing the allocation of housing for every county and city in the SACOG region. Housing needs are assessed for very low income, low income, moderate income, and above moderate households.

As described above, SACOG is the association of local governments that includes Yuba City, along with other jurisdictions comprising the six counties in the greater Sacramento region. In addition to preparing the Metropolitan Transportation Plan and Sustainable Communities Strategy for the region, SACOG approves the distribution of affordable housing in the region through its RHNP. SACOG also assists in planning for transit, bicycle networks, clean air and serves as the Airport Land Use Commission for the region.

3.14.5 Impact Assessment/Environmental Consequences:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Project does not propose any residential development. This is a commercial infill proposal as this 2.02 acres is within a general commercial area, well within the urban boundaries. The area has previously had commercial uses on it and has been planned for commercial uses for many years. There is not a potential for this Project to attract unplanned growth to the area.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There will be no residences removed as a result of this Project.

3.15. Public Services

Table 3.15: Public Services				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?			X	
ii) Police protection?			X	
iii) Schools?			X	
iv) Parks?			X	
v) Other public facilities?			X	

3.15.1 Environmental Setting/Affected Environment

Law enforcement is provided by the Yuba City Police Department. Fire protection is provided by the Yuba City Fire Department. Nearby parks and other urban services including streets, water, sewer, and stormwater drainage will also be provided by Yuba City.

3.15.2 Federal Regulatory Setting

National Fire Protection Association: The National Fire Protection Association (NFPA) is an international nonprofit organization that provides consensus codes and standards, research, training, and education on fire prevention and public safety. The NFPA develops, publishes, and disseminates more than 300 such codes and standards intended to minimize the possibility and effects of fire and other risks. The NFPA publishes the NFPA 1, Uniform Fire Code, which provides requirements to establish a reasonable level of fire safety and property protection in new and existing buildings.

3.15.3 State Regulatory Setting

California Fire Code and Building Code: The 2013 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to fire fighters and emergency responders during emergency operations. The provision of the Fire Code includes regulations regarding fire-resistance rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, fire safety during construction and demolition, and wildland urban interface areas.

California Health and Safety Code (HSC): State fire regulations are set forth in Sections 13000 et seq. of the California HSC, which includes regulations for building standards (as set forth in the CBC), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, childcare facility standards, and fire suppression training.

California Master Mutual Aid Agreement: The California Master Mutual Aid Agreement is a framework agreement between the State of California and local governments for aid and assistance by the interchange of services, facilities, and equipment, including but not limited to fire, police, medical and health, communication, and transportation services and facilities to cope with the problems of emergency rescue, relief, evacuation, rehabilitation, and reconstruction.

3.15.4 Impact Assessment/Environmental Consequences:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire Protection: The Fire Department reviewed the proposal and did not express concerns. Since all new development pays development impact fees intended to offset the cost of additional fire facilities and equipment costs resulting from this growth, the impacts on fire services will be less than significant.

ii) Police Protection: The Police Department reviewed the proposal and did not express concerns. Since new development will pay development impact fees intended to offset the cost of additional police facilities and equipment resulting from this growth the impacts on police services will be less than significant.

iii) Schools: Expanding existing businesses or adding new businesses can create a demand for housing via its employees. However new residences that may result from new employment opportunities created by this development must pay the Yuba City Unified School District adopted school impact fees that are intended to provide their fair share for expanded or new educational facilities needed to accommodate this new growth. Therefore, the impact on schools will be less than significant.

iv) Parks: Commercial development typically does not generate a substantive demand for parks. Therefore, the impact on parks from this Project will be less than significant.

v) Other Public Facilities: The Project will be connected to City water and wastewater systems. Each new connection to those systems must pay connection fees that are utilized for expansion of the respective treatment plants. The City also collects development impact fees for County services that are provided to the new development, such as the library system and justice system.

Accordingly, the Project will have a less than significant impact with regard to the provision of public services.

3.16. Recreation

Table 3-16: Recreation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

3.16.1 Environmental Setting/Affected Environment

Yuba City has 23 City-owned parks and recreational areas, managed by the City's Parks and Recreation Department. This consists of five community parks, 15 neighborhood parks, and three passive or mini parks.

3.16.2 Federal Regulatory Setting

There are no federal regulations regarding parks and open space that are applicable to the proposed Project.

3.16.3 State Regulatory Setting

State Public Park Preservation Act: The primary instrument for protecting and preserving parkland is the Public Park Preservation Act of 1971. Under the PRC section 5400-5409, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Quimby Act: California Government Code Section 66477, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density and housing type, land cost, and other factors. Land dedicated and fees collected pursuant to the Quimby Act may be used for developing new or rehabilitating existing park or recreational facilities.

3.16.4 Local Regulatory Setting

The Yuba City General Plan and the City's Parks Master Plan provide a goal of providing 5 acres of public parkland per 1,000 residents, while it also requires 1 acre of Neighborhood Park for every 1,000

residents. The City's development impact fee program collects fees for new development which is allocated for the acquisition and development of open space in the City.

3.16.5 Impact Assessment/Environmental Consequences:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Since there is no residential development associated with the Project, it will not materially increase the use of the City's park system. Therefore, the impact on the City park system from this Project is less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

There is no proposal to provide any on-site recreational facilities, nor does commercial development materially increase demand for park usage. Therefore, the impact on parks from this Project will be less than significant.

3.17. Transportation/Traffic

Table 4-17: Transportation Recreation

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

3.17.1 Federal Regulatory Setting

Federal Highway Administration: FHWA is the agency of the U.S. Department of Transportation (DOT) responsible for the Federally funded roadway system, including the interstate highway network and portions of the primary State highway network. FHWA funding is provided through the Safe, Accountable, Flexible, Efficiency Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA- LU can be used to fund local transportation improvement projects, such as projects to

improve the efficiency of existing roadways, traffic signal coordination, bikeways, and transit system upgrades.

Several federal regulations govern transportation issues. They include:

- Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.

3.17.2. State Regulatory Setting

The measurement of the impacts of a project's traffic is set by the CEQA Guidelines. Section 15064.3 of the Guidelines states that vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT is a metric which refers to the amount of distance of automobile traffic that is generated by a project. Per the Guidelines "Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact." "Projects that decrease vehicle miles traveled compared to existing conditions should be presumed to have a less than significant environmental impact."

The CEQA Guidelines also states that the lead agency (Yuba City) may "choose the most appropriate methodology to evaluate a project's vehicle miles traveled …". As this is a new form of calculating significant traffic events, the City has not yet determined its own methodology to calculate levels of significance for VMT. Until that methodology is determined, for purposes of this initial study the information provided by the Sacramento Council of Governments (SACOG) and the CA Office of Planning and Research is utilized. A review of these studies indicates several factors that may be utilized for determining levels of significance. One is that if the project will generate less than 110 vehicle trips per day, it is assumed that with the small size of the project, the impact is less than significant. A second criteria is that for a project, on a per capita or per employee basis, the VMT will be at least 15 percent below that of existing development is a reasonable threshold for determining significance.

As this is a new methodology, future projects may utilize different criterion as they become available.

3.17.3. Impact Assessment/Environmental Consequences:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

A traffic study was previously prepared for a similar proposal for this site (Transportation Impact Analysis for Town Center Circle K, KD Anderson & Associates, March 23,2022) (Traffic Study). A copy of this study is provided in Appendix C. The original project was for a convenience store/gas sales and a QSR restaurant. The proposal is now for a QSR restaurant and car wash. As the Project has changed, a follow-up review was conducted (Flecker Associates, August 5, 2024.) in response to Caltrans questions. That review concluded that the original assumptions for increased traffic and pass-by traffic appeared reasonable.

The primary intersection that is impacted by this proposal is the Colusa Highway/Live Oak Boulevard/Olive Street intersection. General Plan Policy 5.2-I-12, which is the City standard for determining accepting levels of service, provides that SR 20 from the bridge to SR 99 the Level of Service (LOS) F is acceptable (as compared to most City streets the lowest acceptable LOS is D).

The Traffic Study concluded that under existing conditions plus this Project the intersection would be at a Level of Service C. During the P.M. peak hour some congestion my occur at the driveway entrances causing lower LOS levels. So, the impacts on existing traffic conditions plus the Project are considered to be less than significant.

On a longer-term cumulative basis, the intersection is projected to be at LOS C/D without this Project. With the Project, the intersection is expected to degrade to LOS F. Some of the driveways into the site will also be at LOS F. This potential impact is considered less than significant as it is consistent with General Plan policy cited above. As such the cumulative traffic impacts are also less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

The Traffic Study concluded that, based on OPR guidance, that local-serving retail uses under 50,000 square feet may be considered to have a less-than-significant VMT impact. Further, in general gas stations/convenience stores, car washes, and fast-food restaurants may be considered local serving. As the total Project square footage is under 50,000 square feet, and the uses are considered to be local serving, the Project's impacts on vehicle miles traveled will be a less-than-significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Traffic Study did not identify any hazards due to street design features or incompatible uses. As such the impacts from hazards due to improper design features or nearby incompatible uses are less than significant.

d) Result in inadequate emergency access?

The Fire and Police Departments have reviewed the Project plans and did not express concerns about emergency access to the property nor did the Traffic Study find any emergency access issues. As such the impacts from this Project on emergency access to this area will be less than significant.

3.18. Tribal Cultural Resources

Table 3-18: Tribal Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause of substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or			X	
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

3.18.1 Environmental Setting/Affected Environment

This section describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs). The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- Environmental Impact Report for the City of Yuba City General Plan (2004).
- Consultation record with California Native American tribes under Assembly Bill 52 and Senate Bill 18.

3.18.2 State Regulatory Setting

Assembly Bill 52: Effective July 1, 2015, Assembly Bill 52 (AB 52) amended CEQA to require that: 1) a lead agency provide notice to any California Native American tribes that have requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the Public Resources Code defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-

federally recognized tribes.

Section 21074(a) of the Public Resource Code defines TCRs for the purpose of CEQA as:

1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or

   b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

   c. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as a Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their TCRs and heritage, AB 52 requires that CEQA lead agencies initiate consultation with tribes at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures.

3.18.3 Cultural Setting

The Nisenan (also referred to as Southern Maidu) inhabited the General Plan area prior to large-scale European and Euroamerican settlement of the surrounding area. Nisenan territory comprised the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River. The Nisenan, together with the Maidu and Konkow, their northern neighbors, form the Maiduan language family of the Penutian linguistic stock (Shipley 1978:89). Kroeber (1976:392) noted three dialects: Northern Hill Nisenan, Southern Hill Nisenan, and Valley Nisenan. Although cultural descriptions of this group in the English language are known from as early as 1849, most of our current cultural knowledge comes from various anthropologists in the early part of the 20th century (Levy 1978:413; Wilson and Towne 1978:397).

The basic subsistence strategy of the Nisenan was seasonally mobile hunting and gathering. Acorns, the primary staple of the Nisenan diet, were gathered in the valley along with seeds, buckeye, salmon, insects, and a wide variety of other plants and animals. During the warmer months, people moved to mountainous areas to hunt and collect food resources, such as pine nuts. Bedrock and portable mortars and pestles were used to process acorns. Nisenan settlement patterns were oriented to major river drainages and tributaries. In the foothills and lower Sierra Nevada, Nisenan located their villages in large flats or ridges near major streams. These villages tended to be smaller than the villages in the valley. (Wilson and Towne 1978:389–390.)

Trade provided other valuable resources that were not normally available in the Nisenan environment. The Valley Nisenan received black acorns, pine nuts, manzanita berries, skins, bows,

and bow wood from the Hill Nisenan to their east, in exchange for fish, roots, grasses, shells, beads, salt, and feathers (Wilson and Towne 1978). To obtain, process, and utilize these material resources, the Nisenan had an array of tools to assist them. Wooden digging sticks, poles for shaking acorns loose, and baskets of primarily willow and redbud were used to gather vegetal resources. Stone mortars and pestles were used to process many of the vegetal foods; baskets, heated stones, and wooden stirring sticks were used for cooking. Basalt and obsidian were primary stone materials used for making knives, arrow and spear points, clubs, arrow straighteners, and scrapers. (Wilson and Towne 1978.)

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Village size ranged from three houses to 40 or 50 houses. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush and had a central smoke hole at the top and an entrance that faced east (Wilson and Towne 1978:388). Early Nisenan contact with Europeans appears to have been limited to the southern reaches of their territory. Spanish expeditions intruded into Nisenan territory in the early 1800s. In the two or three years following the gold discovery, Nisenan territory was overrun by immigrants from all over the world. Gold seekers and the settlements that sprang up to support them were nearly fatal to the native inhabitants. Survivors worked as wage laborers and domestic help and lived on the edges of foothill towns. Despite severe depredations, descendants of the Nisenan still live in their original land area and maintain and pass on their cultural identity.

3.18.4 Summary of Native American Consultation

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archaeological resources (PRC § 21074; 21083.09). AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC § 21080.3.1, 21080.3.2, 21082.3).

In response to AB 52, the City supplied the following Native American tribes with a Project description and map of the proposed Project area and a request for comments:

- United Auburn Indian Community of the Auburn Rancheria
- Yocha Dehe Wintun Nation
- Estom Yomeka Maidu Tribe of the Enterprise Rancheria
- Mechoopda Indian Tribe
- Pakan'yani Maidu of Strawberry Valley
- Mooretown Rancheria of Maidu Indians
- Ione Band of Miwok Indians

3.18.6 Thresholds of Significance

AB 52 established that a substantial adverse change to a TCR has a significant effect on the environment. The thresholds of significance for impacts to TCRs are as follows:

Would the Project cause a substantial adverse change to a TCR, defined in Section 21074 as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a Native American tribe that are:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources;
- Included in a local register of historical resources as defined in subdivision k of Section 5010.1; and/or
- Determined by the City to be significant, as supported by substantial evidence, including:
    - A cultural landscape with a geographically defined boundary;
    - A historical resource as described in Section 21084.1 (either eligible for or listed on the California Register of Historical Resources or listed on a local registry);
    - A unique archaeological resource as defined in Section 21083.2; and/or
    - A non-unique archaeological resource as defined in Section 21083.2.

In assessing substantial adverse change, the City must determine whether or not the Project will adversely affect the qualities of the resource that convey its significance. The qualities are expressed through integrity. Integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)]. Accordingly, impacts to a TCR would likely be significant if the Project negatively affects the qualities of integrity that made it significant in the first place. In making this determination, the City need only address the aspects of integrity that are important to the TCR's significance.

3.18.7 Impact Assessment/Environmental Consequences:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

There are no buildings on the property. Further, the site was previously developed and the property cleared. Therefore, as the site is vacant, the impacts on any historical resources, directly or indirectly, will be less than significant.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The City solicited consultation with culturally affiliated California Native American tribes (regarding the proposed project in accordance with AB 52) to which no tribes responded. No known TCRs have been identified (as defined in Section 21074) within the proposed Project area. Given the level of previous disturbance within the Project area, it is not expected that any TCRs would remain. However, during grading and excavation activities, there is a potential to encounter native soils, which may contain undiscovered TCRs. In the unlikely event resources are discovered during ground disturbing activities that are associated with Native American culture, compliance with the TCR Mitigation Measure provided below would reduce the potential impacts to a less than significant level.

3.18.8 Tribal Cultural Resources Mitigation Measure

Tribal Cultural Resources Mitigation Measure 1: Unanticipated Discoveries: If any suspected TCRs or resources of cultural significance to a recognized Tribe, including but not limited to features, anthropogenic/cultural soils, cultural belongings or objects (artifacts), shell, bone, shaped stones or bone, or ash/charcoal deposits are discovered by any person during construction activities including ground disturbing activities, all work shall pause immediately within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. Work shall cease in and within the immediate vicinity of the find regardless of whether the construction is being actively monitored by a Tribal Monitor, cultural resources specialist, or professional archaeologist.

A Tribal Representative and the City of Yuba City (City) shall be immediately notified, and the Tribal Representative in coordination with the City of Yuba City shall determine if the find is a TCR (PRC Sec. 21074) and the Tribal Representative shall make recommendations for further evaluation and treatment as necessary.

Treatment and Documentation:

The culturally affiliated Tribe shall consult with the City to (1) identify the boundaries of the new TCR and (2) if feasible, identify appropriate preservation in place and avoidance measures, including redesign or adjustments to the existing construction process, and long-term management, or 3) if avoidance is infeasible, a reburial location in proximity of the find where no human disturbance is anticipated. Permanent curation of TCRs will not take place unless approved in writing by the culturally affiliated Tribe.

The construction contractor(s) shall provide secure on-site storage for culturally sensitive soils or objects that are components of TCRs that are found or recovered during construction. Only Tribal Representatives shall have access to the storage. Storage size shall be determined by the nature of the TCR and can range from a small lock box to a conex box (shipping container). A secure (locked), fenced area can also provide adequate on-site storage if larger amounts of material must be stored.

The construction contractor(s) and the City shall facilitate the respectful reburial of the culturally sensitive soils or objects. This includes providing a reburial location that is consistent with the Tribe's preferences, excavation of the reburial location, and assisting with the reburial, upon request.

Any discoveries shall be documented on a Department of Parks and Recreation (DPR) 523 form within two weeks of the discovery and submitted to the appropriate CHRIS center in a timely manner.

Work at the TCR discovery location shall not resume until authorization is granted by the City in

coordination with the culturally affiliated Tribe.

If articulated or disarticulated human remains, or human remains in any state of decomposition or skeletal completeness are discovered during construction activities, the Coroner and culturally affiliated Tribe shall be contacted immediately. Upon determination by the Coroner that the find is Native American in origin, the Native American Heritage Commission will assign the Most Likely Descendent who will work with the project proponent to define appropriate treatment and disposition of the burials.

3.19. Utilities and Service Systems

Table 3-19: Utilities and Service Systems				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the projected demand in addition to the existing commitments?			X	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

3.19.1 Environmental Setting/Affected Environment

Wastewater:

Yuba City owns, operates, and maintains the wastewater collection, treatment, and disposal system that provides sewer service to approximately 70,000 residents and numerous businesses. The remainder of the residents and businesses in the Yuba City Sphere of Influence are currently serviced by private septic systems. In the early 1970s, the City's original sewage treatment plant was abandoned, and the current Wastewater Treatment Facility (WWTF) was constructed.

Water:

The water supply source for the City is surface water from the Feather River with use of a backup groundwater well. The City of Yuba City is a public water agency with over 18,000 connections. City policy only allows areas within the City limits to be served by the surface water system.

Reuse and Recycling:

Solid waste generated in Yuba City is collected by Recology Yuba-Sutter. Recology offers residential, commercial, industrial, electronic, and hazardous waste collection, processing, recycling, and disposal, as well as construction and demolition waste processing, diversion, and transfer to a disposal facility. The City's municipal solid waste is delivered to the Ostrom Road Landfill; a State-permitted solid waste facility that provides a full range of transfer and diversion services. As of June 2021, the Recology Ostrom Road Landfill Remaining Site Net Airspace is 33,764,000 cy; and has a remaining capacity of 21,297,000 tons; and remaining landfill service life is 53 years.

3.19.2 Federal Regulatory Setting

National Pollutant Discharge Elimination System: Discharge of treated wastewater to surface water(s) of the U.S., including wetlands, requires an NPDES permit. In California, the RWQCB administers the issuance of these federal permits. Obtaining a NPDES permit requires preparation of detailed information, including characterization of wastewater sources, treatment processes, and effluent quality. Any future development that exceeds one acre in size would be required to comply with NPDES criteria, including preparation of a Stormwater Pollution Prevention Plan (SWPPP) and the inclusion of BMPs to control erosion and offsite transport of soils.

3.19.3 State Regulatory Setting

State Water Resources Control Board (SWRCB): Waste Discharge Requirements Program. State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005 et seq. (hereafter Title 27). In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non-Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27. Several programs are administered under the WDR Program, including the Sanitary Sewer Order and recycled water programs.

Department of Resources Recycling and Recovery (CalRecycle): The Department of Resources Recycling and Recovery (CalRecycle) is the State agency designated to oversee, manage, and track the 76 million tons of waste generated each year in California. CalRecycle develops laws and regulations to control and manage waste, for which enforcement authority is typically delegated to the local government. The board works jointly with local government to implement regulations and fund programs.

The Integrated Waste Management Act of 1989 (PRC 40050 et seq. or Assembly Bill (AB 939, codified in PRC 40000), administered by CalRecycle, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and

Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

Regional Water Quality Control Boards: The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (State Board) and nine Regional Water Quality Control Boards. The State Board sets statewide policy for the implementation of state and federal laws and regulations. The Regional Boards adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities.

National Pollutant Discharge Elimination System (NPDES) Permit: As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into water of the United States. In California, it is the responsibility of Regional Water Quality Control Boards (RWQCB) to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements (WDRs). WDRs for discharges to surface waters also serve as NPDES permits.

California Department of Water Resources: The California Department of Water Resources (DWR) is a department within the California Resources Agency. The DWR is responsible for the State of California's management and regulation of water usage.

3.19.4 Impact Assessment/Environmental Consequences:

a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The Project will connect to both the City's water and wastewater treatment systems. The Yuba City Wastewater Treatment Facility (WWTF) has available capacity to accommodate new growth. The WWTF current permitted capacity is 10.5 mgd (annual average dry weather flow). The existing average influent flow to the WWTF is approximately 6 mgd. The remaining treatment capacity at the WWTF can be used to accommodate additional flow from the future developments.

The City's Water Treatment plant (WTP), for which its primary source of water is from the Feather River, also has adequate capacity to accommodate this project. The WTP uses two types of treatment systems, conventional and membrane treatment. The permitted capacity of the conventional WTP is 24 million gallons per day (mgd). The membrane treatment system has a permitted capacity of 12 mgd. Water produced from the conventional and the membrane treatment plants are blended for chlorine disinfection. Operating the conventional and membrane treatment facilities provides a total WTP capacity of 36 mgd. The City is permitted to draw 30 mgd from the Feather River. The current maximum day use is 26 mgd. The City also has an on-site water well at the water plant that supplements the surface water when needed.

For both public facilities there are City adopted master plans to expand those plants to the extent that they will accommodate the overall growth of the City.

The ongoing expansions of those plants to accommodate growth beyond this project are funded by the connection fees paid by each new connection. Therefore, the impact on the water and wastewater treatment facilities will be less than significant.

Stormwater drainage in this area is provided by the Gilsizer County Drainage District. As the Sutter County Water Agency (manages the district) did not comment on the Project, the impacts on the stormwater drainage system will be less than significant.

The extension of electric power facilities, natural gas facilities and telecommunication facilities are provided by private companies, none of which have voiced concerns over the Project's utilization of their services. With these considerations the impact on these types of facilities are expected to be less than significant.

c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the projected demand in addition to the existing commitments?

See Parts a) and b), above.

d). Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

Recology Yuba-Sutter provides solid waste disposal for the area as well as for all of Sutter and Yuba Counties. There is adequate collection and landfill capacity to accommodate the proposed development.

3.20. Wildfire

Table 3-20: Wildfire				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

3.20.1 Environmental Setting/Affected Environment

Wildland fires are an annual hazard in Sutter County, particularly in the vicinity of the Sutter Buttes, and, to a lesser degree due to urbanized development, Yuba City. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add to the County's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining wildland fires. Irrigated agricultural areas, which tend to surround Yuba City, are considered a low hazard for wildland fires.

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones apply to areas designated as State Responsibility Areas – areas in which the State has primary firefighting responsibility. The project site is not within a State Responsibility Area and therefore has not been placed in a Fire Hazard Severity Zone.

3.20.2 Impact Assessment/ Environmental Consequences

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

As discussed in Section 3.17 of this Initial Study, this Project is not expected to substantially obstruct emergency vehicles or any evacuations that may occur in the area. Therefore, the impacts of the Project related to emergency response or evacuations would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The Project site is in a level urban area with no native vegetation remaining, and the urban area is surrounded by irrigated farmland. This type of environment is generally not subject to wildfires. In light of this, the exposure of the Project to wildfire is less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

As discussed above, the site is not near any wildland areas and the Project itself will not create any improvements that potentially could generate wildfire conditions. As such the Project will not be constructing or maintaining wildfire related infrastructure such as fire breaks, emergency water sources, etc. Thus, the Project will not create any potential significant impacts that could result from these types of improvements.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?.

The Project site is in a topographically flat area. There are no streams or other channels that cross the site. As such, it is not expected that people or structures would be exposed to significant risks from changes resulting from fires in steeper areas, including downslope or downstream flooding or landslides. Impacts of the Project related to these issues would be less than significant.

3.21. Mandatory Findings of Significance

Table 3.21: Mandatory Findings of Significance				
Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important example of the major periods of California history or prehistory?			X	
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)			X	
c) Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

3.21.1 Impact Assessment/Environmental Consequences:

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important example of the major periods of California history or prehistory?

The 2.02-acre property is located well within the urban area. It was stripped many years ago of native vegetation and developed for commercial uses and has since been cleared. There are no nearby water courses or wetland areas. The proposed re-development of the site will not significantly degrade the quality of the natural environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate an important example of the major periods of California history or prehistory.

The analysis conducted in this Initial Study/Mitigated Negative Declaration resulted in a determination that the proposed Project, with the proposed mitigation measures, will have a less than significant effect on the local environment.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)

CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects.

The traffic study for a previous similar project on the same site found that the impacts from traffic generated by the proposed car wash and quick service restaurant would be less than significant. The site was previously connected to Yuba City services and the City has adequate water and wastewater capacity. The site was also previously connected to the stormwater drainage system and capacity remains in the system to accommodate this proposal. There will be no loss of agricultural land. An air quality study was prepared at the request of FRAQMD, with the result showing very minimal air quality impacts. Therefore, there are no impacts that will be individually limited but that will create significant cumulative impacts.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality, noise, and hazardous materials exposure impacts would occur for a very short period and only be a minor impact during that time period. With the mitigation measures applied to the car wash, ongoing noise impacts will be reduced to a less than significant level. Therefore, the proposed Project would not have any direct or indirect significant adverse impacts on humans.

4. Section References and/or Incorporated by Reference

According to Section 15150 of the CEQA Guidelines, an ND may incorporate by reference all or portions of another document that is a matter of public record. The incorporated language will be considered to be set forth in full as part of the text of the ND. All documents incorporated by reference are available for review at, or can be obtained through, the City of Yuba City Development Services Department located at the address provided above. The following documents are incorporated by reference:

Environmental Permitting Specialists, "Town Center Air Quality Study, Yuba City, California," November 5, 2024.

Bollard Acoustical Consultants, "Environmental Noise & Vibration Assessment-Town Center Development," October 24, 2024.

KD Anderson & Associates, "Transportation Impact Analysis for Town Center Circle K," March 23,2022.

Fehr & Peers, Inc. September 2020. SB 743 Implementation Guidelines for City of Yuba City.

Governor's Office of Planning and Research, November 2017. Technical Advisory on Evaluating Transportation Impacts in CEQA.

Sacramento Area Council of Governments. Hex Maps. Work VMT-2020 MTP/SCS (Adopted).

California Department of Conservation, Division of Land Resource Protection (CDC DLRP). 2014. Farmland Mapping and Monitoring Program – Sutter County Important Farmland 2012. August 2014.

California Department of Conservation, Division of Land Resource Protection (CDC DLRP). 2013. Sutter County Williamson Act FY 2013/2014.

Carollo. 2011. City of Yuba City 2010 Urban Water Management Plan. June 2011.

Yuba City, City of. 2016. City of Yuba City Municipal Code.
https://www.municode.com/library/ca/yuba_city/codes/code_of_ordinances

Dyett & Bhatia. 2004. City of Yuba City General Plan. Adopted April 8, 2004.

Yuba City General Plan, 2004 Environmental Impact Report. (SCH #2001072105).

Fehr & Peers Associates, Inc. 1995. Yuba-Sutter Bikeway Master Plan. December 1995.

"Determination of 1-in-200 Year Floodplain for Yuba City Urban Level of Flood Protection Determination," prepared for Yuba City by MBK Engineers, November 2015.

Sutter County General Plan.

Feather River Air Quality Management District (FRAQMD) CEQA Significance Thresholds.

Yuba Sutter Transit Route Map.

California Department of Conservation, California Geological Survey. "Fault Zone Activity Map." Alquist-Priolo Earthquake Fault Zones.

California Department of Toxic Substances Control (DTSC). 2016. EnviroStor. Available at http://www.envirostor.dtsc.ca.gov/public/
California Department of Conservation, Division of Land Resource Protection Farmland Mapping and Monitoring Program – Sutter County Important Farmland Map.

Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps.

Carollo. 2011. City of Yuba City 2010 Urban Water Management Plan. June 2011.

City of Yuba City Wastewater Master Plan.

Sutter County Airport Comprehensive Land Use Plan, April 1994.

Yuba County Airport Land Use Compatibility Plan, Sept. 2010.

California Department of Transportation (Caltrans). 2011. California Scenic Highway Mapping System website. Updated September 7, 2011. Available at http://dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm

Appendix A

Town Center Air Quality Study, Yuba City, California,

Environmental Permitting Specialists

November 5, 2024.

ENVIRONMENTAL PERMITTING SPECIALISTS
Air Quality • Permitting • OHSA • RMP/PSM

Final
TECHNICAL MEMORANDUM

To: Joshua Flamm
Senior Project Manager
Milestone Associates Imagineering, Inc

Date: November 5, 2024

From: Ray Kapahi RK
Tel: 916-803.6778
E-Mail: ray.kapahi@gmail.com

Subject: Town Center Air Quality Study, Yuba City, California

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In response to your e-mail of September 12, 2024, I have prepared this air quality study for the proposed Yuba City Town Center. The project is located at 500 Colusa Avenue, in Yuba City near the intersection of Colusa Avenue and Olive Street (Figure 1). The proposed project consists of a 2,870 square feet quick serve restaurant with drive thru and a 5,053 square foot carwash on a 2.02 acre site.

The scope of this study is limited to the requirements outlined by Feather River Air Quality Management District (FRAQMD) guidance "Thresholds of Significance" and "Operational Emissions of Criteria Air Pollutants". These documents were provided to us in your e-mail.

Two tasks were completed:

TASK 1
Determine if daily emission rates of volatile or reactive organic compounds (VOC or ROG), oxides of nitrogen (NOx) and particulate matter (PM10) exceed the FRAQMD thresholds. If a project exceeds these daily and annual thresholds, then it is considered to have a significant air quality impact. The thresholds are shown in Table 1.

Table 1 FRAQMD Thresholds of Significance					
Project Phase	**NOx**	**ROG/VOC**	**PM10**	**PM2.5**	**GHG[1]**
Construction	25 lbs/day	25 lbs/day	80 lbs/day	Not Yet Established	Not Yet Established
Operational	25 lbs/day and or 4.5 tons/yr	25 lbs/day and or 4.5 tons/yr	80 lbs/day	Not Yet Established	Not Yet Established
1. GHG – Greenhouse Gases such as Carbon Dioxide and Methane					

TASK 2

Complete the CEQA Checklist related to cumulative impacts, violate any air quality standard or conflict with or obstruct the implementation of an applicable air quality plan.

METHODOLOGY

As recommended in the District's Guidance, I have used the CalEEMod Emissions Model (Version 2022.1.1.28) to quantify daily and annual emissions. These emissions are compared with the Thresholds of Significance.

In addition to the type of project, its size and location, CalEEMod model requires information about:

- Traffic volume generated by the Project
- Energy consumption and water usage

A traffic study was completed in March 2022 and revised in November 30, 2023. The revised study determined that a total of 1,459 new trips would be generated by the project. The restaurant would generate 54% of these trips while the remaining 46% would be generated by the carwash. These data are used in the emission calculations using CalEEMoD. A copy of the revised traffic study is attached.

I relied on included the default values for energy and water usage. The default values are included in CalEEMoD for various land uses. For the carwash I relied on on-line published data for water and energy usage.

Table 2 summarizes all the project metrics based on information from the site map, traffic study and default data in the CalEEMod Emissions model. A start date of January 1, 2025 was assumed with construction to be completed by July 15, 2025. Occupancy is expected in 2025. These dates are arbitrary and can be revised without affecting the model results.

Table 2 CalEEMoD Model Inputs			
Phase		**Details**	**Comments**
Construction	Start Date	January 1, 2025	Based on Site Plan
	End Date	July 31, 2025	
	Lot Size	2.02 acres	
	Parking Spaces	66	
	Building Area	QSR: 2,870 sq ft Car Wash: 5,053	
	Worker Vehicle Trips	Default Values	Default values recommended within the CalEEMod model
Operational	Start Date	January 1, 2026	
	Average Daily Traffic	1,459 new trips per day	Nov 30, 2023 Traffic Study by Fieker Associates (Attached)
	Trip Length	2 miles each trip	
	Water Usage	QSR: 871,143 gall/yr Car Wash: 1.409 million gallons/yr Total: 2.228 million gallons/yr	CalEEMod Default Values Table G-31 Carwash: 60 gallons/car (assumes50% water recycling)
	Energy Usage (Electricity)	QSR: 14,428 kWh/yr Title 24 25,726 kWh/yr Non-Tile 24 Car Wash: 300 kWh per month	CalEEMOD Default Values Table G-28
	(Natural Gas)	26,361 kbtu/yr Title 24 95,490 kbtu/yr Non-Title 24	CalEEMOD Default Values Table G-28
	Solid Waste	33.1 tons/yr based on 11.5 tons/yr per 1,000 sq ft	CalEEMOD Default Values Table G-36

The project site is already level requiring minimal grading. No demolition will be required. Utilities are already in place so no infrastructure development is required. Most building construction will use hand tools and a truck mounted crane. Since electric power is available at the site, there will be minimal use of portable electric generators. The car wash, parts of the restaurant and various canopies are pre-fabricated and will be assembled on-site. No heavy equipment is used in the construction phase.

RESULTS

A summary of daily construction and operation emissions are summarized in Table 3 along with their thresholds of significance. Detailed emission calculations are attached. While our analysis quantified the emissions for all criteria air pollutants, there are not thresholds of significance adopted by FRAQMD for many air pollutants such as SO_2, PM2.5 and greenhouse gases. As a result, the significance of impacts from these pollutants cannot be determined.

Overall, the results show that when compared with the Thresholds of Significance, project impacts are insignificant by a wide margin. There are several reasons for the low impacts:

- For the operational (occupancy) phase, the cars must meet stringent 2026 fleet averaged tailpipe emission standards. This results in very low tailpipe emissions.

- The construction phase uses minimal amount of heavy construction equipment. Like cars, the construction equipment must also meet stringent emission standards for diesel fueled equipment

- Relatively small size of the project

Table 3
Comparison of Project Emissions with Thresholds of Significance

(in pounds per day)

	Phase		Significance threshold	Exceeds Threshold?
	Construction	Operational		
ROG	3.66	5.77	25	No
NOx	3.22	3.02	25	No
PM10	3.51	2.07	80	No
PM2.5	1.87	0.55	Not Established	n/a

Note: Annual emissions are below 1 tons/year for all pollutants for both phases and therefore are less than the significant threshold of 4.5 tons/year. See attached CalEEMoD emissions report that includes a comparison with daily and annual emissions.

COMPLIANCE WITH CEQA GUIDELINES

FRAQMD requires response to the following questions related to various criteria air pollutants and ozone precursors (NOx and ROG). These questions are included in Appendix D of the CEQA Guidelines.

1. Conflict with or obstruct implementation of the applicable air quality plan?

Emissions from this project would not obstruct implementation of an applicable Plan as the project does not generate any new emissions on a regional scale. Air Quality Plans are prepared for a region or a county and not on a project level. So while the project would generate emissions locally (within the project site), there would not be any change in emissions on a regional scale. There are 18 other car washes and 20 other fast food restaurants within 2.5 miles of the project. The current project shifts the emissions away from the other facilities. If the current project were not built, the public would use one of the other fast food restaurants or car washes.

2. Violate any air quality standard?

The emissions associated with this project are more than one tenth of the values considered significant. As a result, no violations of the air quality standards would occur.

3. Result in cumulatively considerable net increase of any criteria air pollutant for which the region is non-attainment

See response to previous questions 1 and 2.

4. Expose sensitive receptors to substantial pollutant concentrations

Emission rates are loo small to subject nearby sensitive receptors. Note that there are no air quality standards for VOCs or ROG. The maximum daily emission rates for the remaining air pollutants range from below 0.0001 lbs/day to 3.8 pounds/day. These rates are too small to subject sensitive receptors to substantial pollutant concentration.

5. Create objectionable odors affecting substantial number of people

There are no sources of odorous emissions with the operation of a carwash. There may be slight odors from food preparation.

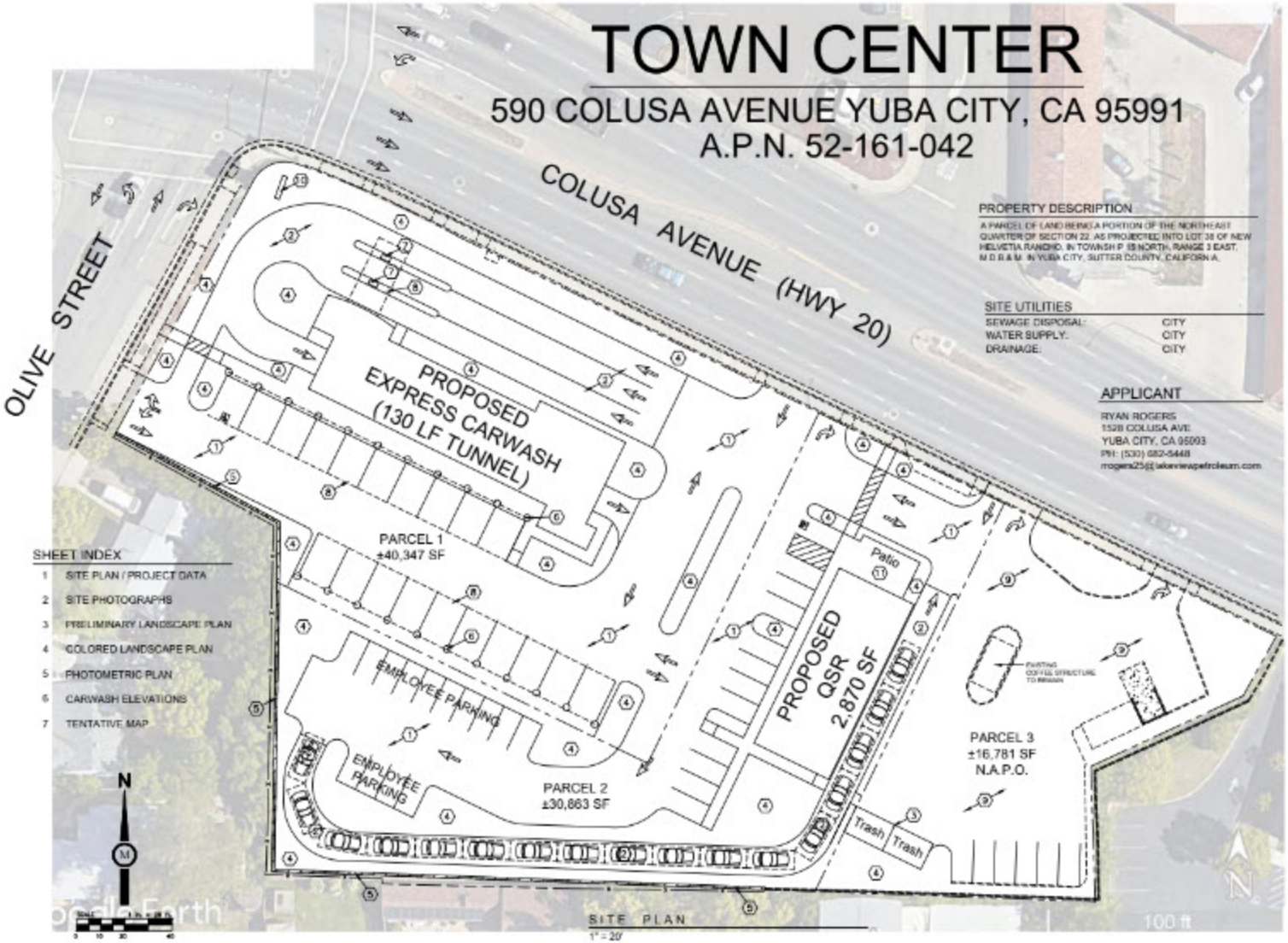
ATTACHMENTS

Figure 1
Copy of Traffic Study
Copy of CalEEMod Emissions Report

Figure 1

TOWN CENTER

590 COLUSA AVENUE YUBA CITY, CA 95991
A.P.N. 52-161-042



PROPERTY DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 22, AS PROJECTED INTO LOT 38 OF NEW HELVETIA RANCHO, IN TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.B.&M. IN YUBA CITY, SUTTER COUNTY, CALIFORNIA.

SITE UTILITIES

SEWAGE DISPOSAL:	CITY
WATER SUPPLY:	CITY
DRAINAGE:	CITY

APPLICANT

RYAN ROGERS
1528 COLUSA AVE
YUBA CITY, CA 95993
PH: (530) 682-5448
rrogers25@lakeviewpetroleum.com

SHEET INDEX

VICINITY MAP
NOT TO SCALE

LOT DATA:

A.P.N.:	52-161-042
TOTAL ACREAGE:	87,991 SF (2.02 AC)
EXISTING PARCELS:	1
PROPOSED PARCELS:	3
EXISTING ZONE:	C-3 GENERAL COMMERCIAL
PROPOSED ZONE:	SAME
EXISTING USE:	COFFEE DRIVE THROUGH
PROPOSED USE:	QSR, EXPRESS CARWASH WITH VACUUM STATIONS, EXISTING COFFEE USE TO REMAIN (NAPO)

SITE COVERAGE

QSR:	2,870 SF (3.3%)
CARWASH STRUCTURE:	5,053 SF (5.7%)
EXIST. COFFEE BLDGS:	515 SF (0.6%)
CANOPIES:	5,680 SF (6.5%)
LANDSCAPE AREA:	19,336 SF (22.0%)
PAVED SURFACE AREA:	54,537 SF (61.9%)

PARKING DATA:

CARWASH STRUCTURE (5,053 SF):	2 SPACES
QSR (2,870 / 250 SF):	12 SPACES
EXIST. COFFEE USE (515 SF / 300 SF):	2 SPACES
REQUIRED:	16 SPACES
STANDARD SPACE (9'x18'):	30 SPACES
ACCESSIBLE SPACE (9'x18'):	2 SPACES
COVERED VACUUM SPACE (14'x18'):	20 SPACES
PROVIDED:	52 SPACES

CONSTRUCTION NOTES

1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT
3. NEW COVERED TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. NEW 6 FT. HIGH SPLIT-FACE CMU WALL
6. NEW VACUUM STATION (TYP. OF 20)
7. NEW PAY STATION (TYP. OF 2)
8. NEW OVERHEAD CANOPY
9. EXISTING TO REMAIN
10. NEW MULTI-TENANT MONUMENT SIGN
11. NEW OUTDOOR SEATING AREA (400 SF)

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

TOWN CENTER
590 COLUSA AVENUE, YUBA CITY, CA 95991

SITE PLAN / PROJECT DATA 1

2-19-24

Copy of Traffic Study

Flecker Associates
Transportation Engineers

November 30, 2023

Ms. Stephanie Manier
FIVE WAY DEVELOPMENT
1528 Colusa Highway
Yuba City, CA 95993

RE: TRIP GENERATION ASSESSMENT– TOWN CENTER, 590 COLUSA AVENUE, YUBA CITY, CA

Dear Ms. Monier:

Flecker Associates (FA) has completed our analysis for the proposed development of 590 Colusa Highway in Yuba City. The site is located in the southeast quadrant of the Colusa Highway / Olive Street – Live Oak Blvd intersection. The project consists of a 130-foot tunnel car wash and a 2,870 square foot fast food restaurant, or quick serve restaurant (QSR), with drive-through lane (Figure 1). The project will be constructed on two parcels. East of the site is a drive-through coffee kiosk. Access between the coffee kiosk and your project will remain. The site is zoned C-3, General Commercial.

A previous local transportation analysis was completed by KD Anderson & Associates, Inc. in March 2022. The analyzed project consisted of a convenience store (C-store)/ gas station that included 6,750 square feet of store and 10 gasoline fueling positions, a QSR with drive-through lane and an automated car wash (Figure 2).

The City has requested a trip generation assessment be conducted to determine whether the proposed project will generate more trips than the previous project.

Trip Generation. For many types of land use development projects, estimates of the number of vehicle trips generated by a project are developed using trip generation rates from the Institute of Transportation Engineers (ITE) document *Trip Generation*, 11th Edition. The publication is an industry-standard reference document. However, it does not contain information for all types of land uses, and for many types of land uses, the rates are based on limited survey data and may not be statistically valid.

The proposed project will construct a 2,870 square foot quick serve restaurant, i.e., fast-food restaurant, with single lane drive-through and a 130-foot tunnel touchless car wash on the site.

ITE Land Use Code (LU) 934, Fast Food Restaurant with Drive-Through Lane, was used to identify the projected trip generation for the QSR while LU 948, Automated Car Wash, was used as the basis for the tunnel car wash use. Data for automated car washes is limited with three studies conducted for the p.m. peak hour on a per tunnel basis. A single study was also identified using square footage of the car wash as the independent variable. Daily and a.m. peak hour trip data is unavailable. Due to the minimal number of data points using either independent variable, other studies were reviewed to develop trip rates. Several agencies in Southern California have identified trip rates for tunnel car washes based on the length of the tunnel. Table 1 presents data from two additional studies conducted in Southern California.

The three data points based on tunnel length were used to compare the expected trips generated during the p.m. peak hour for the proposed car wash. The p.m. trips using the trip rates per linear foot of tunnel are shown to be higher than those developed using the ITE rates. This provides a conservative assessment of expected trips. The average of the three 'per linear foot' data points were used to develop average rates for daily, a.m. and p.m. peak hours. Based on this information the daily rate is 8.73 trips per linear foot of tunnel with rates of 0.48 trips and 0.88 trips per linear foot in the a.m. and p.m. peak hours.

TABLE 1
AUTOMATED CAR WASH TRIP GENERATION RATE FORECAST

ITE Code	Description	Average Trips per Unit							
		Unit	Daily	AM Peak Hour			PM Peak Hour		
				Total	% in	% out	Total	% in	% out
948	Automated Car Wash	Tunnel (EA)	n.a.	n.a.			77.50	50%	50%
		KSF	n.a.	n.a.			14.20	50%	50%
Other[1]	Drive-Thru Car Wash	Length of tunnel (ft)	8.45	0.46	54%	46%	0.79	48%	52%
Other[2]	Drive-Thru Car Wash	Length of tunnel (ft)	8.90	0.49	38%	62%	0.79	62%	38%
Proposed Project Rates									
948	Automated Car Wash	1 tunnel	-	-	-	-	78[1]	39	39
		5.053	-	-	-	-	72[1]	36	36
Other[2]	Drive-Thru Car Wash	140	1183	64	35	30	111	53	58
Other[3]	Drive-Thru Car Wash	130	1157	64	24	39	122	76	46
Other[3]	Drive-Thru Car Wash	110	979	54	20	34	103	64	39
Average Automated Car Wash (volumes)			1106	60	26	34	106	59	47
Average Automated Car Wash (rates)			**8.73**	**0.48**	**43%**	**57%**	**0.88**	**57%**	**43%**

[1]Volumes not used in developing trip rates due to low number of studies
[2]City of Rancho Cucamonga, California. Arbor Car Wash Traffic Impact Analysis, Thames Solutions, Inc, 9/24/2018
[3]City of Anaheim, California. Lincoln Avenue Redevelopment, Linscott Law & Greenspan, 11/25/2019
Numbers may not match due to rounding
ksf – thousand square feet

Table 2 applies the car wash rates from Table 1 along with the trip rates for LU 934, the QSR with drive-through lane.

Traffic engineers recognize that a portion of the total trips attracted to retail and service uses can be drawn from the stream of traffic already on streets that are adjoining (pass-by trips) or near the site (i.e., diverted trips). Additionally, some traffic can be drawn from within a site (internally captured trips) where multiple uses exist that may be complementary, resulting in a single trip visiting the different uses within the site. After deducting these trips from the overall trip generation, the resulting trips made solely for the purpose of visiting a potential destination are considered 'net new' trips. In this case some of the project trips, i.e., car wash and QSR, may be drawn from traffic already on Colusa Highway and Olive Street. Internal trips would occur between the two uses and the adjacent coffee kiosk.

Typically, data drawn from the ITE *Trip Generation Handbook, 3rd Edition,* is used to categorize these trips. Fast-food restaurants with a drive through lane are shown to have pass-rates of 49%, 48% and 50% for daily, a.m. and p.m. trips. Due to the few studies that have been conducted for car washes there is no published data available. An on-line search for other car wash traffic impact analyses identified one study where a local trip generation assessment included interviews with customers[1]. That report indicated that pass-by trips comprised 25% of the peak hour trips attracted to an automated car wash. Compared to other convenience-oriented uses such as the fast-food rates this rate may be conservative. For internal trips Caltrans has indicated that when no other data is available internal trips can be assumed at 5% of the total trips. After applying these pass-by and internal capture rates the net new trips are projected to be 1,459 daily trips, 108 a.m. peak hour and 127 p.m. peak hour trips.

TABLE 2
PROJECT TRIP GENERATION

Land Use	Quantity / Unit	Trips Per Unit						
		Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Project								
Fast Food with Drive-Thru (LU 934)	2.87 KSF	467.48	44.61	51%	49%	33.03	52%	48%
Tunnel Car Wash	1 EA	8.73	0.48	43%	57%	0.88	57%	43%
Fast Food with Drive-Thru (LU 934)		1342	128	65	63	95	49	46
Tunnel Car Wash		1135	62	27	35	115	66	49
Subtotal		**2477**	**190**	92	98	**210**	115	95

[1] Traffic Impact Analysis for Anaheim Express Wash Linscott Law & Greenspan, 4/2016

TABLE 2 (Con't)
PROJECT TRIP GENERATION

Land Use	Trips Per Unit						
	Daily	AM Peak Hour			PM Peak Hour		
		Total	In	Total	In	Total	In
Internal Trips							
Fast Food with Drive-Thru *(5% Daily, AM, PM)*	(67)	(6)	(3)	(3)	(5)	(2)	(2)
Tunnel Car Wash *(5% Daily, AM, PM)*	(57)	(3)	(1)	(2)	(6)	(3)	(2)
Subtotal	**(124)**	**(9)**	(5)	(5)	**(10)**	(6)	(5)
Pass-By Trips							
Fast Food with Drive-Thru *(49% Daily, 48% AM, 50%PM)*	(625)	(58)	(30)	(29)	(45)	(23)	(22)
Tunnel Car Wash *(25% Daily, AM, PM)*	(270)	(15)	(6)	(8)	(27)	(16)	(12)
Subtotal	**(894)**	**(73)**	(36)	(37)	**(72)**	(39)	(33)
Total Adjusted Trips							
Net New Trips	**1459**	**108**	**52**	**56**	**127**	**70**	**57**

ksf – thousand square feet
numbers may not equal due to rounding

Comparison of Previous Site. A study was completed by KD Anderson & Associates in March 2022 for the Town Center site. As noted earlier, that project consisted of a 6,750 square foot C-store with 10 gasoline fueling positions, a QSR with drive-through lane and an automated car wash. Table 3 compares the projected and net new trips generated by each site plan. The proposed project is expected to generate fewer trips overall and fewer new trips when compared to the previous project.

Evaluation / Findings

The City of Yuba City requested that a trip generation assessment be completed for the proposed Town Center project to determine whether there will be a net change in traffic generated when compared to the previously prepared March 2022 traffic impact analysis. The previous project consisted of a C-store store / gas station that included 6,750 square feet of retail space and 10 vehicle fueling positions along with a QSR with drive-through lane and an automated car wash; the QSR was located on the back side of the C-store.

TABLE 3 PROJECT TRIP GENERATION COMPARISON							
Project	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
		Total	**In**	**Out**	**Total**	**In**	**Out**
Project Trip Total							
Town Center **March 2022**	5,681	435	218	217	446	223	223
Town Center **November 2023**	2477	190	92	98	210	115	95
Net Difference	**-3204**	**-245**	**-126**	**-125**	**-236**	**-108**	**-128**
Net New Trip Total							
Town Center **March 2022**	2582	180	90	90	182	91	91
Town Center **November 2023**	1459	108	52	56	127	70	57
Net Difference	**-1123**	**-72**	**-38**	**-34**	**-55**	**-21**	**-34**

The currently proposed project includes a 2,870 stand-alone QSR with drive-through lane and a 130-foot-long tunnel car wash.

The trip generation analysis comparison indicates that the proposed project will generate fewer total trips generated on a daily, a.m. peak hour and p.m. peak hour basis when compared to the previous site plan. This also includes the the net new trips generated after deducting existing trips due to pass-by and internal trip traffic.

Should you have any questions please free to contact me at (916) 501-7513 or you may reach me via e-mail at jonathan@fa-transportation.com.

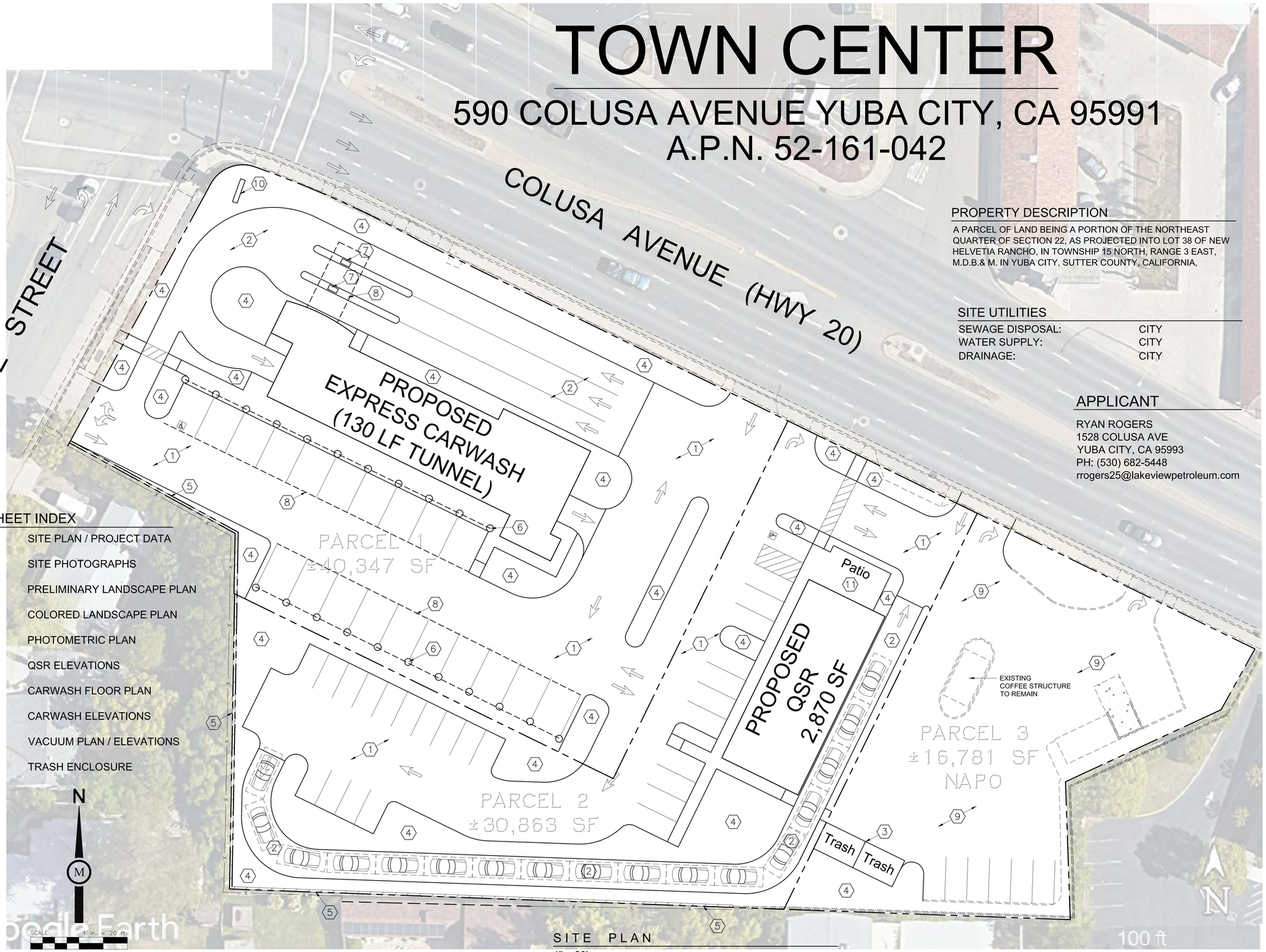
Flecker Associates.

Jonathan D. Flecker, P.E., T.E.
President

Attachments

TOWN CENTER

590 COLUSA AVENUE YUBA CITY, CA 95991
A.P.N. 52-161-042



SITE PLAN
1" = 20'

PROPERTY DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 22, AS PROJECTED INTO LOT 38 OF NEW HELVETIA RANCHO, IN TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.B.& M. IN YUBA CITY, SUTTER COUNTY, CALIFORNIA,

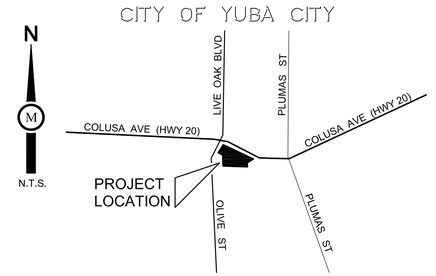
SITE UTILITIES

SEWAGE DISPOSAL:	CITY
WATER SUPPLY:	CITY
DRAINAGE:	CITY

APPLICANT

RYAN ROGERS
1528 COLUSA AVE
YUBA CITY, CA 95993
PH: (530) 682-5448
rrogers25@lakeviewpetroleum.com

SHEET INDEX



VICINITY MAP

NOT TO SCALE

LOT DATA:

A.P.N.:	52-161-042
TOTAL ACREAGE:	87,991 SF (2.02 AC)
EXISTING PARCELS:	1
PROPOSED PARCELS:	3
EXISTING ZONE:	C-3 GENERAL COMMERCIAL
PROPOSED ZONE:	SAME
EXISTING USE:	COFFEE DRIVE THROUGH
PROPOSED USE:	QSR, EXPRESS CARWASH WITH VACUUM STATIONS, EXISTING COFFEE USE TO REMAIN (NAPO)

SITE COVERAGE

QSR:	2,870 SF (3.3%)
CARWASH STRUCTURE:	5,053 SF (5.7%)
EXIST. COFFEE BLDGS:	515 SF (0.6%)
CANOPIES:	5,680 SF (6.5%)
LANDSCAPE AREA:	19,336 SF (22.0%)
PAVED SURFACE AREA:	54,537 SF (61.9%)

PARKING DATA:

CARWASH STRUCTURE (5,053 SF):	2 SPACES
QSR (2,870 / 250 SF):	12 SPACES
EXIST. COFFEE USE (515 SF / 300 SF):	2 SPACES
REQUIRED:	16 SPACES
STANDARD SPACE (9'x18'):	30 SPACES
ACCESSIBLE SPACE (9'x18'):	2 SPACES
COVERED VACUUM SPACE (14'x18'):	20 SPACES
PROVIDED:	52 SPACES

CONSTRUCTION NOTES

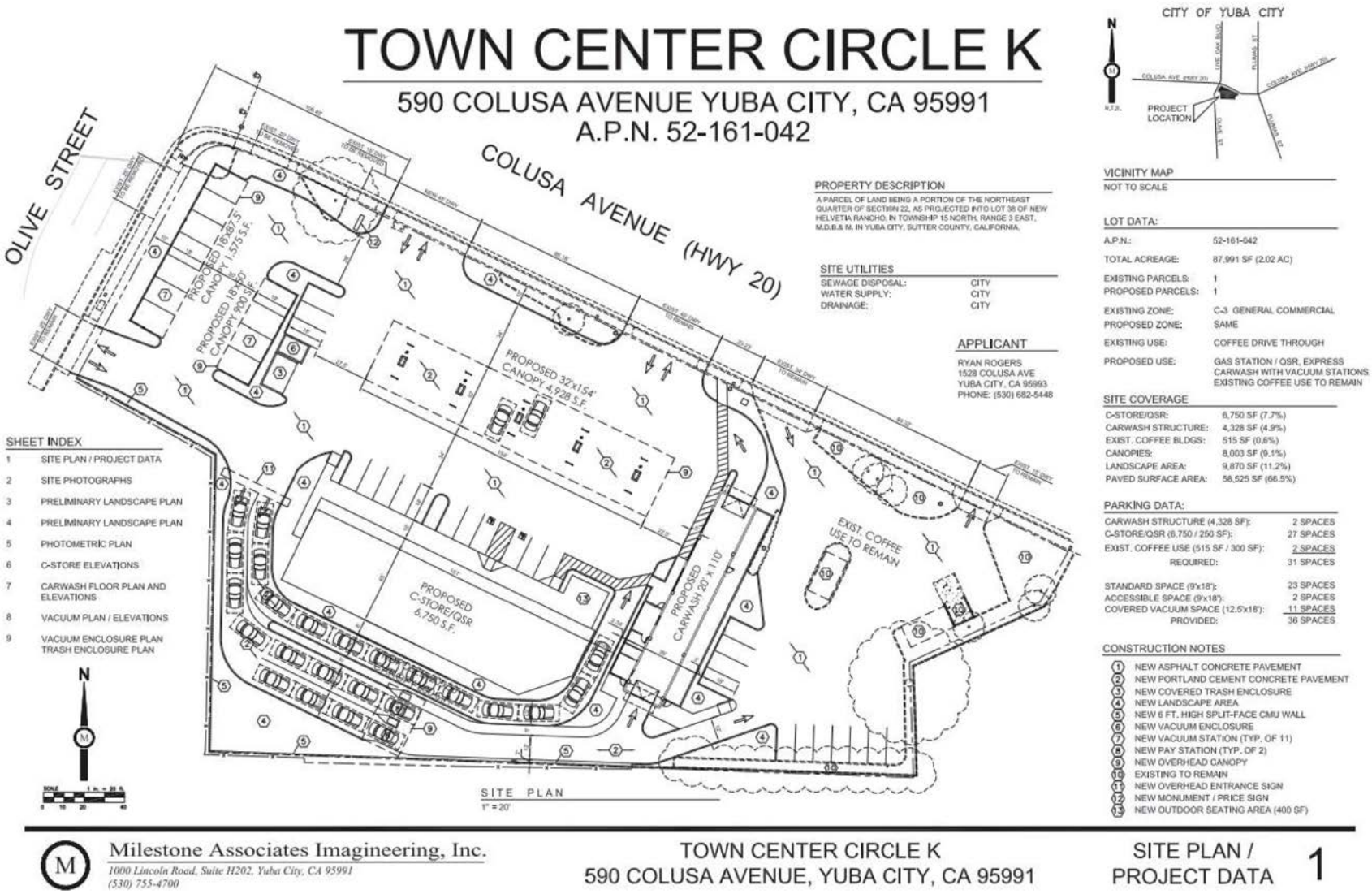
1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT
3. NEW COVERED TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. NEW 6 FT. HIGH SPLIT-FACE CMU WALL
6. NEW VACUUM STATION (TYP. OF 20)
7. NEW PAY STATION (TYP. OF 2)
8. NEW OVERHEAD CANOPY
9. EXISTING TO REMAIN
10. NEW MULTI-TENANT MONUMENT SIGN
11. NEW OUTDOOR SEATING AREA (400 SF)

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

TOWN CENTER
590 COLUSA AVENUE, YUBA CITY, CA 95991

SITE PLAN / PROJECT DATA

10-9-23



SITE PLAN

KD Anderson & Associates, Inc.
Transportation Engineers

0000-00 RA 3/22/2022

figure 2

FLECKER ASSOCIATES
3650-01

SITE PLAN - PREVIOUS PROJECT

FIGURE 2

Copy of CalEEMod Emissions Report

Yuba Town Center Summary Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Yuba Town Center
Construction Start Date	1/1/2025
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	39.6
Location	39.1407576224685, -121.62049561802141
County	Sutter
City	Yuba City
Air District	Feather River AQMD
Air Basin	Sacramento Valley
TAZ	301
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Retail	1.00	User Defined Unit	2.02	2,870	19,336	—	—	Fast Food with Drive Thru

User Defined Retail	1.00	User Defined Unit	0.00	5,053	0.00	—	—	Car Wash

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.66	2.08	2.35	< 0.005	0.10	0.06	0.14	0.09	0.01	0.10	—	383	383	0.01	0.01	0.23	387
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.38	3.22	3.65	< 0.005	0.19	3.33	3.51	0.17	1.70	1.87	—	548	548	0.02	0.01	0.01	550
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.49	0.52	< 0.005	0.02	0.06	0.08	0.02	0.03	0.05	—	90.2	90.2	< 0.005	< 0.005	0.02	90.9
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.09	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	14.9	14.9	< 0.005	< 0.005	< 0.005	15.0
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	25.0	25.0	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	25.0	25.0	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	4.50	4.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.77	2.21	15.5	0.02	0.02	1.07	1.09	0.02	0.27	0.29	59.2	1,780	1,839	6.27	0.27	5.20	2,082
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.92	2.55	18.7	0.02	0.02	1.07	1.09	0.02	0.27	0.29	59.2	1,675	1,734	6.36	0.29	0.13	1,979
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.14	3.02	19.1	0.03	0.04	2.03	2.07	0.03	0.52	0.55	59.2	2,909	2,968	6.34	0.34	4.37	3,231
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.94	0.55	3.49	0.01	0.01	0.37	0.38	0.01	0.09	0.10	9.80	482	491	1.05	0.06	0.72	535
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshol	25.0	25.0	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshol d	25.0	25.0	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshol d	4.50	4.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

6. Climate Risk Detailed Report

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	95.0
Healthy Places Index Score for Project Location (b)	9.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

Appendix B

Environmental Noise & Vibration Assessment-Town Center Development

Bollard Acoustical Consultants

October 24, 2024

Environmental Noise & Vibration Assessment

Town Center Development

Yuba City, California

BAC Job #2023-147

Prepared For:

Milestone Associates Imagineering, Inc.

Attn: Julio Tinajero
1000 Lincoln Road, Suite H202
Yuba City, CA 95991

Prepared By:

Bollard Acoustical Consultants, Inc.

Dario Gotchet
Principal Consultant
Elected Member, Institute of Noise Control Engineering (INCE)

October 24, 2024

BOLLARD
Acoustical Consultants

CEQA Checklist

NOISE AND VIBRATION **– Would the Project Result in:**	**NA – Not Applicable**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			**X**		
b) Generation of excessive groundborne vibration or groundborne noise levels?				**X**	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				**X**	

Introduction

The Town Center Development (project) is located at 590 Colusa Avenue in Yuba City, California (APN: 052-161-042). The project proposes the development of a quick serve restaurant (QSR) with drive-through services, car wash tunnel, vehicle vacuum stations, and associated parking stalls. Existing land uses in the immediate project vicinity include residential to the south and west, and commercial to the north and east. The project area with aerial imagery is shown in Figure 1. The project preliminary site plan is presented in Figure 2.

The purposes of this assessment are to quantify the existing noise and vibration environments, identify potential noise and vibration impacts resulting from the project, identify appropriate mitigation measures, and provide a quantitative and qualitative analysis of impacts associated with the project. Specifically, impacts are identified if project-related activities would cause a substantial increase in ambient noise levels at existing noise-sensitive uses in the project vicinity, or if project-generated noise or vibration levels would exceed applicable federal, state, or local standards at those nearby existing noise-sensitive uses.

Noise and Vibration Fundamentals

Noise

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are designated as sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are provided in Appendix A.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Noise levels associated with common noise sources are provided in Figure 3.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day-night average noise descriptor, DNL (or L_{dn}), and shows very good correlation with community response to noise. DNL is based on the average noise level over a 24-hour day, with a +10-decibel weighting applied to noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because DNL represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second peak particle velocity (IPS, PPV) or root-mean-square (VdB, RMS). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity as well as RMS velocities.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

According to the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans, June 2004), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Legend

- Project Area Boundary (Approximate)
- Ambient Noise Level Measurement Sites
- Noise-Sensitive Receivers (Residences)

N

Scale (Feet)

0 50 100

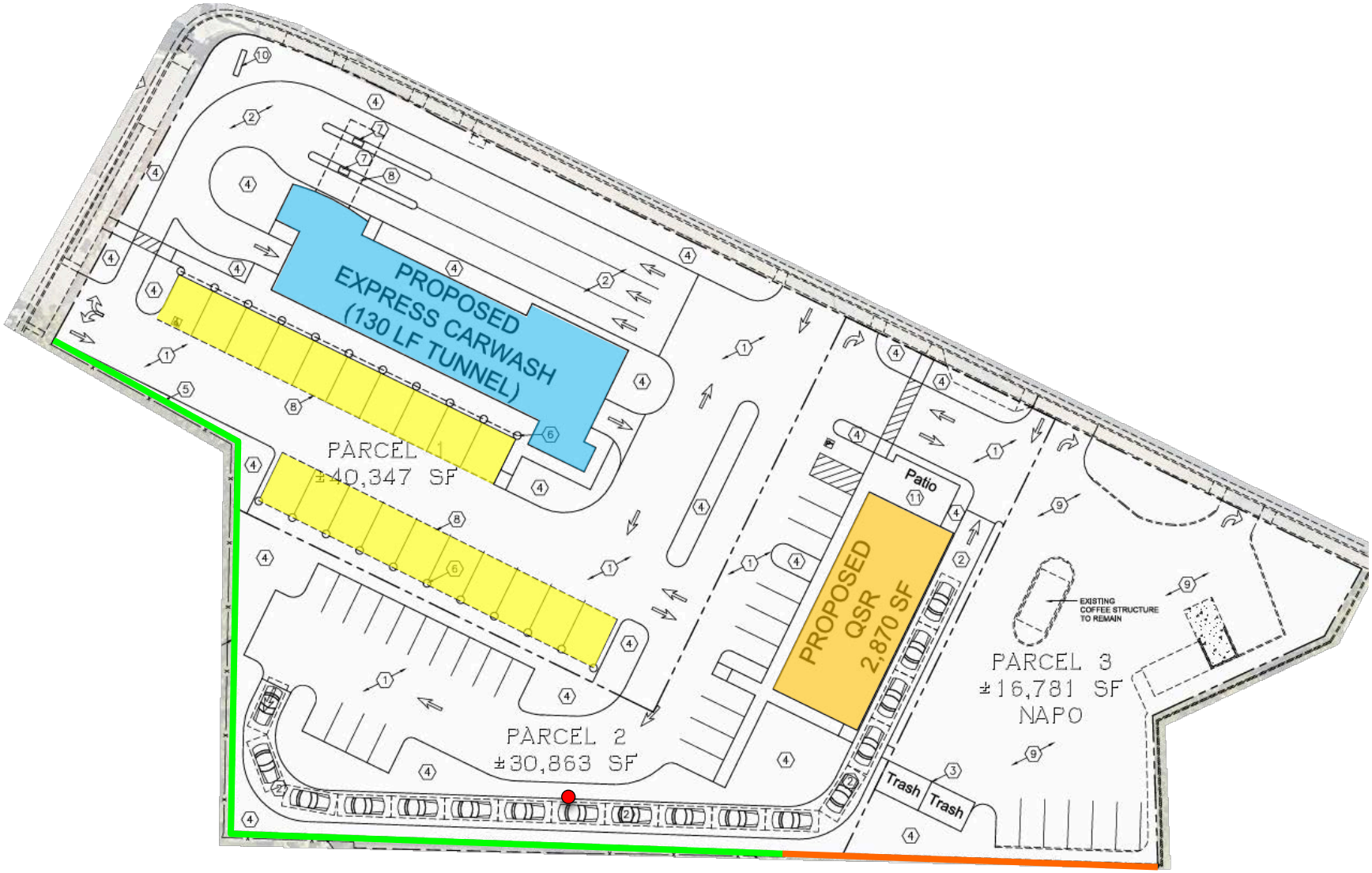
Town Center Development

Yuba City, California

Project Area

Figure 1

BOLLARD Acoustical Consultants



Legend

- QSR Building
- Car Wash Tunnel
- Vacuum Area
- Drive-Thru Speaker Post (Assumed Location)
- Proposed 6' CMU Wall
- Existing 6' CMU Wall

N

Scale (Feet)

0 25 50

Town Center Development

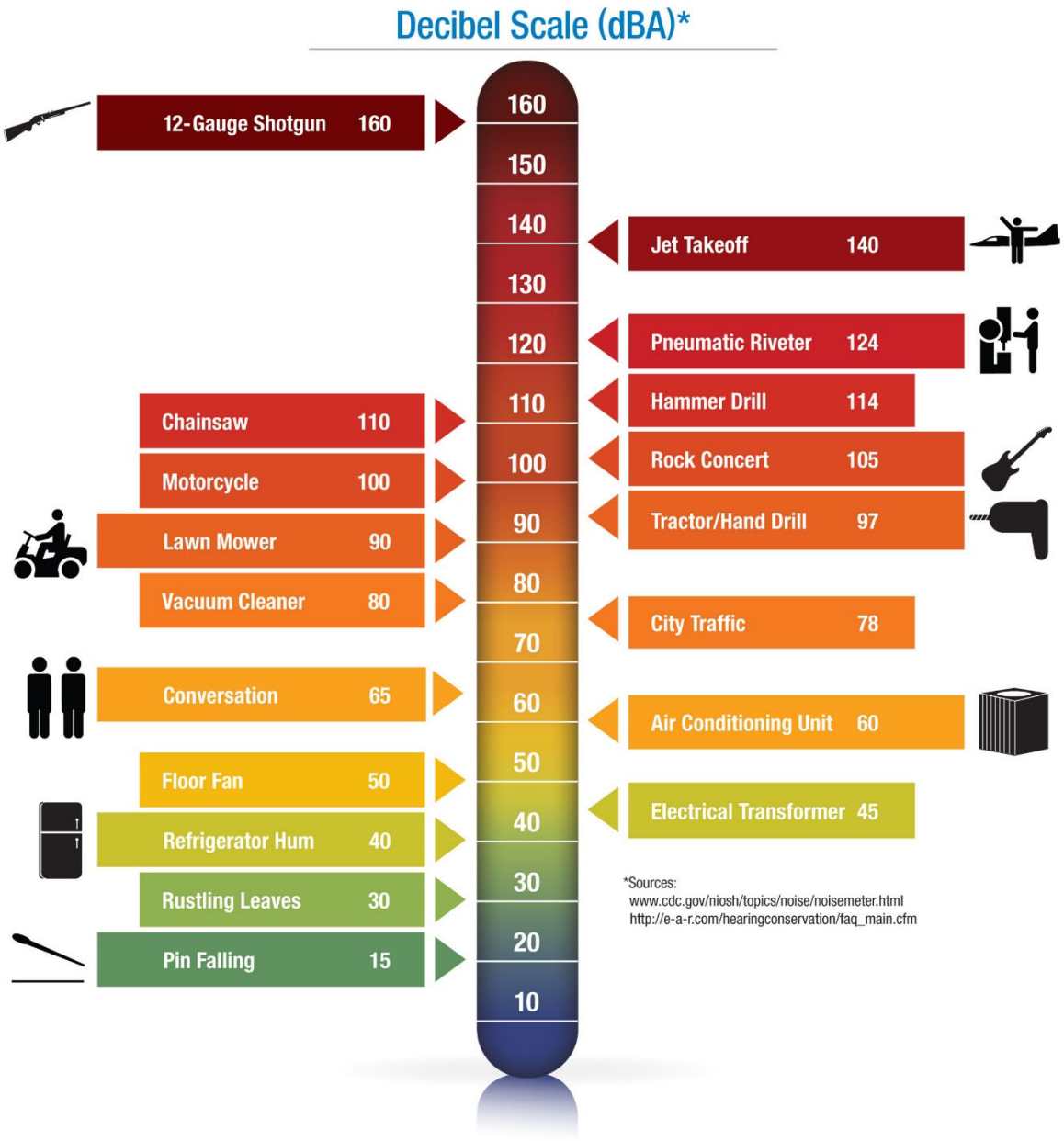
Yuba City, California

Site Plan

Figure 2

BOLLARD Acoustical Consultants

Figure 3
Noise Levels Associated with Common Noise Sources



Environmental Setting – Existing Ambient Noise and Vibration Environment

Existing Land Uses in the Project Vicinity

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities. Nearby noise-sensitive land uses which would potentially be affected by the project consist of existing single-family residences to the south and west. The representative locations of nearby residences are shown in Figure 1, identified as receivers 1-5.

Existing Overall Ambient Noise Environment within the Project Vicinity

The existing ambient noise environment within the project vicinity is defined primarily by noise from traffic on State Route 20 (SR 20) / Colusa Avenue, and to a lesser extent by nearby commercial activities. To generally quantify existing ambient noise environment within the project vicinity, BAC conducted long-term (72-hour) ambient noise level measurements at three (3) locations November 21-23, 2023. The long-term noise survey locations are shown in Figure 1, identified as sites 1-3. Photographs of the noise survey sites are provided in Appendix B.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used to complete the long-term noise level survey. The meters were calibrated immediately before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4). The results of the long-term ambient noise survey are shown numerically and graphically in Appendices C and D (respectively) and are summarized in Table 1.

Table 1
Summary of Long-Term Ambient Noise Survey Results November 21-23, 2023[1]

			Average Measured Hourly Noise Levels (dB)[3]			
			Daytime		Nighttime	
Survey Location[2]	Date	DNL (dB)	L_{eq}	L_{max}	L_{eq}	L_{max}
Site 1: West end of project parcel	11/21/23	69	65	85	62	78
	11/22/23	69	66	84	61	76
	11/23/23	66	64	83	59	78
Site 2: Southwest end of project parcel	11/21/23	66	62	78	59	73
	11/22/23	66	62	81	59	73
	11/23/23	63	60	79	56	72
Site 3: Southeast end of project parcel	11/21/23	67	64	80	60	75
	11/22/23	67	63	81	60	74
	11/23/23	66	63	80	59	75

[1] Detailed summaries of the noise monitoring results are provided in Appendices C and D.
[2] Long-term ambient noise monitoring locations are identified in Figure 1.
[3] Daytime hours: 7:00 AM to 10:00 PM | Nighttime hours: 10:00 PM to 7:00 AM

Source: BAC 2023

Noise level measurements obtained at the BAC survey site 1, located on the west end of the project area, are believed to be representative of the existing ambient noise level environment at the nearest residential uses to the west of the project (receivers 1 and 2). BAC survey site 2, located on the southwest end of the project site, was specifically selected to be representative of the existing ambient noise level environment at residential receivers 3 and 4. Finally, noise level measurements obtained at the BAC survey site 3, located on the southeast end of the project area, are believed to be representative of the existing ambient noise level environment residential receiver 5.

As shown in Table 1, measured day-night average levels (DNL) and average measured hourly noise levels (L_{eq} and L_{max}) were consistent at each individual site throughout the monitoring period (i.e., relatively small range of measured levels).

Existing Ambient Vibration Environment in Project Vicinity

During site visits on November 20th and 24th, 2023, BAC staff noted that vibration levels were below the threshold of perception within the project area and the immediate project vicinity. Therefore, the existing vibration environment in the project area and immediate project vicinity is considered to be negligible.

Regulatory Setting: Criteria for Acceptable Noise and Vibration Exposure

Federal

There are no federal noise or vibration criteria which would be directly applicable to this project.

State of California

California Environmental Quality Act (CEQA)

The State of California has established regulatory criteria that are applicable to this assessment. Specifically, Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. According to Appendix G of the CEQA guidelines, the project would result in a significant noise or vibration impact if the following occur:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies.

B. Generation of excessive groundborne vibration or groundborne noise levels.

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered significant according to CEQA. Because every physical process creates noise, the use of audibility alone as significance criteria would be unworkable. CEQA requires a substantial increase in noise levels before noise impacts are identified, not simply an audible change.

California Department of Transportation (Caltrans)

The City of Yuba City does not currently have adopted standards for groundborne vibration that would be applicable to this specific project. As a result, the vibration impact criteria developed by the California Department of Transportation (Caltrans) was applied to the project. The Caltrans guidance criteria for building structures and vibration annoyance are presented in Tables 2 and 3, respectively.

Table 2
Caltrans Guidance for Building Structure Vibration Criteria

Structure and Condition	Limiting PPV (in/sec)
Historic and some old buildings	0.5
Residential structures	0.5
New residential structures	1.0
Industrial buildings	2.0
Bridges	2.0
PPV = Peak Particle Velocity	

Source: 2020 Caltrans Transportation and Construction Vibration Guidance Manual, Table 14

Table 3
Caltrans Guidance for Vibration Annoyance Potential Criteria

	Maximum PPV (in/sec)	
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources
Severe/very disturbing	2.0	0.4 to 3.6
Strongly perceptible	0.9	0.1
Distinctly perceptible	0.24	0.035
Barely/slightly perceptible	0.035	0.012
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers and vibratory compaction equipment.		
PPV = Peak Particle Velocity		

Source: 2020 Caltrans Transportation and Construction Vibration Guidance Manual, Tables 4 & 6

Local

Yuba City General Plan

The Noise and Safety Element (Chapter 9) of the Yuba City General Plan contains the City's noise-related policies. The specific policies which are generally applicable to this project are reproduced below:

Guiding Policies

9.1-G-1 Strive to achieve an acceptable noise environment for the present and future residents of Yuba City.

9.1-G-2 Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

Implementing Policies

9.1-I-1 Use the "normally acceptable" noise levels for new land uses as established in Figure 4 (General Plan Figure 9-4) as review criteria.

9.1-I-2 Require a noise study and mitigation for all projects that have noise exposure greater than "normally acceptable" levels. Noise mitigation measures include, but are not limited to, the following actions:

- Screen and control noise sources, such as parking and loading facilities, outdoor activities and mechanical equipment,
- Increase setbacks for noise sources from adjacent dwellings,
- Retain fences, walls, and landscaping that serve as noise buffers,
- Use soundproofing materials and double-glazed windows, and
- Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.

Proposed development can introduce potential noise sources, even when it is compatible with existing adjacent uses. An example is the handling of large trash bins for multi-family housing. If noise exposure is greater than levels considered normally acceptable, some form of noise mitigation will have to be incorporated, to the extent practicable, unless the impacts are found to be less than significant. The mitigation can be conventional insulation features or techniques that require more complex building or equipment design and site layout. Site design and/or screening techniques can help mitigate the resulting noise. Open space, building orientation and design, and landscaping can be used to buffer or mask sound.

9.1-I-3 In making a determination of impact under the California Environmental Quality Act (CEQA), consider an increase of four or more dBA to be "significant" if the resulting

noise level would exceed that described as normally acceptable for the affected land use in Figure 4 (General Plan Table 9-4).

9.1-I-4 Protect especially sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise, by enforcing "normally acceptable" noise level standards for these uses.

9.1-I-5 Discourage the use of sound walls. As a last resort, construct sound walls along highways and arterials when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility.

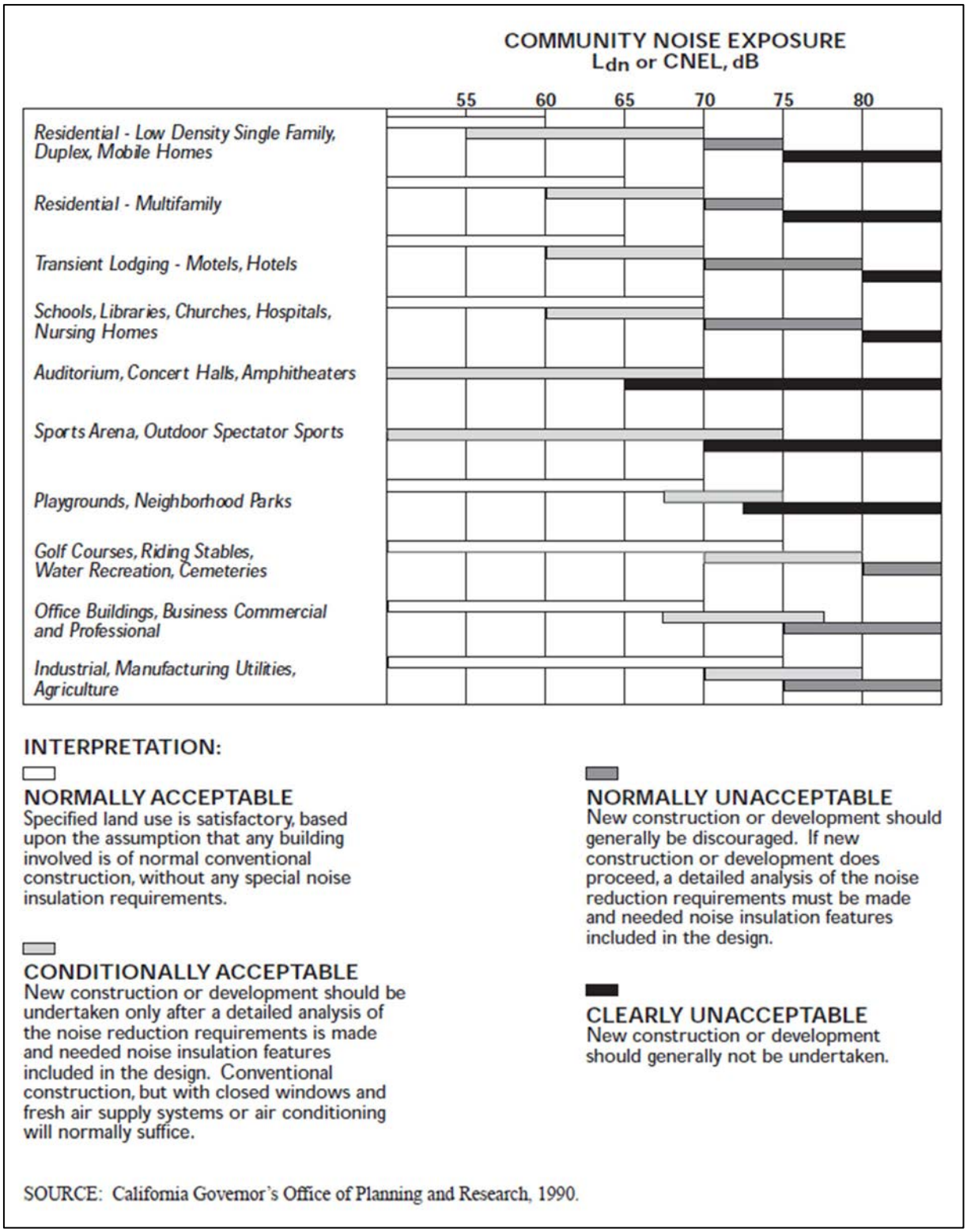
The construction of sound walls will be considered where noise mitigation to acceptable levels by other means is not feasible.

9.1-I-6 Require new noise sources to use best available control technology (BACT) to minimize noise from all sources.

9.1-I-7 Minimize vehicular and stationary noise sources and noise emanating from temporary activities, such as construction.

The City's Nuisance Ordinance restricts the hours of operation for a variety of noise sources, and State laws limit the noise levels of motor vehicles and some activities at industrial plants.

Figure 4
Land Use Compatibility for Community Noise Environments



Yuba City Municipal Code

The provisions of the Yuba City Municipal Code which would be most applicable to this project are reproduced below.

4-17.10 Enumeration.

The following specific acts, subject to the exemptions provided in Section 4-17.20, are declared to be public nuisances in violation of Sections 4-17.22 and 4-17.30, namely:

a. The loud and raucous operation of use of any of the following before 6:00 a.m. or after 9:00 p.m. daily except Sunday and State or Federal holidays when the prohibited time shall be before 8:00 a.m. and after 9:00 p.m.;

1. A hammer or any other device or implement used to produce or strike an object.
2. An impact wrench or other tool or equipment powered by compressed air.
3. A hand powered saw.
4. Any tool or piece of equipment powered by an internal combustion engine such as, but not limited to, chain saw, backpack blower and lawn mower. Except as included in paragraph (6) below, motor vehicles powered by an internal combustion engine and subject to the California Vehicle Code are excluded from this prohibition.
5. Any electrically powered (whether by alternating current electricity or by direct current electricity) tool or piece of equipment used for cutting, drilling or shaping wood, plastic, metal or other materials or objects such as, but not limited to, a saw, drill, lathe or router.
6. Any of the following: Heavy equipment (such as, but not limited to, bulldozer, road grader, back hoe), ground drilling and boring equipment (such as, but not limited to, derrick or dredge), crane and boom equipment, portable power generator or pump, pavement equipment (such as, but not limited to, pneumatic hammer, pavement breaker, tamper, compacting equipment), pile driving equipment, vibrating roller, sand blaster, gunite machine, trencher, concrete truck and hot kettle pump.
7. Any construction, demolition, excavation, erection, alteration or repair activity

Impacts and Mitigation Measures

Thresholds of Significance

For the purposes of this assessment, a noise and vibration impact is considered significant if the project would result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies; or

- Generation of excessive groundborne vibration or groundborne noise levels; or

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

The following criteria established by Caltrans, Yuba City General Plan, and Yuba City Municipal Code were used to evaluate the significance of environmental noise and vibration resulting from the project:

- A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise criteria presented in the Yuba City General Plan or Yuba City Municipal Code.

- A significant impact would be identified if project-generated off-site traffic, on-site operations, or on-site construction would substantially increase noise levels at existing sensitive receptors in the vicinity. A substantial increase would be identified relative to the increase significance criteria contained in Yuba City General Plan Policy 9.1-I-3.

- A significant impact would be identified if project construction activities or proposed on-site operations would expose sensitive receptors to excessive groundborne vibration levels. Specifically, an impact would be identified if groundborne vibration levels due to these sources would exceed the Caltrans vibration impact criteria presented in this report.

- A significant impact would be identified if the project would expose people working in the project area to excessive noise levels from airport operations. Specifically, an impact would be identified if airport operations noise would exceed applicable Yuba City General Plan land use compatibility noise criteria at the project site.

Noise Impacts Associated with Project-Generated Increases in Off-Site Traffic

Impact 1: Increases in Existing Off-Site Traffic Noise Levels due to the Project

Construction of this project would result in increased traffic on the local roadway network. BAC utilized the Federal Highway Administration traffic noise prediction model (FHWA-RD-77-108) with provided project data to determine whether traffic noise impacts (relative to Yuba City General Plan Policy 9.1-I-3 increase significance criteria) would occur as a result of this project.

The FHWA Model was used in conjunction with the CALVENO reference noise emission curves, and accounts for vehicle volume and speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the project vicinity, and is generally considered to be accurate within 1.5 dB if the input variables are properly accounted for. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To calculate a day-night average (DNL), average daily traffic (ADT) volume data is manipulated based on the assumed day/night distribution of traffic.

According to the provided site plan, the project site will be accessed from either SR 20 or Olive Street. As a result, the greatest impact from project-generated off-site traffic will be along those roadways. The nearest existing noise sensitive use along SR 20 has been identified as a single-family residence located west of the project area, approximately 150 feet from the highway centerline. The closest existing noise-sensitive use along Olive Street has been identified as a single-family residence also located west of the project area, which maintains a separation of approximately 80 feet from the roadway centerline.

Existing traffic data in the form of peak hour intersection turning movements were obtained from the transportation impact analysis prepared by KD Anderson & Associates, Inc. (Transportation Impact Analysis for Town Center Circle K, dated March 23, 2022). Those data were converted to Average Daily Traffic (ADT) segment volumes by applying a factor of 5 to the sum of AM and PM peak hour conditions. Other inputs were obtained from BAC observations and noise measurement data. Based on the results from the analysis, the segment of SR 20 adjacent to the closest identified existing residential use is calculated to have an existing ADT volume of approximately 30,000. The results further indicate that the segment of Olive Street adjacent to the closest identified existing residential use is calculated to have an existing ADT volume of approximately 2,600.

Assuming vehicle speeds of 35 MPH, medium- and heavy-truck mix of 3%/2% (derived from Caltrans data), and an existing ADT of 30,000, the FHWA Model predicts SR 20 traffic noise levels of 64 dB DNL at distance of 150 feet from the centerline of the highway (i.e., location of nearest residence along highway). Assuming vehicle speeds of 25 MPH, medium- and heavy-truck mix of 1%/1% (derived from BAC file data for similar roadways), and an existing ADT of 2,600, the FHWA Model predicts Olive Street traffic noise levels of 53 dB DNL at distance of 80 feet from the centerline of the roadway (i.e., location of nearest residence along roadway).

According to the provided trip generation data, the project is estimated to generate a total of approximately 2,500 daily vehicle trips. Given 2,500 daily vehicle trips, project-generated traffic noise level exposure is predicted to be 52 dB DNL at the outdoor activity area of the nearest existing residence located along SR 20 located approximately 150 feet from the highway centerline. Given 2,500 daily vehicle trips, project-generated traffic noise level exposure is predicted to be 53 dB DNL at the outdoor activity area of the nearest existing residence located along Olive Street located approximately 80 feet from the roadway centerline. The projected noise levels above are believed to be associated with worst-case project-generated off-site traffic noise level exposure, as the projections conservatively assume that all project-generated vehicle trips would occur on either SR 20 or Olive Street. However, it is more likely that the project trips would be distributed between the roadways and associated project access points.

Yuba City General Plan Policy 9.1-I-3 states that an increase of four (4) or more dBA shall be considered significant if the resulting noise level would exceed that described as normally acceptable for the affected land use as established in Figure 4 of this report. As indicated in Figure 4, the General Plan considers an exterior noise level environment of up to 60 dB DNL as normally acceptable for single-family residential uses. Based on the FHWA Model predictions of existing traffic and project-generated vehicle trip generation stated above, the project-related increase in traffic noise level exposure along SR 20 is calculated to be 0.3 dB DNL at the closest existing

residential use along the highway. Additionally, the project-related increase in traffic noise level exposure along Olive Street is calculated to be 2.9 dB DNL at the closest existing residential use along the roadway.

Because project-related traffic is not predicted to result in increases in ambient noise levels that would exceed the applicable Yuba City General Plan increase significance criteria at existing sensitive uses within the project vicinity, this impact is identified as being ***less than significant***.

Off-Site Noise Impacts Associated with Project On-Site Operations

The project consists of the construction and operation of a quick serve restaurant (QSR) with drive-through services, car wash tunnel, vehicle vacuum stations, and associated parking stalls. Noise generated by those operations were quantified through a combination of reference noise level data and application of accepted noise modeling techniques.

The primary on-site noise sources associated with the project have been identified as car wash and vehicle vacuum system operations, QSR drive-through operations (i.e., amplified menu speaker board and vehicle idling/passbys), QSR outdoor dining area activity, on-site passenger vehicle circulation (i.e., vehicle passbys through the parking areas), on-site delivery truck circulation, truck delivery activities (i.e., unloading of product), and mechanical equipment (HVAC).

For noise generated by project on-site operations, the General Plan's day-night average noise level (DNL) criteria presented in Figure 4 of this report were applied to the project. According to the project applicant, the proposed hours of operation for the car wash component are 7:00 a.m. to 9:30 p.m. The proposed hours of operations for the QSR drive-through component of the project are 6:00 a.m. to 11:00 p.m.

In terms of determining the noise level increase due to on-site operations noise, a significant impact would be identified if project-generated on-site operations would substantially increase noise levels at existing sensitive receptors in the vicinity. A substantial increase would be identified relative to the increase significance criteria contained in Yuba City General Plan Policy 9.1-I-3. Specifically, Policy 9.1-I-3 states that an increase of four (4) or more dBA shall be "significant" if the resulting noise level would exceed that described as normally acceptable for the affected land use in Figure 4 of this report. As indicated in Figure 4, the General Plan establishes a normally acceptable exterior noise level environment of up to 60 dB DNL for single-family residential uses, such as those located adjacent to the project site.

Finally, the following analyses of on-site operations noise levels at nearby residential uses include consideration of a proposed 6' CMU wall (noise barrier) along the west and south project property boundaries. The location of the proposed 6' CMU wall is illustrated in Figure 2. The site plans indicate proposed 6' CMU wall will be constructed such that it will join an existing 6' CMU wall along the southeast project property boundary. Shielding offsets that account for both the existing and proposed 6' CMU walls are noted in each impact discussion.

Impact 2: Car Wash Drying Assembly Noise at Nearby Noise-Sensitive Uses

The project proposes the development of a 130-foot express car wash tunnel. Based on the provided site plan, vehicles will enter the tunnel on the west end and exit on the east end. The location of the car wash tunnel is shown in Figure 2.

Based on the experience of BAC, noise levels generated by car washes are primarily due to the drying portion of the operation. It is our understanding that the proposes the installation of a Tommy's car wash drying system. A comprehensive noise study containing sound level measurements of the proposed car wash drying assembly (prepared by a professional noise consulting firm – ABD Engineering & Design) is provided as Appendix E.

Figure 2 of the Appendix E noise study ("Sound Map of Tommy's Car Wash Property") contains measurements of the car wash drying assembly at distances ranging from 20 feet to 80 feet from the tunnel exit. The measurement distances and associated car wash drying assembly operations information are cited on page 4 of the Appendix E noise study (under "Short-Term Measurements"). It should be noted that distances from the car wash drying assembly cited on Appendix E page 4 were subsequently verified with corresponding measured noise levels using distance callouts (for scale) contained in Figure 1 of the Appendix E sound study ("Site Plan with Measurement Locations").

According to BAC noise level measurements conducted at various car wash facilities in recent years, the noise level generation of car wash drying assemblies vary depending on the orientation of the measurement position relative to the tunnel opening. Worst-case drying assembly noise levels occur at a position directly facing the car wash exit, considered to be 0 degrees off-axis. For car wash tunnels that are in excess of 100 feet in length (such as the tunnel analyzed in the Appendix E noise study and the proposed tunnel), drying assembly noise levels at the car wash entrance are approximately 9-10 dB lower than those at the exit. At off-axis positions, the tunnel building facade provides varying degrees of noise level reduction. At positions 45 degrees off-axis relative to the facade of the car wash exit and entrance, drying assembly noise levels are approximately 5 dB lower. At 90 degrees off-axis, drying assembly noise levels are approximately 10 dB lower.

To calculate project car wash drying assembly noise levels relative to the General Plan day-night average noise level descriptor (DNL), a 24-hour average standard, the total duration of car wash dryer operations during a typical day must be known. It is the understanding of BAC that all car wash operations are proposed during the hours of 7:00 a.m. to 9:30 p.m. Based on the proposed hours of operations, it was conservatively assumed that the car wash drying assembly would be in operation continuously for the duration of every proposed hour of operations (7:00 a.m. to 9:30 p.m.). The above operations assumptions are considered to be associated with worst-case equipment noise exposure. It should be noted that the project does not propose car wash operations during nighttime hours (10:00 p.m. to 7:00 a.m.).

Based on the equipment sound level measurement data provided in Appendix E, off-axis tunnel offsets, and operations assumptions discussed above, and assuming standard spherical spreading loss (-6 dB per doubling of distance from a stationary source), worst-case project car

wash drying assembly noise exposure at nearby noise-sensitive uses (residential receivers 1-5) was calculated and the results of those calculations are presented in Table 4.

Table 4
Predicted Car Wash Drying Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4,5]	General Plan Noise Standard, DNL (dB)
1	Residential	240	51	
2	Residential	85	50	
3	Residential	214	51	**60**
4	Residential	190	52	
5	Residential	225	56	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from car wash tunnel entrance/exit (whichever is closest) to residence outdoor area.
[3] Predicted DNL assumes continuous equipment operation during all hours of operation (7 am to 9:30 pm).
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.
[5] Appendix E noise study contains car wash drying assembly noise measurements at distances of 20', 40', 60' and 80'. However, field measurements of noise sources can be affected by ambient conditions (i.e., other noise sources) as distance from the source increases, which can result in unreliable measurements. As a result, the measured reference noise level of 89 dB at 20 feet from the tunnel exit cited in Appendix E was utilized in the prediction of car wash drying assembly noise levels at receivers 3-5, located nearest to the tunnel exit. Factoring in a 9 dB decrease in drying assembly noise levels observed/measured at tunnel entrances for tunnels 100' or more (such as the one considered in the Appendix E noise study and the proposed tunnel), a reference noise level of 80 dB at 20 feet from the tunnel entrance was utilized in the prediction of car wash drying assembly noise levels at receivers 1-2, located closest to the tunnel entrance.

Source: BAC 2024

As indicated in Table 4, worst-case project car wash drying assembly noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Table 1 of this report contains the results from the BAC long-term ambient noise survey, which are believed to be representative of the existing ambient noise environments at nearby residential receivers 1-5. Using the lowest measured day-night average noise levels (DNLs) during the survey, and the predicted noise levels presented in Table 4, ambient plus project car wash drying assembly noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 5. As shown in Table 5, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 5
Calculated Project Car Wash Drying Assembly Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted Dryer Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	51	66.1	0.1
2	66	50	66.1	0.1
3	63	51	63.3	0.3
4	63	52	63.4	0.4
5	66	56	66.4	0.4

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted drying assembly DNL at receiver presented in Table 4.
[3] Logarithmic sum of predicted drying assembly DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

It should be noted that the project proposes the installation of Airlift car wash bays doors on both the entrance and exit of the tunnel. However, noise level reduction data was not provided/available for the proposed car wash bays doors. As a result, the analysis provided above excludes consideration of noise level reduction that could be provided by the proposed doors in the closed position.

Because project car wash drying assembly noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those operations are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 3: Vacuum Equipment Noise at Nearby Noise-Sensitive Uses

The project proposes two (2) vehicle vacuum areas south of the car wash tunnel. The locations of the proposed vacuum areas are shown in Figure 2.

According to the provided site plan, each of the two vacuum areas will contain 10 vehicle bays. A comprehensive noise study containing sound level measurements of the proposed vacuum system (prepared by a professional noise consulting firm – ABD Engineering & Design) is provided as Appendix E. Figure 2 of the Appendix E noise study ("Sound Map of Tommy's Car Wash Property") contains measurements ranging from 72 dB to 76 dB associated with 11 vacuums in operation concurrently at distances of 20 feet, 40 feet, 60 feet and 80 feet. The measurement distances and associated vacuum equipment operations information are cited on page 5 of the Appendix E noise study (under "Short-Term Measurements"). It should be noted that distances from vacuums equipment cited on Appendix E page 5 were subsequently verified with corresponding measured noise levels using distance callouts (for scale) contained in Figure 1 of the Appendix E sound study ("Site Plan with Measurement Locations").

To compute the day-night average noise level (DNL), it was conservatively assumed that the nearest proposed 11 vacuum units (i.e., half of all proposed vacuums) to a residential receiver could be in operation concurrently and continuously for the duration of every hour from 7:00 a.m.

to 9:30 p.m. (i.e., proposed hours of operations). Based upon the measurement data cited in Appendix E, the operations assumptions above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), worst-case project vacuum equipment noise exposure at nearby noise-sensitive uses (residential receivers 1-5) was calculated and the results of those calculations are presented in Table 6.

Table 6
Predicted Vacuum System Equipment Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4,5]	General Plan Noise Standard, DNL (dB)
1	Residential	260	49	
2	Residential	75	55	
3	Residential	150	48	**60**
4	Residential	170	47	
5	Residential	260	44	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from effective noise center of nearest 11 vacuum units to residence outdoor area.
[3] Predicted DNL assumes continuous and concurrent equipment operation of nearest 11 vacuum units to a residential receiver during the hours of 7 am to 9:30 pm.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.
[5] Appendix E noise study contains vacuum noise measurements at distances of 20', 40', 60' and 80'. However, field measurements of noise sources can be affected by ambient conditions (i.e., other noise sources) as distance from the source increases, which can result in unreliable measurements. As a result, the cited measured reference noise level of 76 dB at 20 feet in Appendix E was utilized in the predictions of vacuum noise levels.

Source: BAC 2024

Table 6 data indicate that project vacuum system noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 6, ambient plus project vacuum equipment noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 7. As shown in Table 7, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 7
Calculated Project Vacuum System Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted Vacuum Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	49	66.1	<0.1
2	66	55	66.3	0.3
3	63	48	63.2	0.2
4	63	47	63.1	0.1
5	66	44	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted vacuum system DNL at receiver presented in Table 6.
[3] Logarithmic sum of predicted vacuum system DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because project vacuum system noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those operations are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 4: QSR Drive-Through Operations Noise at Nearby Noise-Sensitive Uses

According to the project site plan, the quick serve restaurant (QSR) will have drive-through services. The location of the QSR building and drive-through lane is shown in Figure 2.

To quantify the noise emissions of proposed drive-through speaker usage and vehicle passages, BAC utilized noise measurement data collected for similar drive-through operations in the greater Sacramento area. Reference drive-through noise level data is presented in Table 8. In addition, reference noise level data for a commonly used drive-through speaker, HME SPP2 speaker post, is provided as Appendix F. The manufacturer's noise data sheet shows good agreement with aforementioned measurements conducted by BAC.

Table 8
Reference Drive-Through Noise Levels

	Measured Reference Noise Levels (dB)	
Noise Source	Average (L_{eq})	Maximum (L_{max})
Vehicles[1]	57 dB at 5 feet	70 dB at 5 feet
Speaker[2]	60 dB at 10 feet	67 dB at 10 feet

[1] Vehicle noise level data obtained from previous drive-through noise studies.
[2] Speaker noise level data obtained from measurements conducted at a representative drive-through parcel located at 2845 Bell Road in Auburn, California.

Source: BAC 2018

To calculate project drive-through operations noise levels relative to the General Plan day-night average noise level descriptor (DNL), the combined average (L_{eq}) noise level exposure associated with measured drive-through activities shown in Table 8 was assumed during every hour of proposed hours of operations (i.e., 6:00 a.m. to 11:00 p.m.). Based on the BAC file data presented in Table 8, the operations assumptions above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), data were projected from the proposed drive-through lane and speaker post locations to nearby noise-sensitive uses (residential receivers 1-5). The results of those projections are summarized in Table 9.

Table 9
Predicted Drive-Through Operations Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]		Predicted Combined Noise Level, DNL (dB)[3,4,5]	General Plan Noise Standard, DNL (dB)
		Speaker	Vehicles		
1	Residential	375	275	30	
2	Residential	170	75	39	
3	Residential	140	40	42	**60**
4	Residential	60	40	47	
5	Residential	150	40	42	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from speaker and vehicle (i.e., drive-thru lane) to residence outdoor area.
[3] Predicted DNL assumes continuous drive-through operations noise from 6 am to 11 pm.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.
[5] Predicted combined DNL from drive-through vehicles and speaker.

Source: BAC 2024

As shown in Table 9, project drive-through operations noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 9, ambient plus project drive-through operations noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 10. As indicated in Table 10, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 10
Calculated Project Drive-Through Operations Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted Drive-Through Operations Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	30	66.0	<0.1
2	66	39	66.0	<0.1
3	63	42	63.0	<0.1
4	63	47	63.1	0.1
5	66	42	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted combined drive-through operations DNL at receiver presented in Table 9.
[3] Logarithmic sum of predicted combined drive-through operations DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

It is the understanding of BAC that the drive-through speaker may face the direction of a portion of the closest residences. It should be noted that the predicted drive-through speaker day-night average noise levels presented in Tables 9 and 10 conservatively do not include consideration of directional offsets for speaking facing, which would reduce noise exposure at a portion of receivers (i.e., at receivers where the speaker would face away). As a result, the predicted drive-through speaker day-night average noise levels presented in Tables 9 and 10 are considered to be conservative. Although predicted drive-through operations noise levels are predicted to comply with the applicable Yuba City General Plan 60 dB DNL noise level standard and General Plan ambient increase significance criterion of 4 dB at closest residential receivers, it is possible that speaker noise could be audible at a portion of residential receiver locations.

Because project drive-through operations noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those operations are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 5: QSR Outdoor Dining Area Noise at Nearby Noise-Sensitive Uses

According to the provided site plans, the project proposes an outdoor dining area (patio) for restaurant patrons on the north side of the QSR building. The location of the outdoor patio area is shown in Figure 2.

To quantify outdoor dining area noise, BAC utilized file data from the SoundPLAN noise modeling software program (Version 9.0). According to the modeling program (catalog emission #173), restaurant dining areas with music have a reference sound level of 82 dB at a distance of 1 meter. For the purpose of computing day-night average noise level exposure (DNL), it was conservatively assumed that outdoor dining area noise could occur for every hour during proposed hours of operation (6:00 a.m. to 11:00 p.m.).

Based on the reference sound level data above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), and assuming standard spherical spreading loss (-6 dB per doubling of distance), QSR outdoor dining area noise was projected at nearby noise-sensitive uses (residential receivers 1-5) and the results of those calculations are presented in Table 11.

Table 11
Predicted QSR Outdoor Dining Area Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4]	General Plan Noise Standard, DNL (dB)
1	Residential	500	40	
2	Residential	275	41	
3	Residential	300	40	**60**
4	Residential	240	42	
5	Residential	170	45	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from QSR outdoor dining area to residence outdoor area.
[3] Predicted DNL assumes continuous patio usage 6 am to 11:00 pm.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.

Source: BAC 2024

Table 11 data indicate that project outdoor dining area noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 11, ambient plus project QSR outdoor dining area noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 12. As shown in Table 12, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 12
Calculated Project QSR Outdoor Dining Area Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted QSR Outdoor Dining Area Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	40	66.0	<0.1
2	66	41	66.0	<0.1
3	63	40	63.0	<0.1
4	63	42	63.0	<0.1
5	66	45	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted QSR outdoor dining area DNL at receiver presented in Table 11.
[3] Logarithmic sum of predicted QSR outdoor dining area DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because project QSR outdoor patio noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those activities are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 6: On-Site Passenger Vehicle Circulation Noise at Nearby Noise-Sensitive Uses

According to the provided site plans, the project site would be accessed from both SR 20 and Olive Street. The locations of the access points are shown in Figure 2.

To quantify project-generated on-site passenger vehicle circulation noise level exposure, BAC utilized specific automobile passby noise level measurements conducted by BAC with trip generation data prepared by the project transportation consultant (Flecker Associates Transportation Engineers). The BAC vehicle passby measurements included a series of individual noise measurements of multiple vehicle types arriving and departing a parking area. The results of those measurements revealed that individual vehicle passbys generated mean noise levels of approximately 70 dB SEL (Sound Exposure Level) at a reference distance of 50 feet.

According to data prepared by Flecker Associates, the QSR component of the project is estimated to generate a total of approximately 1,342 daily trips, with 128 AM peak hour trips and 95 PM peak hour trips. Additionally, the car wash component is estimated to generate approximately 1,135 daily vehicle trips, with 62 AM peak hour trips and 115 PM peak hour trips. For the purpose of computing day-night average noise level exposure (DNL) from project on-site vehicle circulation, it was conservatively assumed that worst-case estimated project peak hour trip generation (128 trips) could occur during every hour from 6:00 a.m. to 11:00 p.m. (i.e., proposed hours of operation for the QSR component). The operations assumption above is believed to be associated with worst-case on-site vehicle circulation noise exposure.

Based on the BAC measurement data, peak hour trip generation estimates, and operations assumptions above, worst-case project on-site passenger vehicle circulation exposure at nearby noise-sensitive uses (residential receivers 1-5) was calculated and the results of those calculations are presented in Table 13.

Table 13
Predicted On-Site Passenger Vehicle Circulation Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4]	General Plan Noise Standard, DNL (dB)
1	Residential	175	49	
2	Residential	50	52	
3	Residential	100	48	**60**
4	Residential	80	49	
5	Residential	140	46	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from nearest parking area drive aisle to residence outdoor area.
[3] Predicted DNL conservatively assumes worst-case peak hour trip generation from 6 am to 11:00 pm.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.

Source: BAC 2024

As indicated in Table 13, project on-site passenger vehicle circulation noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 13, ambient plus project on-site passenger vehicle circulation noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 14. As shown in Table 14, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 14
Calculated Project On-Site Passenger Vehicle Circulation Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted On-Site Circulation Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	49	66.1	0.1
2	66	52	66.2	0.2
3	63	48	63.1	0.1
4	63	49	63.2	0.2
5	66	56	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted on-site passenger vehicle circulation DNL at receiver presented in Table 13.
[3] Logarithmic sum of predicted on-site passenger vehicle circulation DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because project on-site passenger vehicle circulation noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those

operations are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 7: On-Site Delivery Truck Circulation Noise at Nearby Noise-Sensitive Uses

For the purpose of this analysis, it is assumed that deliveries of product to the QSR and car wash components of the project will occur at the front/side of the buildings with medium-duty vendor trucks/vans and heavy trucks. The locations of the QSR and car wash buildings are shown in Figure 2.

On-site truck passbys are expected to be relatively brief and will occur at low speeds. To predict noise levels generated by on-site truck circulation, BAC utilized file data obtained from measurements conducted by BAC of heavy and medium duty truck passbys. According to BAC file data, measured single-event heavy truck passby noise levels are approximately 83 dB SEL at a reference distance of 50 feet. BAC file data also indicate that single-event medium truck passby noise levels are approximately 76 SEL at a reference distance of 50 feet.

For a conservative assessment of daily truck delivery noise levels at the QSR and car wash components of the project, it was assumed that 2 heavy trucks and 2 medium duty trucks/vans could deliver products to the project site on a typical busy day. To calculate day-night average noise level (DNL) exposure, it was conservatively assumed that all 4 of those truck deliveries could occur during a worst-case busy hour of deliveries during a nighttime hour (i.e., before 7:00 a.m. or after 10:00 p.m.).

Based on the reference noise level data and operations assumptions presented above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), project on-site delivery truck circulation exposure at nearby noise-sensitive uses (residential receivers 1-5) was calculated and the results of those calculations are presented in Table 15.

Table 15
Predicted On-Site Delivery Truck Circulation Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4]	General Plan Noise Standard, DNL (dB)
1	Residential	175	42	
2	Residential	50	48	
3	Residential	150	39	**60**
4	Residential	145	39	
5	Residential	130	40	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from nearest point of on-site delivery truck circulation route to residence outdoor area.
[3] Predicted DNL conservatively assumes 2 medium truck and 2 heavy truck passbys during a nighttime hour.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.

Source: BAC 2024

Table 15 data indicate that project on-site delivery truck circulation noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 15, ambient plus project on-site delivery truck circulation noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 16. As indicated in Table 16, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 16
Calculated Project On-Site Delivery Truck Circulation Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted On-Site Delivery Truck Circ. Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	42	66.0	<0.1
2	66	48	66.1	0.1
3	63	39	63.0	<0.1
4	63	39	63.0	<0.1
5	66	40	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted on-site delivery truck circulation DNL at receiver presented in Table 15.
[3] Logarithmic sum of predicted on-site delivery truck circulation DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because project on-site delivery truck circulation noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those activities are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 8: Truck Delivery Activity Noise at Nearby Noise-Sensitive Uses

As mentioned previously, it is assumed that deliveries of product to the QSR and car wash components of the project will occur at the front/side of the buildings with medium-duty vendor trucks/vans and heavy trucks. The locations of the QSR and car wash buildings are shown in Figure 2. The primary noise sources associated with delivery activities are trucks stopping (air brakes), trucks backing into position (back-up alarms), and pulling away from the loading/unloading area (revving engines).

For a conservative assessment of daily truck delivery noise levels at the QSR and car wash components of the project, it was assumed that 2 heavy trucks and 2 medium duty trucks/vans could deliver products to the project site on a typical busy day. To calculate day-night average noise level (DNL) exposure, it was conservatively assumed that all 4 of those truck deliveries

could occur during a worst-case busy hour of deliveries during a nighttime hour (i.e., before 7:00 a.m. or after 10:00 p.m.).

BAC file data indicate that noise levels associated with medium- (including side-step vans) and heavy-duty truck deliveries are approximately 83 dB SEL at a distance of 100 feet. Based on the hourly delivery assumptions above and an SEL of 83 dB, the hourly average noise level computes to 53 dB L_{eq} at a reference distance of 100 feet during the worst-case hour of deliveries. Based on the BAC file data above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), project truck delivery noise level exposure at nearby noise-sensitive uses (residential receivers 1-5) was calculated and the results of those calculations are presented in Table 17.

Table 17
Predicted Truck Delivery Activity Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4]	General Plan Noise Standard, DNL (dB)
1	Residential	250	41	
2	Residential	80	46	
3	Residential	160	40	**60**
4	Residential	140	42	
5	Residential	150	41	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from nearest truck delivery area (i.e., front/side of buildings) to residence outdoor area.
[3] Predicted DNL conservatively assumes 2 medium truck and 2 heavy truck deliveries during a nighttime hour.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.

Source: BAC 2024

As shown in Table 17, project truck delivery activity noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 17, ambient plus project truck delivery activity noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 18. As shown in Table 18, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 18
Calculated Project Delivery Truck Activity Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted Delivery Truck Activity Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	41	66.0	<0.1
2	66	46	66.0	<0.1
3	63	40	63.0	<0.1
4	63	42	63.0	<0.1
5	66	41	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted delivery truck activity DNL at receiver presented in Table 17.
[3] Logarithmic sum of predicted delivery truck activity DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because project truck delivery noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those activities are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 9: Mechanical Equipment (HVAC) Noise at Nearby Noise-Sensitive Uses

Heating, ventilating, and air conditioning (HVAC) requirements for the proposed QSR and car wash buildings will most likely be met using packaged roof-mounted systems. To generally quantify project HVAC equipment noise exposure, BAC utilized reference file data collected for previous studies. BAC reference file data for HVAC systems indicate that a 12.5-ton packaged unit can be expected to generate an A-weighted sound power level of 85 dB. To compute day-night average noise level exposure, it was conservatively assumed that project building HVAC equipment could be in continuous operation for the duration of a 24-hour period.

Based on the sound power data and operations assumptions above, and assuming standard spherical spreading loss (-6 dB per doubling of distance), project HVAC equipment noise exposure at nearby noise-sensitive uses (residential receivers 1-5) was calculated and the results of those calculations are presented in Table 19.

Table 19
Predicted HVAC Equipment Noise Levels at Nearby Residential Uses

Receiver[1]	Land Use	Distance (ft)[2]	Predicted Noise Level, DNL (dB)[3,4]	General Plan Noise Standard, DNL (dB)
1	Residential	250	43	
2	Residential	90	47	
3	Residential	200	40	**60**
4	Residential	150	42	
5	Residential	100	46	

[1] Receiver locations shown in Figure 1.
[2] Distance scaled from nearest building rooftop to residence outdoor area.
[3] Predicted DNL conservatively assumes continuous equipment operation for a duration of 24-hours.
[4] Predicted DNL includes consideration of shielding that would be provided by existing and proposed 6' sound walls at the locations illustrated in Figure 2. An offset of -5 dB was applied where applicable.

Source: BAC 2024

Table 19 data indicate that project HVAC equipment noise level exposure is predicted to satisfy the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in Table 19, plus project HVAC equipment noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 20. As indicated in Table 20, project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 20
Calculated Project HVAC Equipment Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Predicted HVAC Equipment Noise Level, DNL (dB)[2]	Ambient Plus Project Noise Level, DNL (dB)[3]	Associated Noise Level Increase, DNL (dB)[4]
1	66	43	66.0	<0.1
2	66	47	66.1	0.1
3	63	40	63.0	<0.1
4	63	42	63.0	<0.1
5	66	46	66.0	<0.1

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Predicted HVAC equipment DNL at receiver presented in Table 19.
[3] Logarithmic sum of predicted HVAC equipment DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because project HVAC equipment noise level exposure is not expected to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from those operations are not

calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Impact 10: Cumulative (Combined) Noise at Nearby Noise-Sensitive Uses

The calculated cumulative (combined) noise levels from analyzed project on-site noise sources at nearby noise-sensitive uses are presented in Table 21. It should be noted that due to the logarithmic nature of the decibel scale, the sum of two noise values which differ by 10 dB equates to an overall increase in noise levels of 0.4 dB. When the noise sources are equivalent, the sum would result in an overall increase in noise levels of 3 dB. As indicated in Table 21, cumulative (combined) day-night average noise level exposure from analyzed project on-site operations is calculated to comply with the applicable Yuba City General Plan 60 dB DNL noise level standard at nearby existing residential uses.

Using the lowest measured day-night average noise levels (DNLs) during the BAC noise survey, and the predicted noise levels presented in the previous impact discussions, ambient plus cumulative project on-site operations noise level increases were calculated at residential receivers 1-5. The results of those calculations are provided in Table 22. As shown in Table 22, cumulative project-generated increases in ambient day-night average noise levels are calculated to be well below the increase significance criterion of 4 dB established in General Plan Policy 9.1-I-3.

Table 21
Calculated Cumulative Project On-Site Operations Noise Levels at Nearby Residential Uses

Receiver	Predicted Operations Noise Levels, DNL (dB)[1]								Calculated Cumulative, DNL (dB)[2]	General Plan Noise Standard, DNL (dB)
	Drying Assembly	Vacuums	Drive-Through	Outdoor Patio	On-Site Vehicle Circ.	On-Site Truck Circ.	Truck Deliveries	HVAC		
1 – Residential	51	49	30	40	49	42	41	43	56	
2 – Residential	50	55	39	41	52	48	46	47	59	
3 – Residential	51	48	42	40	48	39	40	40	55	**60**
4 – Residential	52	47	47	42	49	39	42	42	56	
5 – Residential	56	44	42	45	46	40	41	46	58	

[1] Predicted operations noise levels from Impacts 2-9.
[2] Calculated cumulative DNL = logarithmic sum of all predicted on-site operations DNL at a given residential receiver.

Source: BAC 2024

Table 22
Calculated Cumulative Project On-Site Operations Increases in Ambient Noise Levels

Receiver	Measured Ambient Noise Level, DNL (dB)[1]	Calculated Cumulative Operations Noise Level, DNL (dB)[2]	Ambient Plus Cumulative Project Noise Level, DNL (dB)[3]	Associated Cumulative Noise Level Increase, DNL (dB)[4]
1	66	56	66.4	0.4
2	66	59	66.7	0.7
3	63	55	63.7	0.7
4	63	56	63.8	0.8
5	66	58	66.6	0.6

[1] Lowest measured ambient DNL assigned to residential receiver presented in Table 1 of this report.
[2] Calculated cumulative operations DNL at receiver presented in Table 21.
[3] Logarithmic sum of calculated cumulative operations DNL and measured ambient DNL at residential receiver.
[4] Calculated increase in ambient DNL at residential receiver.

Source: BAC 2024

Because cumulative (combined) project on-site operations noise level exposure is not calculated to exceed applicable Yuba City General Plan day-night average noise level criteria at nearby existing residential uses, and because increases in ambient day-night average noise levels from cumulative (combined) on-site operations are not calculated to exceed applicable General Plan increase significance criteria at the nearby sensitive uses, this impact is identified as being ***less than significant***.

Noise Impacts Associated with Project On-Site Construction Activities

Impact 11: On-Site Construction Noise Levels at Nearby Noise-Sensitive Uses

During project construction, heavy equipment would be used for grading excavation, paving, and building construction, which would increase ambient noise levels when in use. Noise levels would vary depending on the construction phase, type and amount of equipment used, how it is operated, and how well it is maintained. Noise exposure at any single point outside the project work area would also vary depending upon the proximity of equipment activities to that point.

Construction activities that would generate noise include site grading, excavation, hauling and deliveries, foundation work, and to a lesser extent framing, and exterior and interior finishing. The highest noise levels would be generated during grading of the site, with lower noise levels occurring during building construction and finishing. No pile driving or extensive work that would generate substantial groundborne vibration is anticipated. Table 23 presents typical ranges of the energy-equivalent sound noise levels (L_{eq}) at distance of 50 feet for a typical construction phase.

Table 23
Typical Construction Phase Noise Levels

Construction Phase	Noise Level at 50 feet, L_{eq} (dBA)
Foundations	81
Building Erection	81
Ground clearing	83
Excavation	88
Paving	88

Source: Federal Highway Administration. 2006

Table 23 data illustrates that construction of the project would increase ambient noise levels during all phases of construction activities. Noise would be generated by trucks delivering and recovering materials at the site, grading and paving equipment, saws, hammers, the radios and voices of workers, and other typical provisions necessary to construct a commercial project.

Yuba City Municipal Code Section 4-17.10 prohibits noise sources associated with construction activities from occurring before 6:00 a.m. or after 9:00 p.m. daily except Sunday and State or Federal holidays, when the prohibited time shall be before 8:00 a.m. and after 9:00 p.m. It is reasonably assumed for the purposes of this analysis that all noise-generating project construction equipment and activities would occur pursuant to and subsequently comply with the hours and days identified in Municipal Code Section 4-17.10.

The backyards of nearby existing residences (receivers 1-5) maintain a separation of approximately 50 to 200 feet from where construction activities could occur within the project area. When ground clearing, excavation, paving, and foundation work are occurring near those residences, daytime noise levels can be expected to exceed existing noise levels at the nearest residences. When construction occurs towards the interior of the site, noise levels at the surrounding existing residences will be reduced. Nonetheless, construction activities associated with the project have the potential to result in temporary noise levels that would impact adjacent homes periodically over the course of the construction period. Further, those temporary noise level increases could potentially result in significant increases in ambient noise levels at nearby existing residences relative to Yuba City General Plan Policy 9.1-I-3 increase significance criteria. As a result, this impact is identified as **potentially significant**.

Construction related noise impacts are typically only occasionally intrusive and cease once construction is complete. Nonetheless, to ensure that noise levels due to on-site construction activities are minimized, and to reduce the potential for an exceedance of applicable Yuba City General Plan day-night average (DNL) noise level criteria and General Plan Policy 9.1-I-3 increase significance criteria at nearby residential uses, the construction noise abatement measures outlined below should be implemented. Adherence to the construction noise abatement measures identified below will ensure that potential noise impacts due to the temporary exposure of sensitive receptors to excessive noise during construction are reduced to less than significant levels.

Due to the proximity of sensitive receptors to the project area, all construction activities should comply with the following noise abatement measures and be noted accordingly on construction contracts:

1. **Construction Hours/Scheduling:** The following are recommended to limit construction activities to the portion of the day when occupancy of the adjacent sensitive receptors is at the lowest:

    a. On-site project construction equipment/activities shall not occur during the days and hours identified in Yuba City Municipal Code Section 4-17.10.

    b. Delivery of materials or equipment to the site and truck traffic coming to and from the site should not occur during the restricted hours specified in Yuba City Municipal Code Section 4-17.10.

2. **Construction Equipment Mufflers and Maintenance:** All construction equipment powered by internal combustion engines should be properly muffled and maintained.

3. **Idling Prohibitions:** All equipment and vehicles should be turned off when not in use. Unnecessary idling of internal combustion engines should be prohibited.

4. **Equipment Location and Shielding:** All stationary noise-generating construction equipment, such as air compressors, should be located as far as practical from the adjacent residences. Such equipment should be acoustically shielded when it must be located within close proximity to adjacent residences.

5. **Quiet Equipment Selection:** Select quiet equipment, particularly air compressors, whenever possible. All noise-producing project equipment and vehicles using internal-combustion engines should be equipped with manufacturer-recommended mufflers and be maintained in good working condition. Electrically powered equipment should be used instead of pneumatic or internal-combustion-powered equipment, where feasible.

6. **Staging and Equipment Storage:** Material stockpiles and mobile equipment staging, parking, and maintenance areas should be located as far as practicable from noise-sensitive receptors.

7. **Equipment and Vehicle Movements:** Project area and site access road speed limits should be established and enforced during the construction period.

8. **Schedule Notification:** Nearby residences should be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.

9. **Noise Disturbance Coordinator:** The project developer should designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. This individual would most likely be the contractor or a contractor's representative. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. The telephone number for the disturbance coordinator should be conspicuously posted at the construction site.

Impact Significance after Implementation of Abatement Measures: *Less than Significant*

Vibration Impacts Associated with the Project

Impact 12: Vibration Generated by Project Construction and On-Site Operations

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of those activities. The nearest identified existing structures, relatively newer engineered residences (not highly susceptible to damage by vibration), are located approximately 50 feet from where heavy equipment activities could potentially occur within the project area.

Table 24 includes the range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet. The Table 24 data also include projected equipment vibration levels at the closest existing structures (residences) located 50 feet away.

Table 24
Reference and Projected Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV at 25 ft (in/sec)[1]	Projected PPV at Nearest Structure (in/sec)[1] Residence (50 ft)
Vibratory roller	0.210	0.074
Hoe ram	0.089	0.031
Large bulldozer	0.089	0.031
Caisson drilling	0.089	0.031
Loaded trucks	0.076	0.027
Jackhammer	0.035	0.012
Small bulldozer	0.003	0.001

[1] PPV = Peak Particle Velocity

Source: 2018 FTA Transit Noise and Vibration Impact Assessment Manual and BAC calculations

Table 24 data indicate that vibration levels generated from construction activities within the project area at the nearest existing residences located approximately 50 feet away are predicted to be well below the Caltrans thresholds for damage to residential structures of 0.5 in/sec PPV shown in Table 2 of this report (building structure vibration criteria). In addition, the projected equipment vibration levels in Table 24 would range from an imperceptible human response to just inside the range of a distinctly perceptible human response as defined by Caltrans in Table 3 of this report (vibration annoyance potential threshold criteria). Based on the analysis provided above, on-site construction within the project area is not expected to result in excessive groundborne vibration levels at the nearest existing residences.

During BAC site visits on November 20th and 24th, 2023, vibration levels were below the threshold of perception within the project area. Therefore, it is expected that the project would not result in the exposure of persons to excessive groundborne vibration levels at proposed uses of the development. In addition, the project proposes the development of commercial uses. It is the experience of BAC that commercial uses such those proposed by the project do not typically have equipment that generates appreciable vibration.

Because vibration levels due to and upon the proposed project are not expected to result in excessive vibration at existing off-site or proposed on-site uses, this impact is identified as being ***less than significant***.

Noise Impacts Upon the Development

The California Supreme Court issued an opinion in *California Building Industry Association v. Bay Area Air Quality Management District (2015)* holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents. Nevertheless, the City of Yuba City has policies that address existing/future conditions affecting the proposed project. The following section includes an assessment of airport operations noise exposure at proposed uses of the development.

Issue 1: Airport Operations Noise at the Proposed Uses of the Development

The project area is located approximately 1 mile northwest of Sutter County Airport (a public airport). According to Chapter 6.11 (Noise) of the Sutter County General Plan, due to the proximity to the Sacramento International Airport, no commercial airlines use the Sutter County airport.

As indicated in Figure 4 of this report, the General Plan considers an exterior noise level environment of up to 70 dB DNL as "normally acceptable" for commercial land uses (such as those proposed by the project). As shown in Table 1 of this report, measured ambient day-night average (DNL) noise levels within the project area ranged from 63 to 69 dB DNL during the 72-hour monitoring period, which are below the applicable General Plan 70 dB DNL exterior noise level limit for commercial uses. However, it is believed that the ambient noise level environment at the project site is defined primarily by local roadway traffic, and not aircraft overflights.

Based on the information above, the results from the BAC-conducted ambient noise level surveys within the project area, and after a review of noise contours presented in the Noise and Safety chapter of the Yuba City General Plan, noise generated from normal aircraft operations at the Sutter County Airport is not expected to exceed the applicable Yuba City General Plan noise level criteria at the proposed commercial uses of the development.

This concludes BAC's noise and vibration assessment for the Town Center Development in Yuba City, California. Please contact BAC at (530) 537-2328 or dariog@bacnoise.com if you have any comments or questions regarding this report.

Appendix A
Acoustical Terminology

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of an acoustic signal.

A-Weighting A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Decibel or dB Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.

CNEL Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.

IIC Impact Insulation Class (IIC): A single-number representation of a floor/ceiling partition's impact generated noise insulation performance. The field-measured version of this number is the FIIC.

L_{dn} Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

L_{eq} Equivalent or energy-averaged sound level.

L_{max} The highest root-mean-square (RMS) sound level measured over a given period of time.

Loudness A subjective term for the sensation of the magnitude of sound.

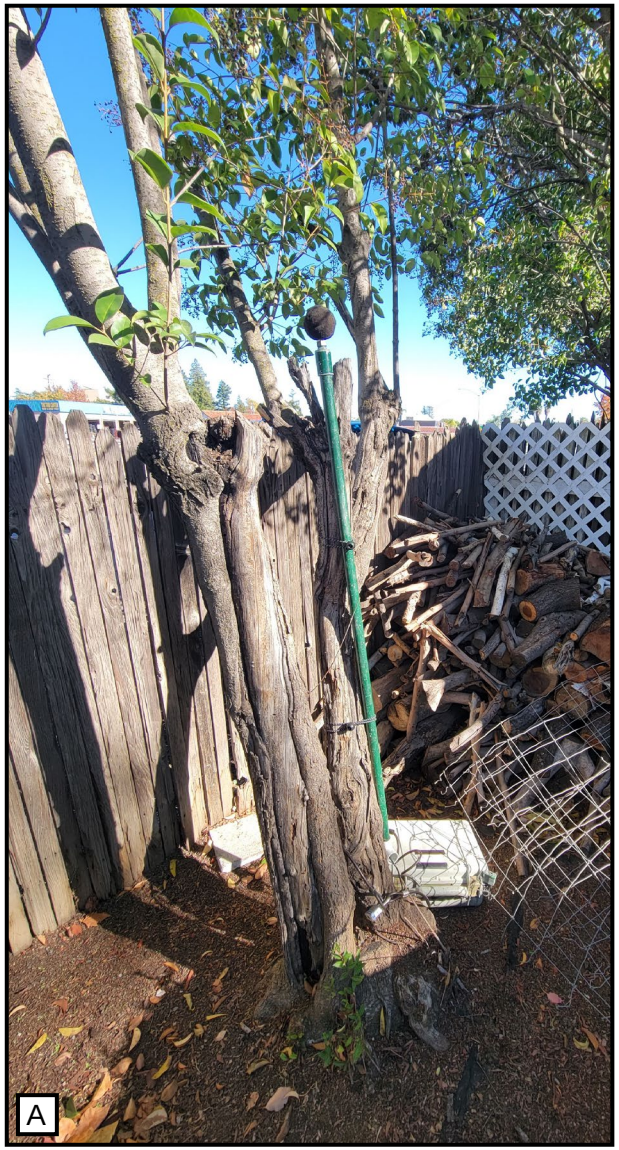
Masking The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

Noise Unwanted sound.

Peak Noise The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.

RT_{60} The time it takes reverberant sound to decay by 60 dB once the source has been removed.

STC Sound Transmission Class (STC): A single-number representation of a partition's noise insulation performance. This number is based on laboratory-measured, 16-band (1/3-octave) transmission loss (TL) data of the subject partition. The field-measured version of this number is the FSTC.



Legend

A Site 1: Facing south towards residence backyard

B Site 1: Facing south towards residence backyard

C Site 3: Facing south towards residence backyard

Microphone Location

Town Center Development
Yuba City, California

Noise Survey Photographs

Appendix B

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Appendix C-1
Long-Term Ambient Noise Monitoring Results - Site 1
Town Center Development - Yuba City, California
Tuesday, November 21, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	57	73	53	46
1:00 AM	56	69	52	47
2:00 AM	58	82	50	45
3:00 AM	57	74	54	47
4:00 AM	62	81	59	53
5:00 AM	64	82	62	57
6:00 AM	66	80	64	59
7:00 AM	66	75	65	59
8:00 AM	67	83	65	60
9:00 AM	66	87	64	57
10:00 AM	65	81	63	56
11:00 AM	65	82	63	57
12:00 PM	65	82	63	57
1:00 PM	64	80	63	56
2:00 PM	65	81	63	57
3:00 PM	66	83	64	58
4:00 PM	65	86	64	58
5:00 PM	65	85	64	59
6:00 PM	65	80	64	59
7:00 PM	65	82	64	59
8:00 PM	64	82	63	58
9:00 PM	63	81	61	56
10:00 PM	62	81	60	55
11:00 PM	61	83	57	52

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	67	63	65	66	56	62
Lmax (Maximum)	87	75	82	83	69	78
L50 (Median)	65	61	63	64	50	57
L90 (Background)	60	56	58	59	45	51

Computed DNL (dB)	69
% Daytime Energy	79%
% Nighttime Energy	21%

GPS Coordinates	39°08'27.11"N
	121°37'13.61"W

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Appendix C-2
Long-Term Ambient Noise Monitoring Results - Site 1
Town Center Development - Yuba City, California
Wednesday, November 22, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	58	76	54	48
1:00 AM	55	72	50	45
2:00 AM	55	72	51	45
3:00 AM	58	78	54	47
4:00 AM	61	76	58	53
5:00 AM	64	77	62	57
6:00 AM	66	76	64	60
7:00 AM	66	83	65	60
8:00 AM	66	83	65	60
9:00 AM	66	78	64	58
10:00 AM	66	85	64	57
11:00 AM	71	83	63	57
12:00 PM	64	81	63	57
1:00 PM	65	81	63	56
2:00 PM	65	89	63	56
3:00 PM	67	89	64	57
4:00 PM	67	90	63	57
5:00 PM	65	83	64	59
6:00 PM	64	81	63	57
7:00 PM	65	84	62	57
8:00 PM	65	83	61	56
9:00 PM	62	82	60	54
10:00 PM	62	80	59	53
11:00 PM	60	80	57	52

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	71	62	66	66	55	61
Lmax (Maximum)	90	78	84	80	72	76
L50 (Median)	65	60	63	64	50	57
L90 (Background)	60	54	57	60	45	51

Computed DNL (dB)	69
% Daytime Energy	84%
% Nighttime Energy	16%

GPS Coordinates	39°08'27.11"N
	121°37'13.61"W

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Appendix C-3
Long-Term Ambient Noise Monitoring Results - Site 1
Town Center Development - Yuba City, California
Thursday, November 23, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	60	86	55	49
1:00 AM	56	78	53	45
2:00 AM	55	69	51	43
3:00 AM	55	71	51	43
4:00 AM	57	74	52	45
5:00 AM	60	87	56	49
6:00 AM	64	88	58	52
7:00 AM	61	81	59	54
8:00 AM	62	81	60	53
9:00 AM	64	81	61	55
10:00 AM	64	81	62	56
11:00 AM	64	85	62	56
12:00 PM	66	87	63	58
1:00 PM	65	86	62	57
2:00 PM	64	81	62	57
3:00 PM	63	79	60	55
4:00 PM	63	80	61	57
5:00 PM	64	88	61	56
6:00 PM	63	83	61	56
7:00 PM	63	83	60	56
8:00 PM	64	83	60	55
9:00 PM	62	85	59	55
10:00 PM	59	73	57	52
11:00 PM	58	73	55	49

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	66	61	64	64	55	59
Lmax (Maximum)	88	79	83	88	69	78
L50 (Median)	63	59	61	58	51	54
L90 (Background)	58	53	56	52	43	47

Computed DNL (dB)	66
% Daytime Energy	83%
% Nighttime Energy	17%

GPS Coordinates	39°08'27.11"N
	121°37'13.61"W

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Appendix C-4
Long-Term Ambient Noise Monitoring Results - Site 2
Town Center Development - Yuba City, California
Tuesday, November 21, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	56	72	53	47
1:00 AM	55	65	53	48
2:00 AM	54	69	51	46
3:00 AM	56	68	54	47
4:00 AM	59	74	58	53
5:00 AM	61	78	59	55
6:00 AM	63	78	62	58
7:00 AM	63	77	62	58
8:00 AM	63	76	61	56
9:00 AM	62	85	60	52
10:00 AM	60	77	59	52
11:00 AM	61	76	60	52
12:00 PM	61	80	59	52
1:00 PM	61	77	59	52
2:00 PM	61	81	60	54
3:00 PM	62	81	61	53
4:00 PM	61	75	60	53
5:00 PM	62	75	61	57
6:00 PM	63	79	62	57
7:00 PM	63	80	61	57
8:00 PM	62	81	61	58
9:00 PM	61	80	60	56
10:00 PM	60	78	59	54
11:00 PM	59	75	57	53

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	63	60	62	63	54	59
Lmax (Maximum)	85	75	78	78	65	73
L50 (Median)	62	59	60	62	51	56
L90 (Background)	58	52	54	58	46	51

Computed DNL (dB)	66
% Daytime Energy	76%
% Nighttime Energy	24%

GPS Coordinates	39°08'25.76"N
	121°37'15.31"W

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Appendix C-5
Long-Term Ambient Noise Monitoring Results - Site 2
Town Center Development - Yuba City, California
Wednesday, November 22, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	56	70	54	48
1:00 AM	54	73	50	44
2:00 AM	53	68	51	45
3:00 AM	56	75	53	47
4:00 AM	58	71	57	52
5:00 AM	61	76	60	56
6:00 AM	63	72	62	59
7:00 AM	63	79	62	58
8:00 AM	63	79	62	57
9:00 AM	62	75	60	54
10:00 AM	62	83	60	53
11:00 AM	62	81	59	52
12:00 PM	60	74	59	52
1:00 PM	60	75	59	52
2:00 PM	60	79	59	51
3:00 PM	63	85	61	53
4:00 PM	63	81	61	54
5:00 PM	63	84	61	57
6:00 PM	62	78	61	56
7:00 PM	62	86	60	55
8:00 PM	62	86	59	54
9:00 PM	59	83	57	51
10:00 PM	59	79	56	50
11:00 PM	58	75	56	51

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	63	59	62	63	53	59
Lmax (Maximum)	86	74	81	79	68	73
L50 (Median)	62	57	60	62	50	55
L90 (Background)	58	51	54	59	44	50

Computed DNL (dB)	66
% Daytime Energy	78%
% Nighttime Energy	22%

GPS Coordinates	39°08'25.76"N
	121°37'15.31"W

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Appendix C-6
Long-Term Ambient Noise Monitoring Results - Site 2
Town Center Development - Yuba City, California
Thursday, November 23, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	57	83	54	47
1:00 AM	52	65	50	40
2:00 AM	51	64	46	39
3:00 AM	53	68	49	42
4:00 AM	54	72	51	45
5:00 AM	57	76	55	50
6:00 AM	59	81	56	51
7:00 AM	57	72	56	51
8:00 AM	59	81	56	49
9:00 AM	60	75	57	51
10:00 AM	61	76	59	52
11:00 AM	62	78	60	54
12:00 PM	61	80	59	54
1:00 PM	62	82	59	54
2:00 PM	60	79	58	54
3:00 PM	59	74	57	51
4:00 PM	60	78	58	53
5:00 PM	60	77	58	52
6:00 PM	60	85	57	52
7:00 PM	60	83	58	54
8:00 PM	61	84	58	54
9:00 PM	59	81	57	53
10:00 PM	56	68	55	51
11:00 PM	55	74	52	47

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	62	57	60	59	51	56
Lmax (Maximum)	85	72	79	83	64	72
L50 (Median)	60	56	58	56	46	52
L90 (Background)	54	49	53	51	39	46

Computed DNL (dB)	63
% Daytime Energy	82%
% Nighttime Energy	18%

GPS Coordinates	39°08'25.76"N
	121°37'15.31"W

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Appendix C-7
Long-Term Ambient Noise Monitoring Results - Site 3
Town Center Development - Yuba City, California
Tuesday, November 21, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	56	72	52	45
1:00 AM	56	69	52	47
2:00 AM	55	76	49	44
3:00 AM	57	72	53	46
4:00 AM	60	74	58	52
5:00 AM	63	75	61	56
6:00 AM	64	81	62	57
7:00 AM	65	77	64	58
8:00 AM	66	87	64	58
9:00 AM	64	83	63	55
10:00 AM	63	75	62	55
11:00 AM	64	80	63	55
12:00 PM	65	89	63	55
1:00 PM	64	79	63	54
2:00 PM	63	82	62	56
3:00 PM	64	81	63	56
4:00 PM	63	81	62	54
5:00 PM	64	80	63	58
6:00 PM	65	76	64	58
7:00 PM	64	79	63	58
8:00 PM	63	78	62	57
9:00 PM	62	79	60	55
10:00 PM	61	79	59	53
11:00 PM	60	81	56	51

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	66	62	64	64	55	60
Lmax (Maximum)	89	75	80	81	69	75
L50 (Median)	64	60	63	62	49	56
L90 (Background)	58	54	56	57	44	50

Computed DNL (dB)	67
% Daytime Energy	80%
% Nighttime Energy	20%

GPS Coordinates	39°08'25.31"N
	121°37'11.56"W

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Appendix C-8
Long-Term Ambient Noise Monitoring Results - Site 3
Town Center Development - Yuba City, California
Wednesday, November 22, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	57	73	53	47
1:00 AM	55	74	49	44
2:00 AM	55	71	49	44
3:00 AM	57	72	52	47
4:00 AM	60	75	57	51
5:00 AM	63	75	61	55
6:00 AM	64	72	63	58
7:00 AM	65	78	64	58
8:00 AM	64	79	63	57
9:00 AM	64	76	63	55
10:00 AM	64	83	62	54
11:00 AM	64	88	61	55
12:00 PM	61	75	59	52
1:00 PM	62	76	61	53
2:00 PM	62	79	61	53
3:00 PM	65	87	63	55
4:00 PM	64	83	62	54
5:00 PM	64	82	63	56
6:00 PM	64	77	63	56
7:00 PM	64	81	62	56
8:00 PM	63	81	61	55
9:00 PM	62	86	59	53
10:00 PM	61	80	58	51
11:00 PM	59	76	56	49

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	61	63	64	55	60
Lmax (Maximum)	88	75	81	80	71	74
L50 (Median)	64	59	62	63	49	55
L90 (Background)	58	52	55	58	44	49

Computed DNL (dB)	67
% Daytime Energy	79%
% Nighttime Energy	21%

GPS Coordinates	39°08'25.31"N
	121°37'11.56"W

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Appendix C-9
Long-Term Ambient Noise Monitoring Results - Site 3
Town Center Development - Yuba City, California
Thursday, November 23, 2023

Hour	Leq	Lmax	L50	L90
12:00 AM	57	79	54	46
1:00 AM	56	70	52	45
2:00 AM	55	67	50	42
3:00 AM	55	71	49	43
4:00 AM	56	75	51	44
5:00 AM	59	79	55	48
6:00 AM	64	91	57	51
7:00 AM	60	76	58	52
8:00 AM	61	79	59	53
9:00 AM	62	75	60	53
10:00 AM	63	75	61	55
11:00 AM	67	82	64	57
12:00 PM	65	87	63	58
1:00 PM	65	80	63	58
2:00 PM	64	84	63	57
3:00 PM	63	76	61	55
4:00 PM	63	76	62	57
5:00 PM	63	83	61	55
6:00 PM	62	81	60	55
7:00 PM	62	81	60	55
8:00 PM	62	84	59	54
9:00 PM	62	85	59	53
10:00 PM	59	70	57	52
11:00 PM	58	76	55	49

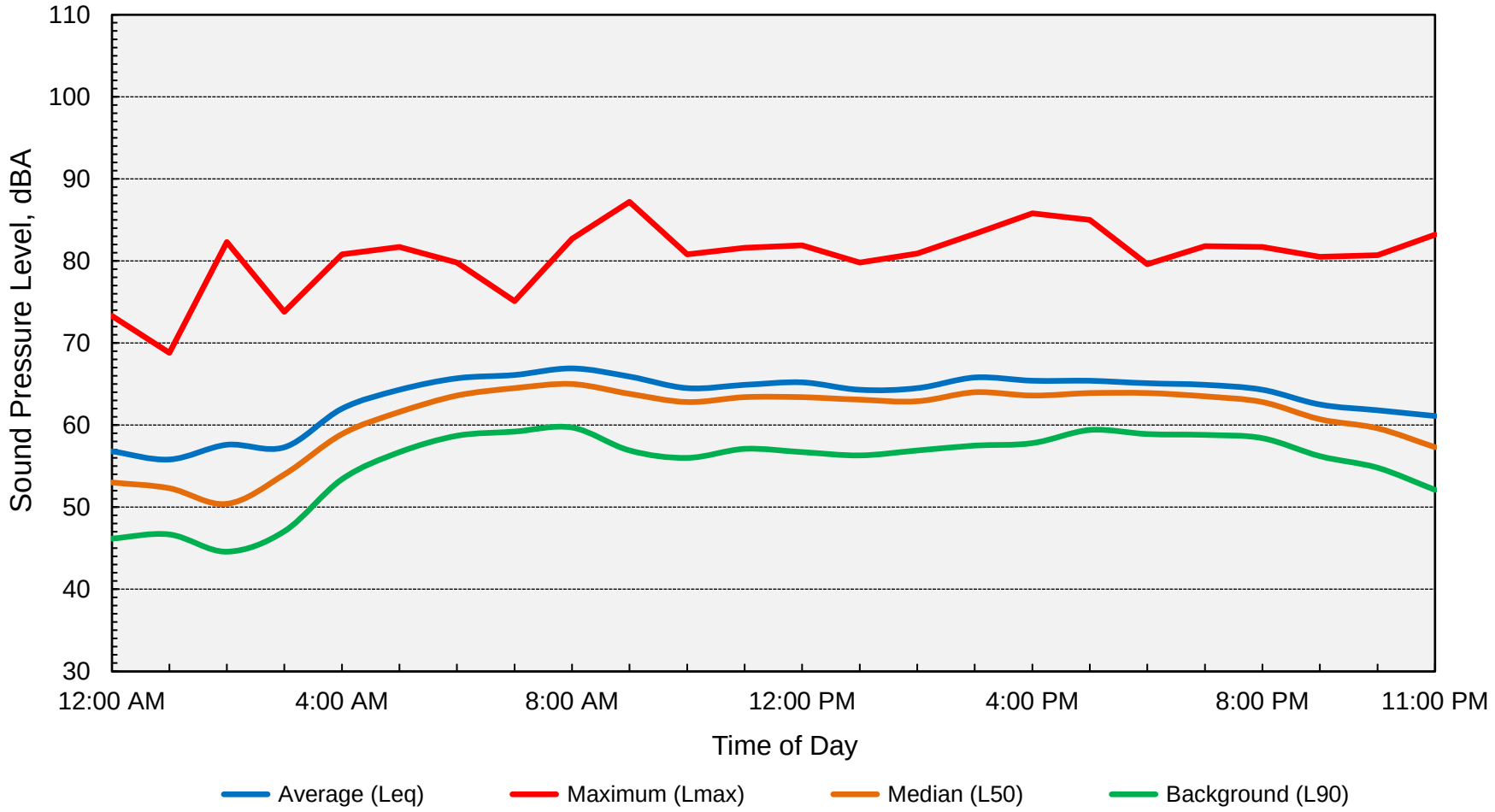
	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	67	60	63	64	55	59
Lmax (Maximum)	87	75	80	91	67	75
L50 (Median)	64	58	61	57	49	53
L90 (Background)	58	52	55	52	42	47

Computed DNL (dB)	66
% Daytime Energy	83%
% Nighttime Energy	17%

GPS Coordinates	39°08'25.31"N
	121°37'11.56"W

BOLLARD
Acoustical Consultants

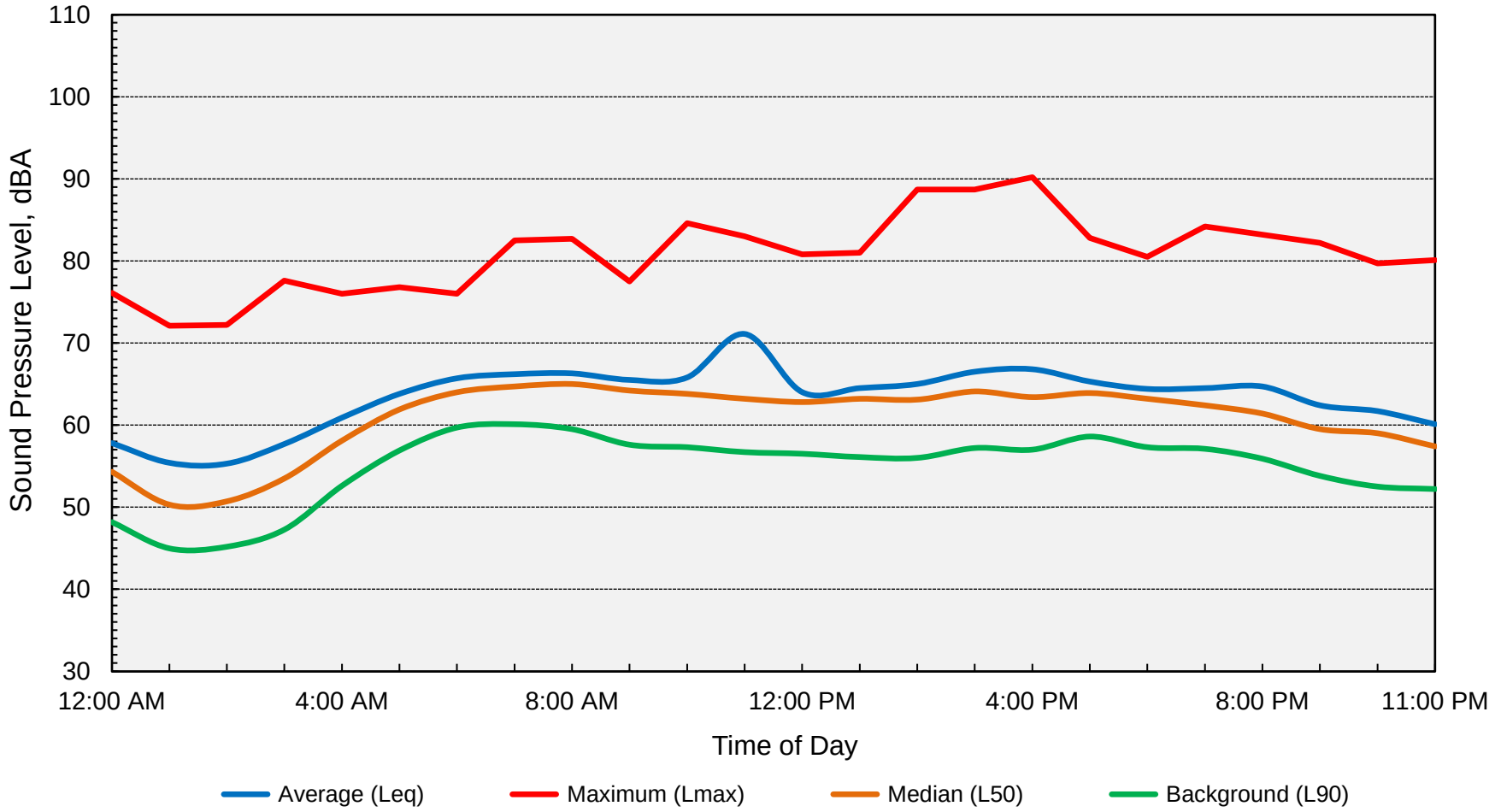
Appendix D-1
Long-Term Ambient Noise Monitoring Results - Site 1
Town Center Development - Yuba City, California
Tuesday, November 21, 2023



Computed DNL = 69 dB

BOLLARD
Acoustical Consultants

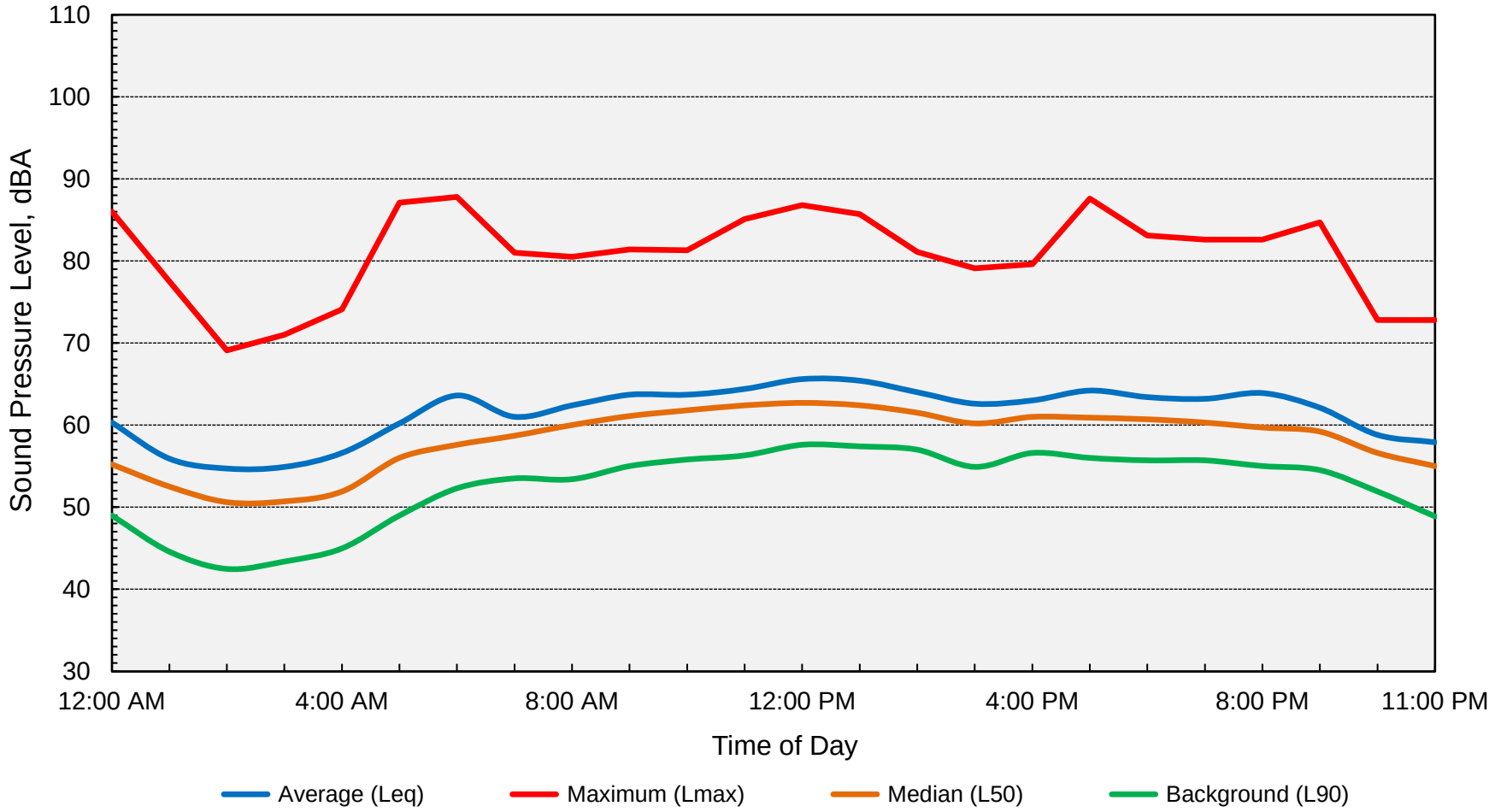
Appendix D-2
Long-Term Ambient Noise Monitoring Results - Site 1
Town Center Development - Yuba City, California
Wednesday, November 22, 2023



Computed DNL = 69 dB

BOLLARD
Acoustical Consultants

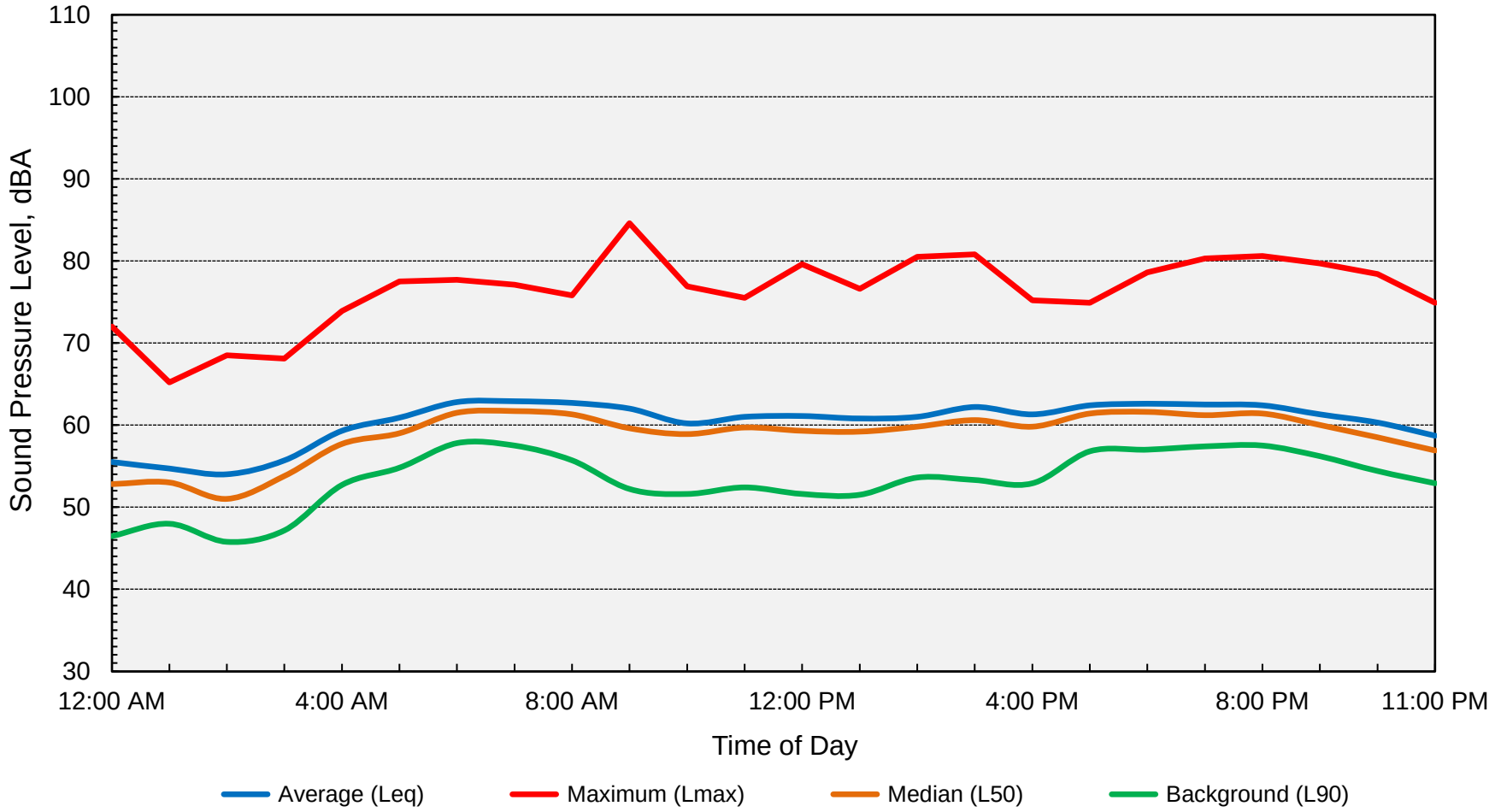
Appendix D-3
Long-Term Ambient Noise Monitoring Results - Site 1
Town Center Development - Yuba City, California
Thursday, November 23, 2023



Computed DNL = 66 dB

BOLLARD
Acoustical Consultants

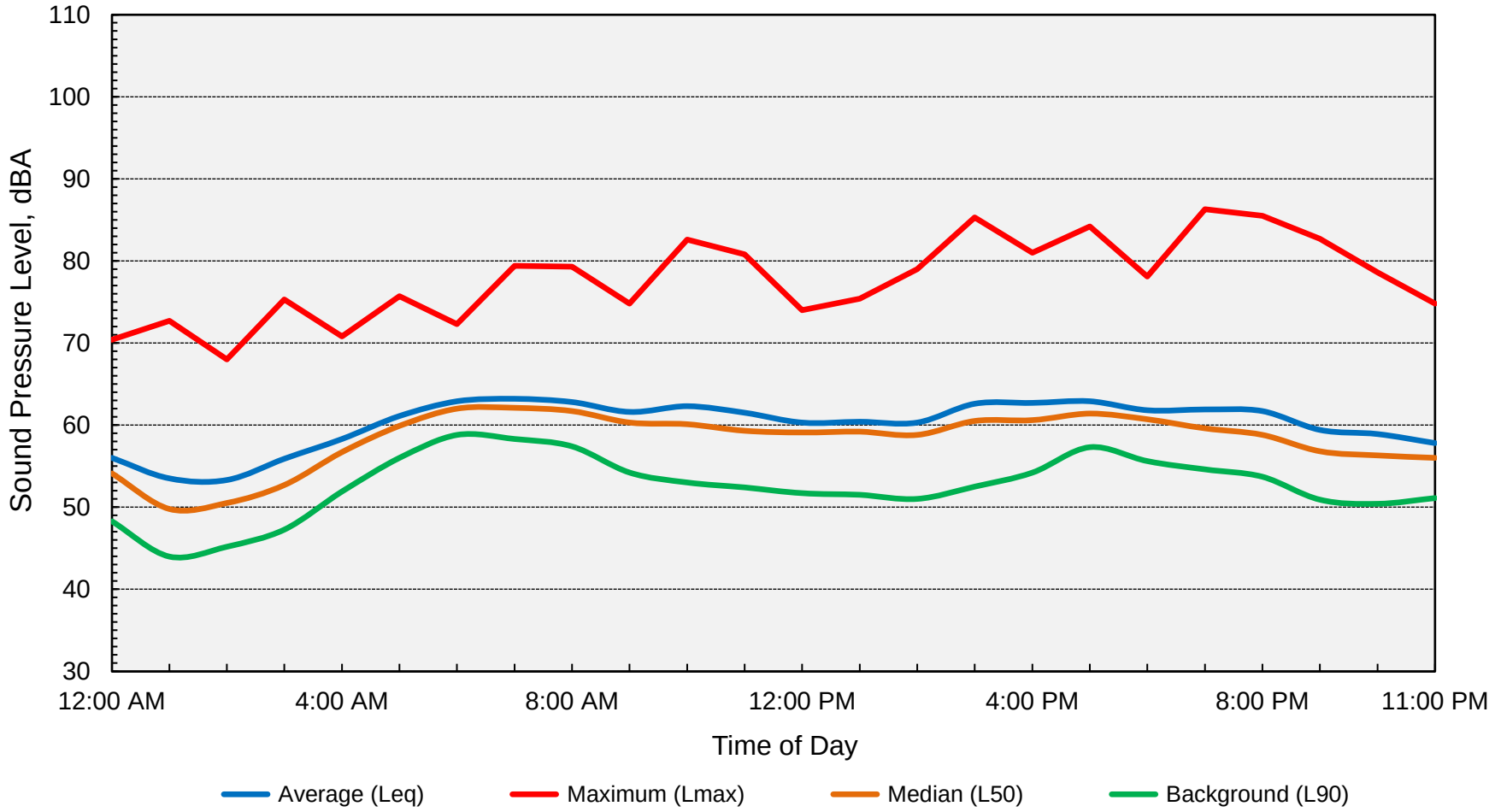
Appendix D-4
Long-Term Ambient Noise Monitoring Results - Site 2
Town Center Development - Yuba City, California
Tuesday, November 21, 2023



Computed DNL = 66 dB

BOLLARD
Acoustical Consultants

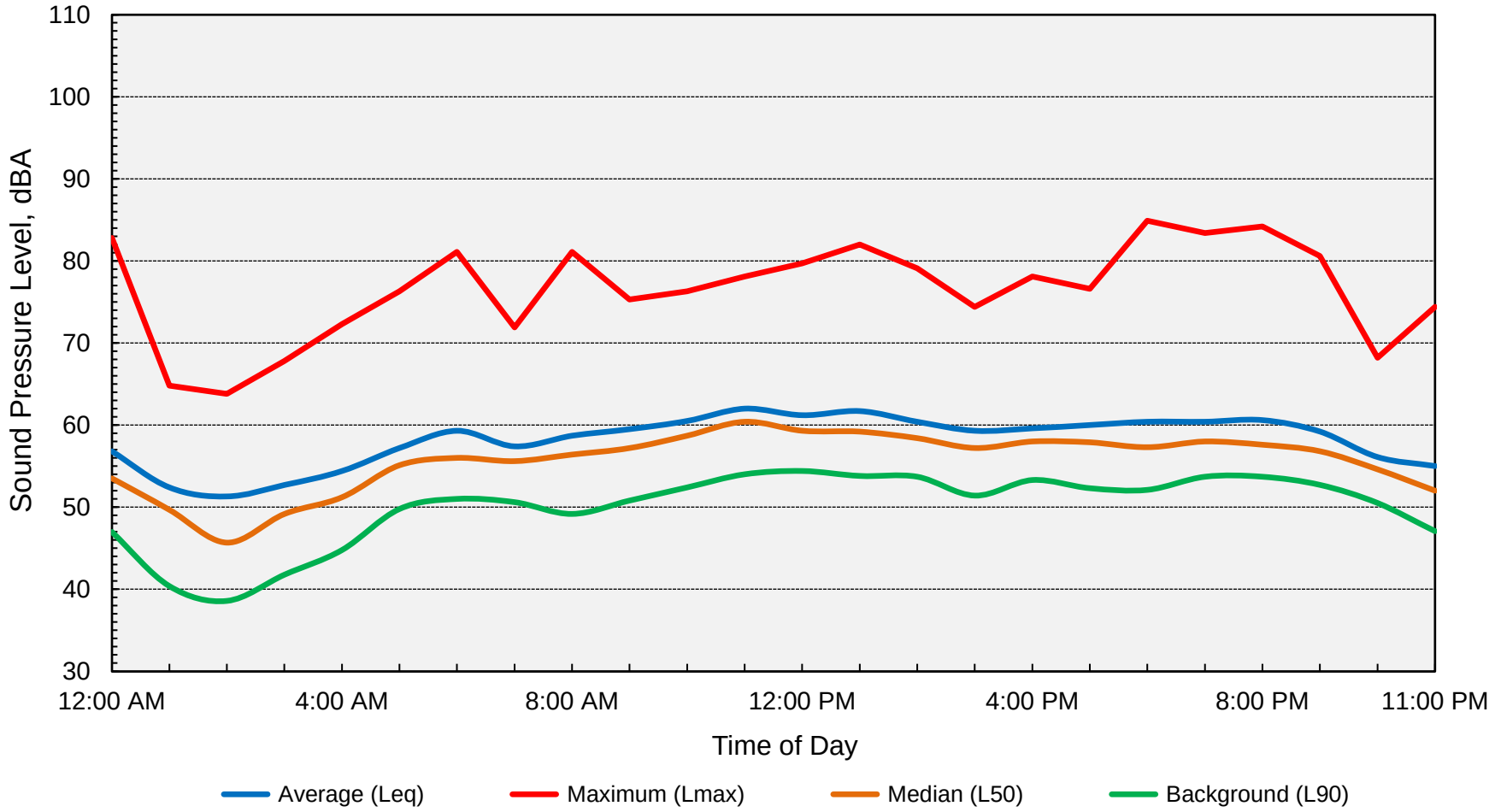
Appendix D-5
Long-Term Ambient Noise Monitoring Results - Site 2
Town Center Development - Yuba City, California
Wednesday, November 22, 2023



Computed DNL = 66 dB

BOLLARD
Acoustical Consultants

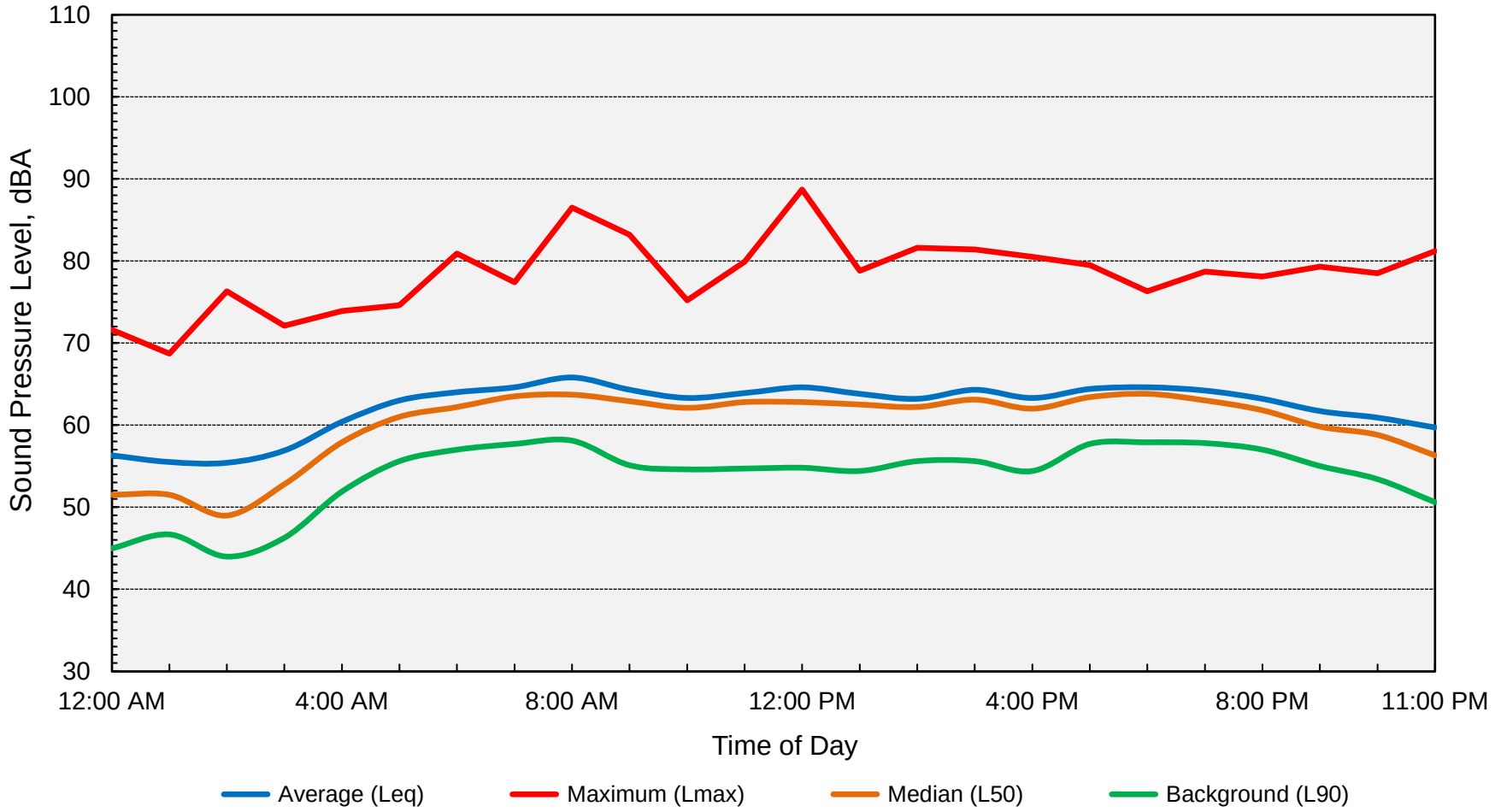
Appendix D-6
Long-Term Ambient Noise Monitoring Results - Site 2
Town Center Development - Yuba City, California
Thursday, November 23, 2023



Computed DNL = 63 dB

BOLLARD
Acoustical Consultants

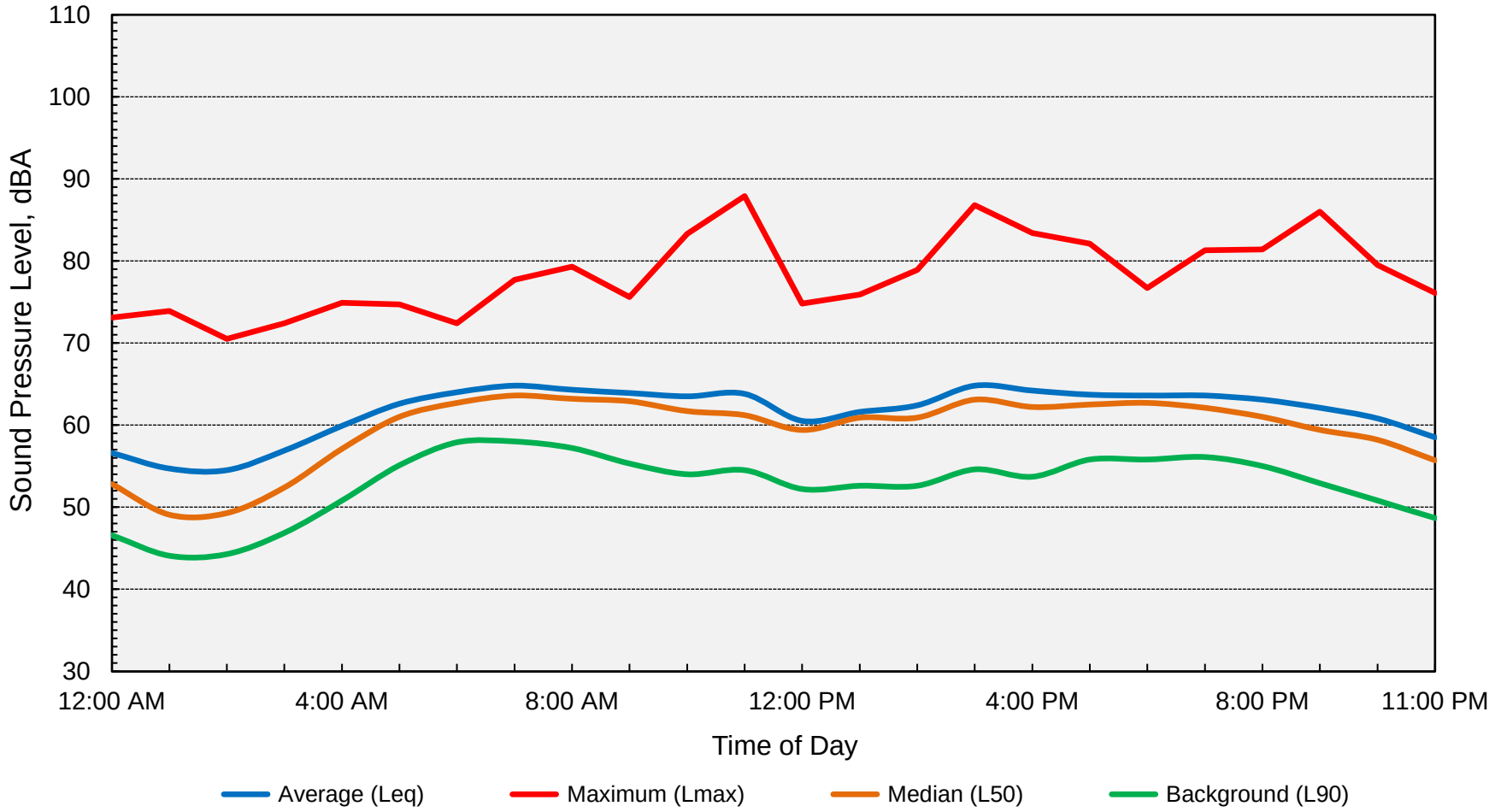
Appendix D-7
Long-Term Ambient Noise Monitoring Results - Site 3
Town Center Development - Yuba City, California
Tuesday, November 21, 2023



Computed DNL = 67 dB

BOLLARD
Acoustical Consultants

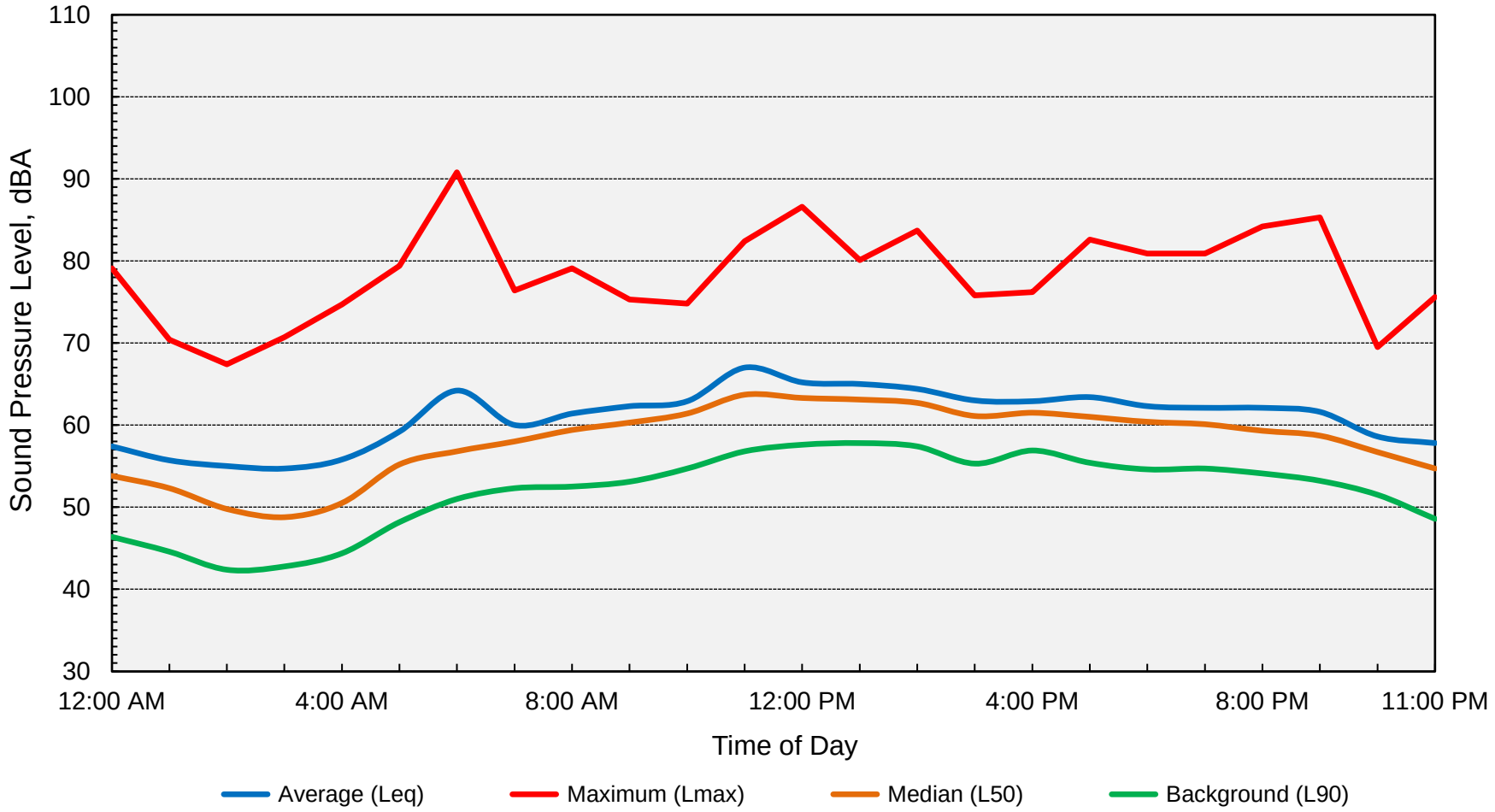
Appendix D-8
Long-Term Ambient Noise Monitoring Results - Site 3
Town Center Development - Yuba City, California
Wednesday, November 22, 2023



Computed DNL = 67 dB

BOLLARD
Acoustical Consultants

Appendix D-9
Long-Term Ambient Noise Monitoring Results - Site 3
Town Center Development - Yuba City, California
Thursday, November 23, 2023



Computed DNL = 66 dB

BOLLARD
Acoustical Consultants

NOISE STUDY
JUNE 2020

ABD Engineering & Design
Architectural Acoustics • AV Design • Noise & Vibration

June 30, 2020

Introduction

ABD Engineering & Design, Inc., (ABD) was retained by Tommy Car Wash to complete a noise study of the new facility at 4665 32nd Ave, Hudsonville, MI 49426. Both long term and short term sound level measurements were collected at the site to capture noise levels generated by the Car Wash. Long term measurements were initiated on June 17, 2020 at 7:00 AM and were concluded on June 18, 2020 at 11:00 AM. Short term measurements were conducted on the morning of June 17. The following report details relevant acoustical concepts, and the results of our acoustical measurements.

Acoustical Terminology and Concepts

When dealing with sound, there is the physical quantity which is expressed as sound level and the perceived level which is expressed as loudness. Sound level is measured in units called decibels (abbreviated dB). Decibels are power ratios and are logarithmic quantities. Audible sound occurs over a wide frequency range, from approximately 20 Hertz (Hz) to 20,000 Hz. Human hearing does not respond equally to sounds at different frequencies (or pitch). Lower frequency sounds that are equally as "loud" have a much higher decibel level than high frequency sounds. To accommodate this variation in frequency sensitivity of human hearing, a frequency weighting can be applied to sound level measurements. When the weighting is applied, the resulting sound level measurements are said to be "A-weighted" and the decibel level is abbreviated dBA.

While the decibel or A-weighted decibel are the basic units used for noise measurement, other indices are also used. One common index, the equivalent sound level, abbreviated as Leq, is commonly used to indicate the average sound level over a period of time. Leq represents the steady level of sound which would contain the same amount of sound energy as does the actual time varying sound level. Although it is an average, it is strongly influenced by the loudest events occurring during the time period because these loudest events contain most of the sound energy.

Listed in Table 1 are some commonly encountered noises, their A-weighted level, and associated subjective evaluations:

Table 1: Noise Source Comparison

Subjective Evaluation	A-weighted Decibels		Examples
Deafening	140 dBA		Near Jet Engine
	130 dBA		Threshold of Pain
	120 dBA		Threshold of Feeling – Hard Rock Band
Very Loud	100 dBA		Loud Auto Horn (at 10 ft)
	90 dBA		OSHA 8 Hour Noise Exposure Limit
Loud	80 dBA		Shouting at 1m (3 ft)
	70 dBA		Busy Office
Moderate	60 dBA		Conversational Speech at 1m (3 ft)
	50 dBA		Average Office
Faint	40 dBA		Soft Radio Music in Apartment
	30 dBA		Average Residence without Stereo Playing
Very Faint	20 dBA		Average Whisper
	10 dBA		Human Breathing
Threshold of Hearing	0 dBA		Threshold of Audibility

Adapted from *Concepts in Architectural Acoustics* by M. David Egan (1972) and *Architectural Acoustics: Principles and Design* by M. Mehta, J. Johnson, and J. Rocafort (1999)

Instrumentation

One (1) Larson-Davis Laboratories Model 831 sound level meter was used for all short term measurements reported here. The Model 831 sound level meter was equipped with a Larson-Davis Laboratories model 377B20 microphone and Larson-Davis Laboratories Model PRM831 preamplifier. This meter conforms to the ANSI Standard Specifications for Sound Level Meters S1.4-1983 (R2006), Type 1 (Precision), and the IEC Standard 61672-1 Ed. 1.0 (2002-05), Sound-Level Meters, Class 1. The instrument was calibrated and is traceable to The National

Institute of Standards. Evidence of traceability is on file at the Larson Davis Corporate Headquarters. The meter calibration was field verified before and after the measurement session.

Four Soft-dB, Piccolo Model sound level meters were used for A-weighted measurements for the 24-hour noise study. These meters conform to ANSI Standard Specifications for Sound Level Meters S1.4-1983 (R2006), Type 2, and the IEC Standard 61672-1 Ed. 1.0 (2002-05), Sound Level Meters Class 2. The instruments were calibrated and are traceable to the National Institute of Standards. Evidence of traceability is on file at the Soft-dB Corporate Headquarters. The meters were field verified before and after the measurement session.

Atmospheric Conditions

ABD completes noise measurements within atmospheric limits specified in ANSI S12.9 *Quantities and Procedures for Description and Measurement of Environmental Sound* and S12.18 *Outdoor Measurement of Sound Pressure Level* for environmental noise measurements. Data measured during higher wind speeds risk reliability contamination due to wind noise on the microphone, and repeatability limitations due to the directionality of the receiver relative to the noise source.

The environmental conditions, as measured at the Gerald R. Ford International Airport, in Grand Rapids MI on June 17-18, 2020 were within the range of the specified limits and are summarized in Table 2.

Table 2: Environmental conditions during testing over June 17 & 18, 2020

Time	Average Temperature (F)	Average Relative Humidity	Nominal Wind Direction	Average Wind Speed (MPH)	Precipitation (in.)
June 17-18, 2020	72°	58 %	E	3.8 mph	0.0 in

Environmental data provided by www.wunderground.com, from the Gerald R. Ford International Airport Weather Station

Noise Measurements

Noise measurements were completed at a variety of interior and exterior positions, as shown in Figure 1. The measurement locations indicated by the red squares are where the long-term measurements were taken. The locations indicated by the blue circles (and the blue gradations) are the suggested measurement locations by Tommy Car Wash and represent the short-term measurements taken while on site.

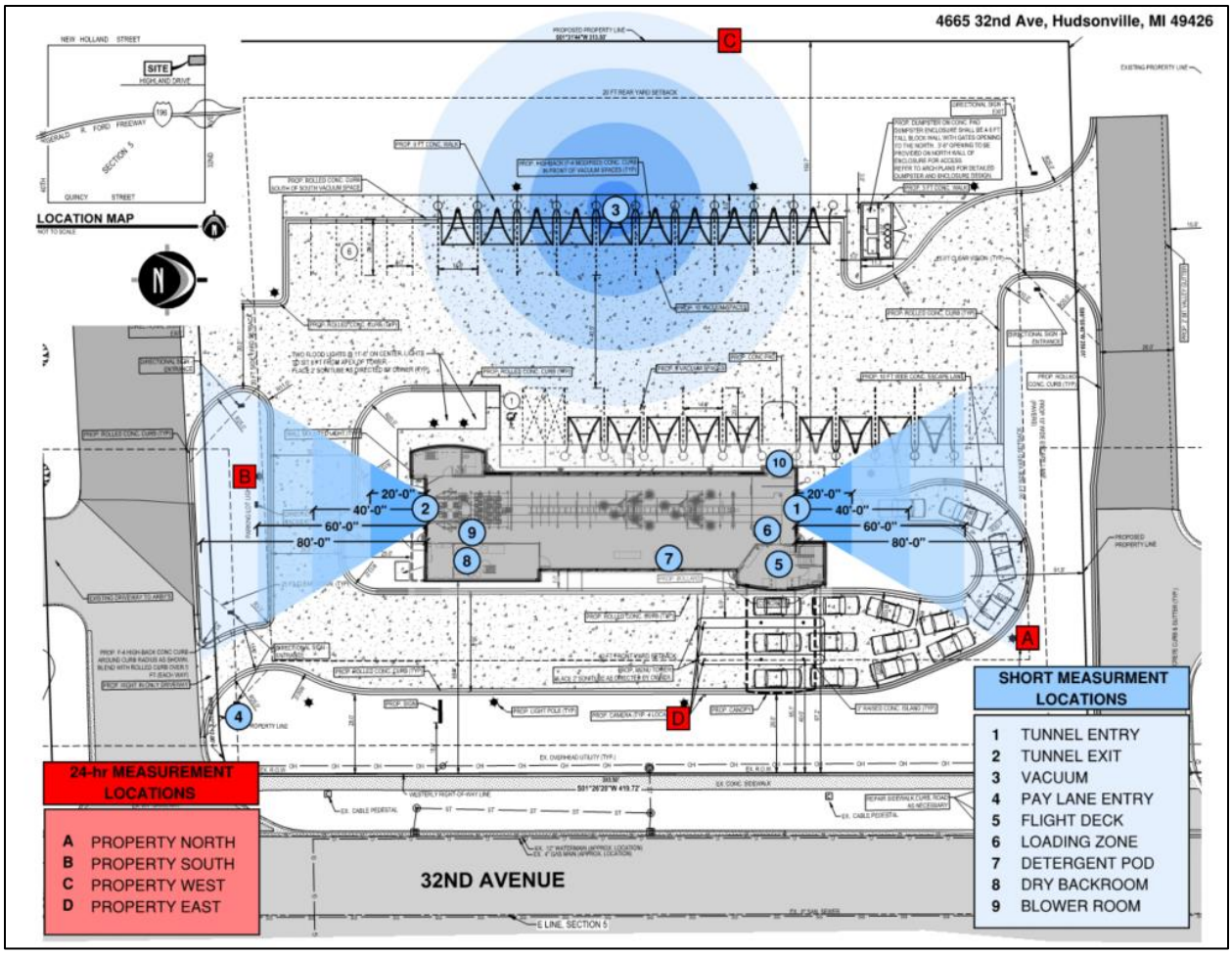


Figure 1: Site Plan with Measurement Locations

Short-Term Measurements

A description of each measurement location is provided for clarity. The short-term measurements (1-10) were taken with the Larson Davis Model 831 hand-held meter.

1) Tunnel Entry: This position is the vehicular entry location to the car-wash structure. Measurements were also taken at the vehicle entry to the building and at 20', 40' and 60' from the entrance towards the north of the building. All measurements were in-line with the vehicle path as it moves through the car-wash process.

2) Tunnel Exit: This position is the vehicular exit location to the car-wash structure. Measurements were also taken at the vehicle's exit location at distances of 20', 40', 60', and 80' from the exit towards the south of the building. All measurements were in-line with the vehicle path as it exits the car-wash process.

3) Vacuum: This position is intended to capture the operational noise of a single vacuum unit for which Vacuum #12 was selected. It was observed that on this unit with both hose nozzles stowed, there was a significant whistling noise being generated by the air-flow

leakage at the storage pocket. Since typical use would involve using at least one of the hoses, one hose was removed from its pocket and placed on the ground during measurements.

Measurements were also taken relative to this vacuum station at distances of 20', 40', 60', and 80' to the west of the vacuum bay. These measurements of vacuum operational noise at these distances to the west were completed with all vacuum units within this bay operating simultaneously. This was in order to capture the loudest operating condition.

4) Pay Lane Entry: This location is the vehicle entry point to the property, for users who proceed through the car wash process.
5) Flight Deck: This location was to capture the noise within the enclosed office area where employees interact with customers through the drive-through window.
6) Loading Zone: This is the position where vehicles are transitioned onto the conveyer system for shuttling the car through the car-wash mechanism.
7) Detergent Pod: This position is located behind the bank of car-wash detergent chemical storage and delivery tanks.
8) Dry Backroom: This position is located within a separate closed room behind the blower bay of the car-wash facility. Chemical pumping equipment was observed within this room.
9) Blower Room: This space is the area where the air-blowers are used to dry the vehicles after being washed and rinsed, it is near the vehicular exit of the car-wash structure.
10) Mat Washer: This position is the location of two separate, self-service car mat-washer machines. Three measurements were taken at this position with one (1) of the mat washers on and operating, but no floor mat was being conveyed into the machine. The specific measurement locations are as follows: 3 ft. in front of door with the door closed, 6' in front of the door with the door closed, and 3' in front of the door with the door open.

It should be noted that noise measurements on the interior of the car wash were collected at these various locations, and during multiple operating conditions for the car wash. This was done to provide a general understanding of the noise generated within the car wash, as requested by Tommy Car Wash. It should be understood that the noise measurements that were collected are strictly informational. To understand regulations for OSHA's allowable noise exposure, please refer to the OSHA standard. For compliance to this standard, noise dosimetry testing should be performed on individual employees that spend significant amounts of time in high noise areas that are identified in the following results. Listed in Table 3 are the results of these short-term measurements. Reported here are the loudest measured levels at each measurement location over the various operating conditions evaluated.

Table 3: Short-term Measurement Results

Short-term Measurement Locations	Measured Sound Pressure Level dB(A)[1]
(1) Tunnel Entry	86
(2) Tunnel Exit	95
(3) Vacuum	90
(4) Pay Lane Entry	67
(5) Flight Deck	66
(6) Loading Zone	91
(7) Detergent Pod	93
(8) Dry Backroom	92
(9) Blower Room	104
(10) Mat Washer	86

Utilizing the short-term measurement results, we have projected how noise generated by Tommy Car Wash will propagate over the property; these results are shown in Figure 2. Please note that our measurements at distances away from the vacuum include the noise levels with all vacuums in operation (worst case scenario). This "all-vacuums on" condition was projected onto the entire property for the sound map. It should be noted that noise contribution from the vacuums dominated the noise levels at the entrance, so the results shown at the entrance on the sound map exceed the short term measurements taken in these locations with no vacuum in operation.

[1] Reported values are for the loudest operating condition captured during the measurement session.

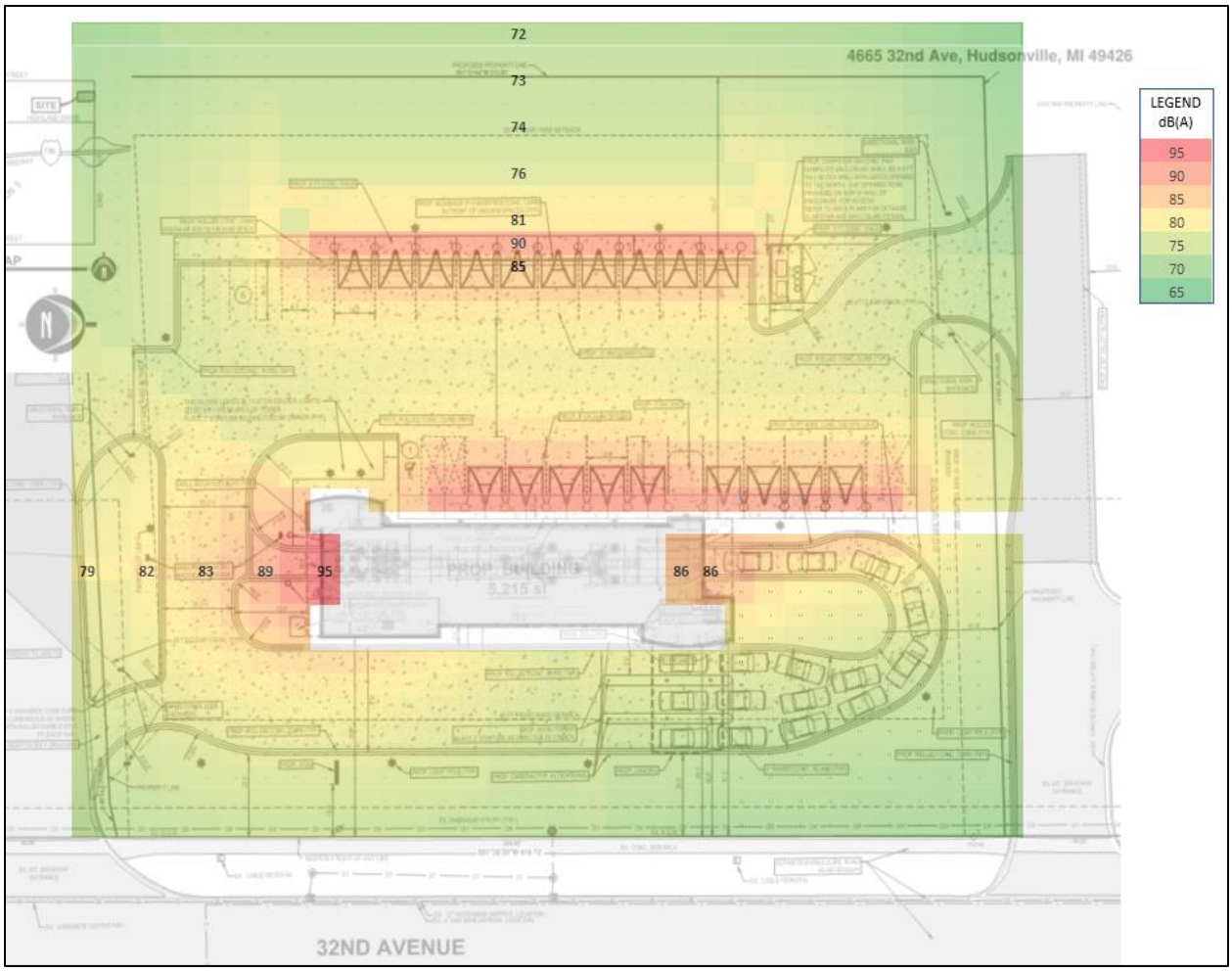


Figure 2: Sound Map of Tommy's Car Wash Property

Long-Term Measurements

The long-term measurements (A-D) were taken with the Soft-dB Piccolo meters and located at the perimeter of the property as shown in Figure 1. Locations A, B, and D were approximately 9' above the ground. Location C was 5' above the ground.

All meters were set to run with a 1-second sampling interval and using exponential (slow) detector integration methods. The time-history results of these long-term measurements over the time interval are shown in Figure 3.

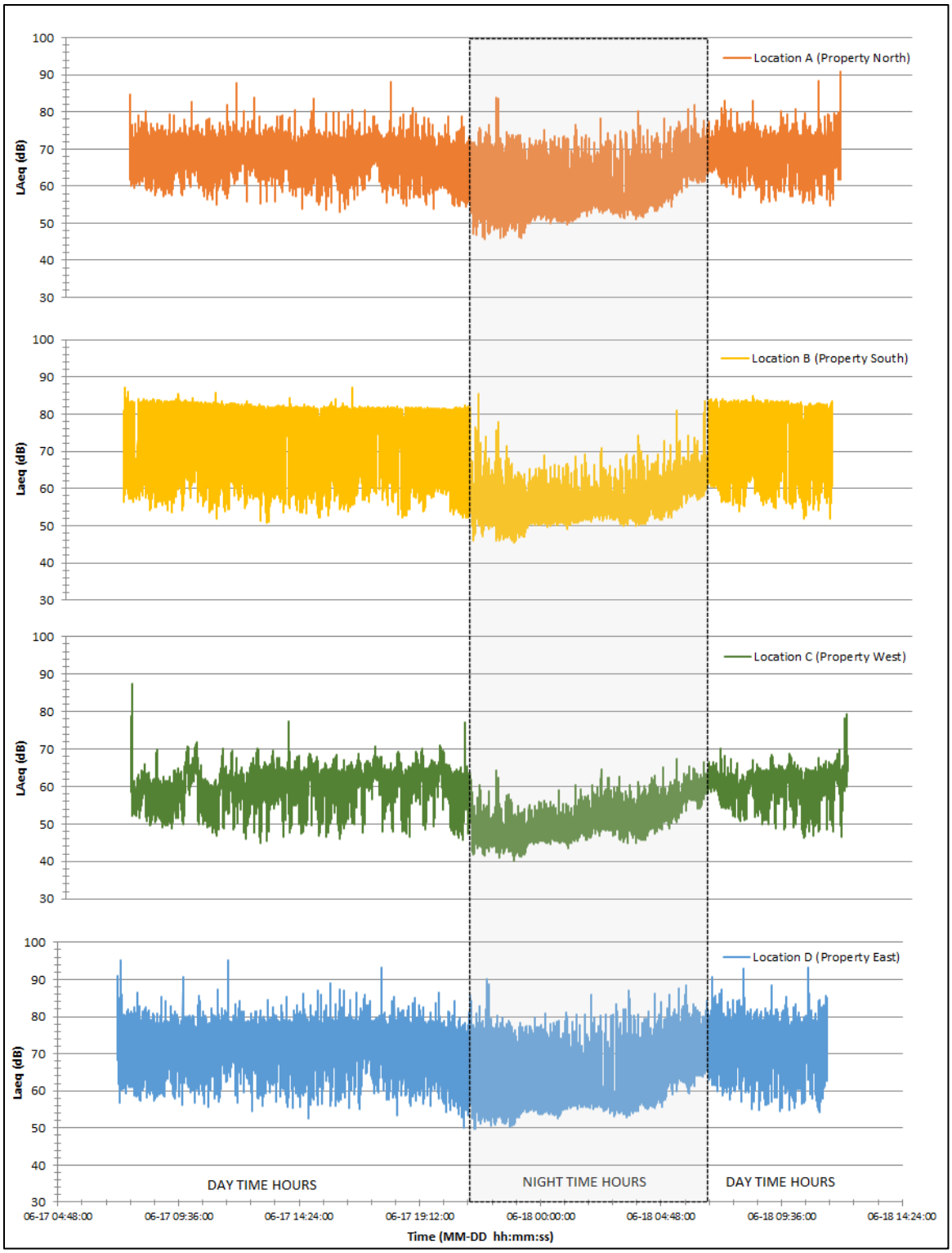


Figure 3: Time-History Results of Long-Term Measurements

Measurement Location A and D, on the street side of the property, show no clear transition between the car wash operational noise and the nighttime noise collected at this position. Consistent with observations made at site, the noise at these locations is dominated by general traffic noise. Also note that at both Location A and D, there are a significant number of short-term peaks in these time histories. Again, based on observations made on site, these peaks are likely due to motorcycles passing by, and trucks traversing pot-holes producing a series of "bangs & clanks" as the vehicle navigated the uneven road surface.

Noise data at Location B and C clearly show a distinction between the day-time (operational hours) and night-time noise levels. Location B in particular, has the loudest consistent noise levels due to the dryers at the exit..

If you have any questions, please call.

Sincerely,

ABD ENGINEERING & DESIGN, INC.
Per:

Peter C. Laux, PhD
Chief Scientist and Senior Consultant

Quincey Smail
Acoustical Consultant

cc: Marci Boks – ABD Engineering & Design

Appendix F
Drive-Through Speaker Reference Noise Level Data

HME

Customer Driven

Memo

Re: Drive-Thru Sound Pressure Levels From the Menu Board or Speaker Post

The sound pressure levels from the menu board or speaker post are as follows:

1. Sound pressure level (SPL) contours (A weighted) were measured on a typical HME SPP2 speaker post. The test condition was for pink noise set to 84 dBA at 1 foot in front of the speaker. All measurements were conducted outside with the speaker post placed 8 feet from a non-absorbing building wall and at an oblique angle to the wall. These measurements should not be construed to guarantee performance with any particular speaker post in any particular environment. They are typical results obtained under the conditions described above.

2. The SPL levels are presented for different distances from the speaker post:

Distance from the Speaker (Feet)	SPL (dBA)
1 foot	84 dBA
2 feet	78 dBA
4 feet	72 dBA
8 feet	66 dBA
16 feet	60 dBA
32 feet	54 dBA

3. The above levels are based on factory recommended operating levels, which are preset for HME components and represent the optimum level for drive-thru operations in the majority of the installations.

Also, HME incorporates automatic volume control (AVC) into many of our Systems. AVC will adjust the outbound volume based on the outdoor, ambient noise level. When ambient noise levels naturally decrease at night, AVC will reduce the outbound volume on the system. See below for example:

Distance from Outside Speaker	Decibel Level of standard system with 45 dB of outside noise without AVC	Decibel level of standard system with 45 dB of outside noise with AVC active
1 foot	84 dBA	60 dBA
2 feet	78 dBA	54 dBA
4 feet	72 dBA	48 dBA
8 feet	66 dBA	42 dBA
16 feet	60 dBA	36 dBA

If there are any further questions regarding this issue please contact HME customer service at 1-800-848-4468.

Thank you for your interest in HME's products.

Appendix C

Transportation Impact Analysis for Town Center Circle K

KD Anderson & Associates

March 23,2022

TRANSPORTATION IMPACT ANALYSIS

FOR

TOWN CENTER CIRCLE K

Yuba City, CA

Prepared For:

Sitka
4624 Duckhorn Drive
Sacramento, CA 95834

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

March 23, 2022

6785-001

TRANSPORTATION IMPACT ANALYSIS FOR
TOWN CENTER CIRCLE K
Yuba City, CA

TABLE OF CONTENTS

March 23, 2022

KDA

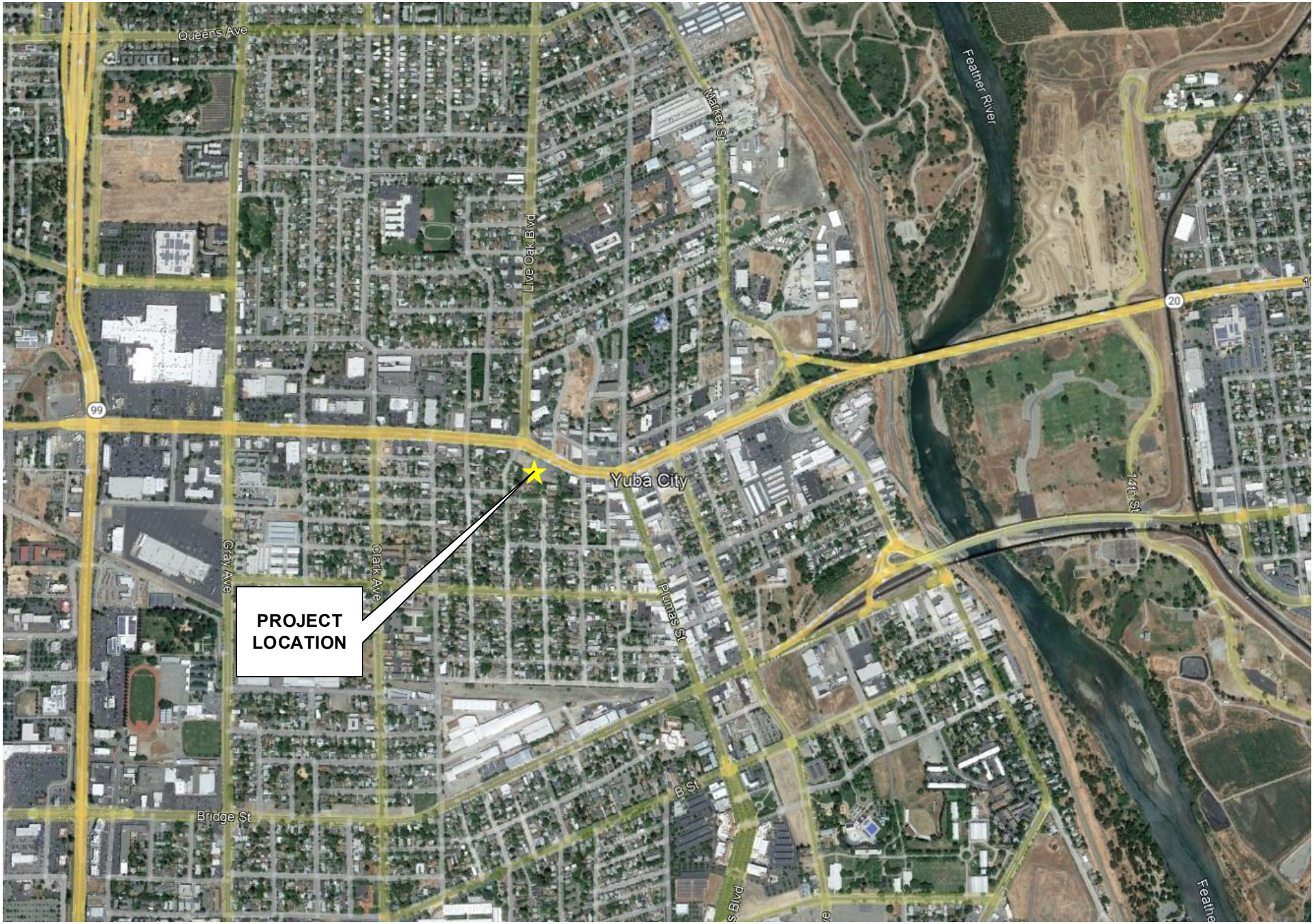
TRANSPORTATION IMPACT ANALYSIS FOR
TOWN CENTER CIRCLE K
Yuba City, CA

INTRODUCTION

This report summarizes KD Anderson & Associates analysis of the potential transportation impacts and traffic operational effects associated with the Town Center Circle K project in Yuba City, California. The project is located on the south side of Colusa Avenue (SR 20) at its interception with Live Oak Blvd, as located regionally in Figure 1, and the proposed tentative map is Figure 2.

Project Description. The Town Center Circle K project will occupy roughly 2 acres located just east of the Colusa Avenue / Live Oak Blvd / Olive Street intersection. A portion of the site is occupied by a coffee kiosk, but the vacant area of the site was most recently occupied by a sit-down restaurant. The project proposes to retain the coffee kiosk and to construct a 6,750 Convenience Store with 10 gasoline fueling positions and a Quick Serve Restaurant with drive-thru lane, as well as an automated car wash. Today the site has seven driveways, but the proposed plan will consolidate access at one location on Olive Street and four locations on Colusa Avenue (SR 20).

Analysis Approach. The purpose of this analysis is to identify the potential impacts of the project under the California Environmental Quality Act and to evaluate the project's effects on local traffic operations within the requirements of City of Yuba City General Plan standards and policies, and the access policies of the California Department of Transportation. The CEQA evaluation addresses the project's impacts on regional Vehicle Miles Traveled (VMT), alternative transportation modes and safety on the State highway. The traffic operational analysis includes identification / evaluation of existing traffic circulation conditions in the area based on Level of Service and queuing using current a.m. and p.m. peak hour traffic volumes. The extent to which improvements are already needed has been determined. The general characteristics of the proposed project have also been determined based on probable peak hour and daily trip generation, regional trip distribution and local trip assignment. The impact of the project on regional Vehicle Miles Traveled (VMT), alternative transportation modes and safety at Caltrans facilities have been assessed. Local traffic operational analysis identified resulting Levels of Service and queuing at study intersections under Existing plus Project conditions, and under a long term condition cumulative condition assuming the City of Yuba City travel demand forecasting model's Market Absorption land use forecast.



VICINITY MAP

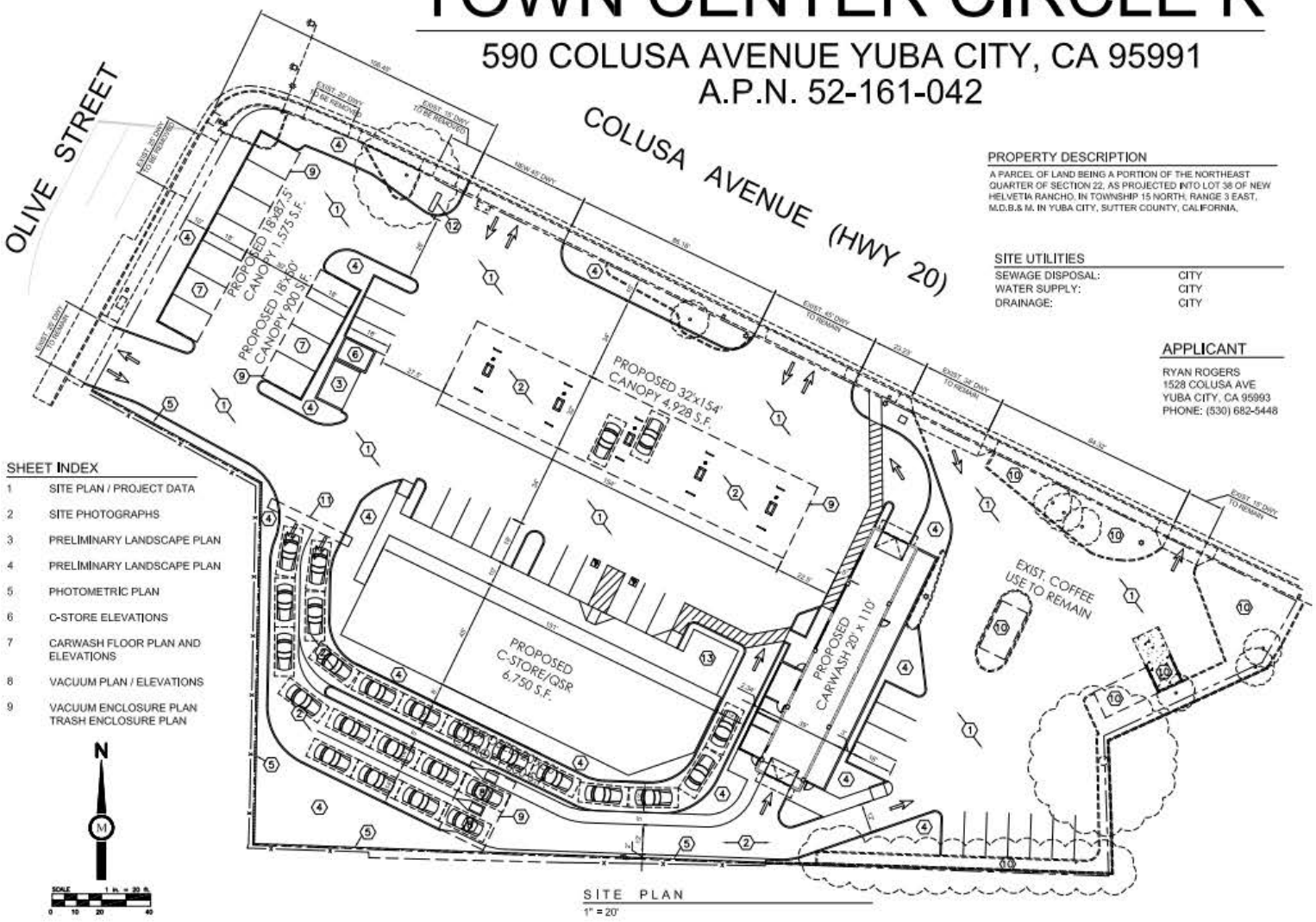
KD Anderson & Associates, Inc.
Transportation Engineers

0000-00 RA 3/22/2022

figure 1

TOWN CENTER CIRCLE K

590 COLUSA AVENUE YUBA CITY, CA 95991
A.P.N. 52-161-042



PROPERTY DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 22, AS PROJECTED INTO LOT 38 OF NEW HELVETIA RANCHO, IN TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.B.& M. IN YUBA CITY, SUTTER COUNTY, CALIFORNIA.

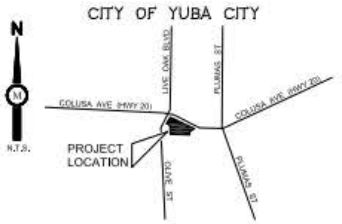
SITE UTILITIES

SEWAGE DISPOSAL:	CITY
WATER SUPPLY:	CITY
DRAINAGE:	CITY

APPLICANT

RYAN ROGERS
1528 COLUSA AVE
YUBA CITY, CA 95993
PHONE: (530) 682-5448

SHEET INDEX



VICINITY MAP
NOT TO SCALE

LOT DATA:

A.P.N.:	52-161-042
TOTAL ACREAGE:	87,991 SF (2.02 AC)
EXISTING PARCELS:	1
PROPOSED PARCELS:	1
EXISTING ZONE:	C-3 GENERAL COMMERCIAL
PROPOSED ZONE:	SAME
EXISTING USE:	COFFEE DRIVE THROUGH
PROPOSED USE:	GAS STATION / QSR, EXPRESS CARWASH WITH VACUUM STATIONS EXISTING COFFEE USE TO REMAIN

SITE COVERAGE

C-STORE/QSR:	6,750 SF (7.7%)
CARWASH STRUCTURE:	4,328 SF (4.9%)
EXIST. COFFEE BLDGS:	515 SF (0.6%)
CANOPIES:	8,003 SF (9.1%)
LANDSCAPE AREA:	9,870 SF (11.2%)
PAVED SURFACE AREA:	58,525 SF (66.5%)

PARKING DATA:

CARWASH STRUCTURE (4,328 SF):	2 SPACES
C-STORE/QSR (6,750 / 250 SF):	27 SPACES
EXIST. COFFEE USE (515 SF / 300 SF):	2 SPACES
REQUIRED:	31 SPACES
STANDARD SPACE (9'x18'):	23 SPACES
ACCESSIBLE SPACE (9'x18'):	2 SPACES
COVERED VACUUM SPACE (12.5'x18'):	11 SPACES
PROVIDED:	36 SPACES

CONSTRUCTION NOTES

1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT
3. NEW COVERED TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. NEW 6 FT. HIGH SPLIT-FACE CMU WALL
6. NEW VACUUM ENCLOSURE
7. NEW VACUUM STATION (TYP. OF 11)
8. NEW PAY STATION (TYP. OF 2)
9. NEW OVERHEAD CANOPY
10. EXISTING TO REMAIN
11. NEW OVERHEAD ENTRANCE SIGN
12. NEW MONUMENT / PRICE SIGN
13. NEW OUTDOOR SEATING AREA (400 SF)

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

TOWN CENTER CIRCLE K
590 COLUSA AVENUE, YUBA CITY, CA 95991

SITE PLAN / PROJECT DATA 1

KD Anderson & Associates, Inc.
Transportation Engineers

SITE PLAN

0000-00 RA 3/22/2022

figure 2

EXISTING SETTING

Existing Street System

Streets and Highways. Regional access to the Town Center Circle K project is provided by several major roads. Colusa Avenue (SR 20) connects the project with the Yuba City - Marysville urban area to the east and west and with State Route to the west. Live Oak Blvd links the site with northern Yuba City. Local access will also be possible via Olive Street which links the site with the neighborhood to the south SR 20. The text that follows describes these facilities, as well as other roads in the area of the project.

Colusa Avenue (State Route 20) is a major east-west route serving Yuba City and Marysville. In the vicinity of the project Colusa Avenue is a divided six-lane conventional highway with frequent access. The most recent traffic counts available from Caltrans suggest that in 2019 SR 20 carried an *Annual Average Daily Traffic (AADT)* volumes ranging from 47,000 vehicles per day west of Live Oak Blvd to 52,000 AADT west of the intersection. Trucks comprise 6% of the daily traffic on this area of SR 20. The posted speed limit is 35 mph and on-street parking is prohibited.

Live Oak Blvd is a north south asterial street that links Colusa Avenue with SR 99 north of Yuba City. Live Oak Blvd has four travel lanes north of the state highway. The posted speed limit is 35 mph, and on-street parking is prohibited. Based on interpolation of peak hour traffic counts the daily traffic volume on Live Oak Blvd is estimated to be 12,300 vehicles per day.

Olive Street is a north-south local street that extends southerly from the Colusa Avenue / Live Oak Blvd intersection into the existing neighborhood south of the state highway. Olive Street is a two-lane facility with on-street parking. The posted speed limit is 25 mph and trucks are prohibited. Based on interpolation of peak hour traffic counts the daily traffic volume on Olive Street is estimated to be 4,000 vehicles per day.

Chestnut Street is a two-lane local street that extends north of Colusa Avenue about 325 feet east of the Live Oak Blvd intersection (centerline to centerline).

Intersections. The operational analysis considers these intersections:

The ***Colusa Avenue (SR 20) / Live Oak Blvd / Olive Street intersection*** is controlled by a traffic signal that operates with protected left turn phasing. SR 20 has three through travel lanes in each direction as well as separate left turn lanes and a dedicated eastbound right turn lane. The northbound Olive Street approach has short separate left turn, through and right turn lanes. The three-lane southbound Live Oak Blvd approach has dual left turn lanes and a combined through+right turn lane. U-turns are prohibited on the northbound and southbound approaches. Crosswalks are marked on all four legs of the intersection, and accessible ramps / landings are provided on the east side of the intersection. The northeast corner has a small, raised island separating pedestrians from right turning traffic.

The ***Colusa Avenue (SR 2) / Chestnut Street intersection*** is a "Tee" located with a limited access median break on the street highway. A short eastbound left turn lane allows traffic to head north, but southbound traffic on Chestnut Street is limited to right turns only. There are sidewalks on the north corners of this intersection, and no crosswalks are marked at this location.

Existing Traffic Volumes

Traffic Counts. To quantify existing traffic conditions, a base of current peak hour traffic volume information was assembled and new traffic counts completed by this consultant on December 8, 2021. Traffic count data collected in 2019 for the City of Yuba City's Impact Fee Update project was also available for the Colusa Avenue (SR 20) / Live Oak Blvd intersection.

Effects of COVID-19. The extent to which recent traffic counts may need to be adjusted to address the effects of COVID-19 was considered based on comparison of 2019 and 2021 traffic volumes at the Colusa Avenue (SR 20) / Live Oak Blvd intersection and through review of historic daily traffic volume counts for SR 20 available from Caltrans. Table 1 identifies and compares the total peak hour entering traffic volume at this location. As shown, the total intersection volume in 2021 was greater than that in 2019 during the p.m. peak hour and only slightly lower during the a.m. peak hour.

TABLE 1
COMPARISON OF YEAR 2019 AND YEAR 2021 TRAFFIC VOLUMES
AT COLUSA AVE (SR20) / LIVE OAK BLVD INTERSECTION

Location	Time	2019	2021	2019/2021
Colusa Ave (SR 20) / Live Oak Blvd / Olive Street	AM Peak	3,231	3,123	1.03
	PM Peak	3,460	3,674	0.94

Recent Annual Average Daily Traffic (AADT) volume counts for SR 20 on both sides of the Live Oak Blvd intersection are presented in Table 2. Data is available up to the Year 2020, and comparison of Year 2019 and Year 2021 volumes clearly suggests that the volume of traffic on the state highway dropped during the first year of COVID-19. However, because Year 2021 counts are not available it is not possible to use this data to determine whether the elimination of COVID-19 restrictions at schools and businesses over the course of 2021 increased traffic volumes to prior levels.

Traffic Volumes. Based on these comparisons the Year 2021 a.m. peak hour traffic volumes were increased by 3%. The Year 2021 p.m. peak hour volumes were accepted as reasonable, and no adjustments were made. Resulting peak hour traffic volumes are presented in Figure 3. This figure also presents current intersection lane configurations and traffic controls.

TABLE 2 HISTORIC DAILY TRAFFIC VOLUMES ON STATE ROUTE 20									
Street	**Location**	**Annual Average Daily Traffic Volume (AADT)**							
		2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
SR 20	West of Live Oak Blvd	46,000	46,500	46,500	46,500	46,500	46,500	47,000	43,000
	East of Live Oak Blvd	43,000	43,500	43,500	43,500	43,500	43,500	52,000	47,500

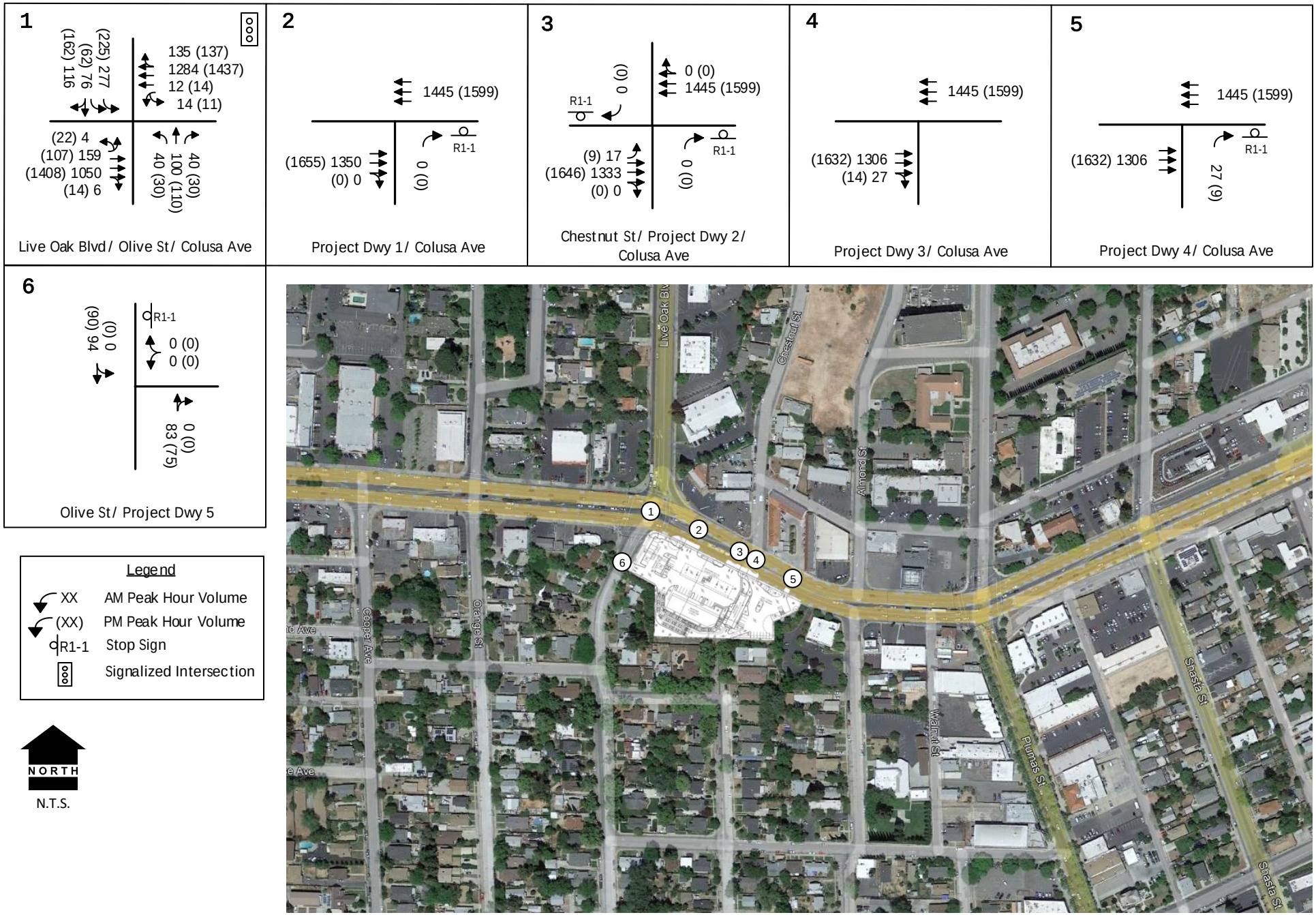
Observed Peak Hour Queues. The extent of queueing in selected lanes at the Colusa Avenue / Live Oak Blvd / Olive Street intersection was also monitored with the new traffic counts, as noted in Table 3. These are the lanes that would be most affected by project traffic or are most likely to block access to the site. In each case the number of waiting vehicles was recorded at the beginning of green and at the end of yellow each time a movement was serviced within a signal cycle (refer to appendix). Table 3 identifies current traffic volumes as well as the number of vehicles in the 95th percentile queues. The 95th percentile queue is not necessarily the longest queue observed in any signal cycle but represents the queue that was only exceeded 5% of the time.

As indicted, the 95th percentile queue was contained within available storage on all but one approach. The 95th percentile queue was slightly longer than the storage in the NB left turn lane on Olive Street, and in the afternoon two cars were waiting in the bay taper.

TABLE 3
OBSERVED 95TH PERCENTILE PEAK HOUR QUEUES
AT COLUSA AVENUE / LIVE OAK BLVD / OLIVE STREET INTERSECTION

Street	Direction	Lane	Storage (feet)	AM Peak Hour			PM Peak Hour		
				Volume (vph)	95th % Queue		Volume (vph)	95th % Queue	
					Vehicles	Feet		Vehicles	Feet
Olive St	NB	Left	40[1]	20	2	50	28	3	75
		Through	-	54	5	125	36	3	75
		Right	40	9	0	0	11	0	0
SR 20	WB	Left	90[2]	26	2	50	25	3	75

[1] sum of left turn lane and bay taper is 90 feet. [2] sum of left turn lane and bay taper is about 165 feet



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Transportation Engineers

0045-01 RA 3/22/2022

figure 3

Level of Service / 95th Percentile Queue Calculation

Level of Service. To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without project generated traffic, Levels of Service were determined at study area intersections.

"Level of Service" (LOS) is a quantitative measure of traffic operating conditions whereby a letter grade "A" through "F" is assigned to an intersection. LOS "A" through "F" represents progressively worsening traffic conditions. The characteristics associated with the various LOS for intersections are presented in Table 4. While LOS is no longer a significance criteria under CEQA, the City of Yuba City General Plan has established LOS "D" measured over the peak hour as the minimum standard for City streets, with specific exceptions identified where conditions in excess of the LOS D standard will be acceptable. LOS F is accepted on the segment of Colusa Avenue (SR 20) from SR 99 to the Feather River. Similarly, the Caltrans TCR for SR 20 identifies LOS F as the Concept LOS for SR 20 in this area.

Methods. Levels of Service were calculated for this study using the methodology contained in the *Highway Capacity Manual, 6th Edition (HCM).* The overall Level of Service for intersections was determined based on the average length of delays for all motorists at signalized intersections. At unsignalized intersections the Level of Service was predicated on the length of the average delay experienced by motorists who must yield the right of way before turning or continuing through an intersection.

Level of Service was calculated using SYNCHRO 11.0 SimTraffic simulation, and this method was used to identify 95th percentile queues. For this analysis City traffic count data for the neighboring traffic signals at Clark Avenue and Plumas Street was used to develop a three signal SimTraffic system.

The SimTraffic software is intended to be a stochastic model (i.e., randomness is intentionally present when running the simulations). The results for each individual run will vary within each scenario and between scenarios, and this variation may result in some intersections having lower delays and/or shorter queues in the 'Plus Project' scenarios than in the 'No Project' scenarios. This is a normal occurrence for stochastic models, and it is not unexpected that delays or queues could improve at one intersection while increasing at other intersections. The simulation results contained herein reflect the average of the mean 8 one-hour simulation runs selected from a 10-run sample.

Peak Period Queues. Queues created during peak periods at signalized intersections were identified through both observation and simulation. While the City of Yuba City has not adopted significance criteria for queueing, it is commonly accepted that a queue's length that extends beyond the limits of available turn lane storage and interfere with through traffic represent a potential safety conflict.

TABLE 4 LEVEL OF SERVICE DEFINITIONS			
Level of Service	**Signalized Intersection**	**Unsignalized Intersection**	**Roadway (Daily)**
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: Highway Capacity Manual, 6th Edition.			

Current Peak Hour Traffic Conditions

Current a.m. and p.m. peak hour Levels of Service were calculated at existing intersections selected by the City for inclusion in the analysis (Refer to Appendix for calculation worksheets) under "Existing" conditions, and the results are presented in Table 5. At signalized intersections current Caltrans traffic signal timing plans were obtained and employed for the analysis.

Level of Service. As shown, traffic conditions in the study area are acceptable based on Level of Service and satisfy the minimum requirement of the City and Caltrans.

TABLE 5 EXISTING PEAK HOUR INTERSECTION LEVELS OF SERVICE						
			AM Peak Hour		PM Peak Hour	
Intersection	**Control**	**Min LOS[1]**	**Average Delay (sec/veh)**	**LOS**	**Average Delay (sec/veh)**	**LOS**
Colusa Avenue (SR 20) / Live Oak Blvd	Signal	F	19.6	B	16.9	B
Colusa Avenue (SR 20) / Java Detour Driveway / Chestnut Street EB left turn	SB Stop	F	12.0	B	19.3	C
Colusa Ave (SR 20) / Java Detour Dwy	NB Stop	F	7.6	A	55.3	F
[1] minimum LOS accepted by the City of Yuba City General Plan and Caltrans SR 20 TCR .						

Peak Hour 95th Percentile Queues. Table 6 presents current peak hour traffic volumes and 95th percentile queues identified from SimTraffic simulation. As shown, the 95th percentile queues in Olive Street's short turn lanes exceed the available storage.

TABLE 6 EXISTING PEAK HOUR INTERSECTION 95th PERCENTILE SIMULATION QUEUE LENGTHS						
			AM Peak Hour		PM Peak Hour	
Intersection	**Lane**	**Storage (feet)**	**Volume (vph)**	**95th % Queue (feet)**	**Volume (vph)**	**95th % Queue (feet)**
Colusa Ave (SR 20) / Live Oak Blvd / Olive Street	EB left	200	158	165	129	155
	WB left	90[2]	26	45	25	45
	NB left	40[1]	20	**55**	28	**55**
	NB Through	-	54	80	36	70
	NB right	40	9	**60**	11	40
Colusa Ave (SR 20) / Chestnut St	EB left	17	10	<25	9	<25
[1] sum of left turn lane and bay taper is 90 feet. [2] sum of left turn lane and bay taper is about 165 feet **BOLD** values exceed storage or extend beyond next intersection						

Collison History. Recent collision history for the area of the project was obtained from the Statewide Integrated Traffic Records System (SWITRS) based on City Police Department reports. Table 7 summarizes the results over the last 4 years at the Colusa avenue / Live Oak Blvd / Olive Street intersection and for the section of Colusa Avenue along the project frontage on SR 20.

TABLE 7 YEAR 2017 -2020 COLLISION HISTORY						
Location	**2017**	**2018**	**2019**	**2020**	**Total**	
					Acc	Acc/MV
SR 20 / Live Oak Blvd / Olive Street	2	2	5	7	16	0.19[1]
SR 20: >100 < 500 feet east of intersection	0	2	0	0	2	-

[1] collision frequency 16,000,000 / (4/365/57,650 entering vehicles) = 0.19 acc/MV
Statewide average is 0.42 for total collisions at suburban signalized intersections (Group 09), with the rate falling to 0.24 for Urban signalized intersections (Group 14)

Equivalent annual collision frequency rate was calculated for the intersection and the results were compared to statewide averages for similar facilities (i.e., 0.42 acc/mv to 0.24 acc/mv). The recent overall collision frequency is less than the statewide average.

Alternative Transportation Modes

The text which follows outlines facilities for pedestrians, bicyclists and transit riders in the area of the project.

Pedestrians. Sidewalks are generally available in the area of the proposed project and have been provided or refurbished as new development proceeds. Sidewalks exist on Colusa Avenue and Live Oak Blvd. Sidewalk is present on the west side of Olive Street and on the east side along the project frontage. There is a 275 foot long gap in the sidewalk on the west side of Olive Street south of the project frontage to Rosalind Avenue.

Crosswalks. Crosswalk on Colusa Avenue (SR 20) occur at signalized intersection, but not at stop controlled mid-block intersections. Crosswalks with pedestrian indications and push buttons exist at the Live Oak Blvd / Olive Street intersection Colusa Avenue and at the Plumas Street intersection about 500 feet east of the proposed project's limits.

Traffic counts conducted during the a.m. and p.m. peak hours on December 8, 2021 identified a total of 15 crossings at the Colusa Avenue / Live Oak Blvd intersection in the a.m. peak hour and 21 crossings during the p.m. peak hour.

ADA Requirements. Accessibility standards under the Americans with Disabilities Act (ADA) are constantly evolving, and as a result, improvements that functionally assist disabled persons may not satisfy current design requirements at any particular time. Handicap accessible ramps exist at the crosswalks on SR 20, and on some of the corners at the Olive Street / Rosalind Avenue intersection just south of the project.

The extent to which existing ramps and pedestrian features at traffic signals fully comply with current ADA requirements is unknown. The City of Yuba City and Caltrans typically require that

new construction within their right of way comply with ADA requirement and that reconstruction projects bring affected facilities up to current standards.

Bicycles. The Yuba City Bicycle Master Plan (2011) identifies existing and planned facilities for this transportation mode under these classifications:

- Class 1 Bicycle Path – a facility separated from other vehicular traffic
- Class 2 Bicycle Lanes – a paved lane along a street striped for the exclusive use of bicycles
- Class 3 Bicycle Route – a shared facility designated for bicycle use

There are currently no bicycle facilities in the vicinity of the proposed project. The Master Plan proposes development of a Class 3 bicycle route on Olive Street south of SR 20.

The traffic counts conducted on December 8, 2021 identified a total of 3 bicycles through the Colusa Avenue / Live Oak Blvd intersection during the a.m. period from 7:00 a.m. to 9:00 a.m. and 5 during the p.m. period from 4:00 p.m. to 6:00 p.m. Of those totals none were on Olive Street along the project frontage.

Transit Services. The Yuba City area is served by Yuba Sutter Transit. The Alturas / Shasta Terminal is ½ miles east of the site on the north side of Colusa Avenue. Fixed route service is provided at that location via Routes 1 (Yuba City to Yuba College) and 2 (Yuba City Loop), with connections to other routes in western Yuba City and in Marysville and to the Sacramento Commuter run. There are no designated stops closer to the proposed project. These routes travel on 30 minute and 60 minute headways.

Yuba-Sutter Dial-A-Ride offers curb-to-curb shared ride service to eligible passengers anywhere within its service area. The Town Center Circle K project is within the current service area. This service is available from 6:30 a.m. to 9:30 p.m. on weekdays and from 8:30 a.m. to 5:30 p.m. on Saturdays. No service is provided on Sundays or holidays.

PROJECT CHARACTERISTICS

Project Description

The text that follows describes the characteristics of the project in terms of automobile trip generation and distribution.

Trip Generation Rates / Forecasts. The number of vehicle trips that are expected to be generated by development of the Town Center Circle K project can be estimated using typical trip generation rates for single family development. Applicable rates are published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual, 11th Edition*.

Rates are presented in Table 8 for the Convenience Store / Gas Sales element of the project. As shown that piece of the proposed project is expected to generate 4,728 daily trips, with 382 trips in the a.m. peak hour and 268 trips in the evening p.m. peak hour.

The convenience store building includes a QSR restaurant with drive-thru. While specific trip generation rates are available for Fast Food Restaurants, because those rates are similar to or lower than those for the convenience store, the QSR floor area was simply included in the convenience store's calculations.

Table 8 also displays the weekday p.m. peak hour trip generation rates that have been published by ITE for Automated Car Washes. It is important to note that this data was developed from a very small sample size and data was not available on a daily or a.m. peak hour basis. As a result, an on-line data search yielded applicable rates for those time periods on a "per tunnel feet" basis from the City of San Bernardino.

Based on this information the project's total trip generation for all uses is projected to be 5,681 daily trips, with 435 trips in the a.m. peak hour and 446 trips in the p.m. peak hour.

TABLE 8
TRIP GENERATION RATES / FORECASTS

Land Use	Unit	Trip Per Unit						
			AM Peak Hour			PM Peak Hour		
		Daily	In	Out	Total	In	Out	Total
Convenience Store with Gasoline Sales	ksf	700.43	50%	50%	56.52	50%	50%	54.42
Project	6.75 ksf	4,728	191	191	382	184	184	368
Internal Trips		<95>	<3>	<3>	<6>	<4>	<4>	<8>
External Trips		4,633	188	188	376	180	180	360
Pass-by Trips	[1]	<2,780>	<118>	<118>	<236>	<119>	<119>	<238>
Primary Trips		1,853	70	70	140	61	61	122
Automated Car Wash	Each[2]	-	-	-	-	50%	50%	77.5
	Lf of tunnel[3]	8.66	50%	50%	0.48	-	-	-
Project Car Wash	1	-	-	-	-	39	39	78
	110 lf	953	27	26	53			
Internal Trips	10%	<95>	<3	<3>	<6>	<4>	<4>	<8>
External Trips		858	24	23	47	35	35	70
Pass-by Trips	15%	<129>	<4>	<3>	<7>	<5>	<5>	<10>
Primary Trips		829	20	20	40	30	30	60
Project Trip Total		5,681	218	217	435	223	223	446
External Trip total		5,491	212	211	423	215	215	430
Pass-by Trip Total		<2,909>	<122>	<121>	<243>	<124>	<124>	<248>
Primary Trip Total		2,582	90	90	180	91	91	182

[1] based on ITE Trip Generation Handbook 3rd Edition, 9/17, daily 60%, a.m. peak hour 63%, p.m. peak hour 66%

[2] ITE Code 948 [3] Source: City of San Bernardino

Internal Trips. It is likely that some of the trips generated by the car wash will be made by persons who also stop to visit the Convenience Store / Gasoline Sales, although no information has been published to quantity the share. This analysis conservatively assumes that 10% of the car wash customers also visit the other uses. These "internal" trips would remain on site and would reduce the overall amount of traffic projected to leave the site (i.e., external trips).

Pass-by Trips. A portion of the project's external trips will come from the stream of traffic already passing the site on Colusa Avenue (SR 20) and Live Oak Blvd. Applicable pass-by trip rates for the Convenience Store / Gasolines Sales are available from the ITE Trip Generation Handbook, 3rd Edition, as noted in Table 8. No rates are published for Automated Car Washes, and the standard default value accepted by Caltrans for service / retail uses was employed (i.e., 15%).

As indicated, after accounting for pass-by trips, the project is expected to generate 2,582 daily "Primary" trips made by persons for the specific purpose of visiting this site. Of that total 180 primary trips are projected in the a.m. peak hour and 182 primary trips are forecast in the p.m. peak hour.

Trip Distribution. The directional distribution of pass-by and primary trips has been identified. Primary trips were distributed based on the project's location in the Yuba City / Marysville area and the locations of competing convenience stores / gas stations and automated car washes.

Competing Car Washes. The following automated car washes exist today in the Yuba City-Marysville area. As indicated, three automated car washes are located west of the site and one is in Marysville to the east.

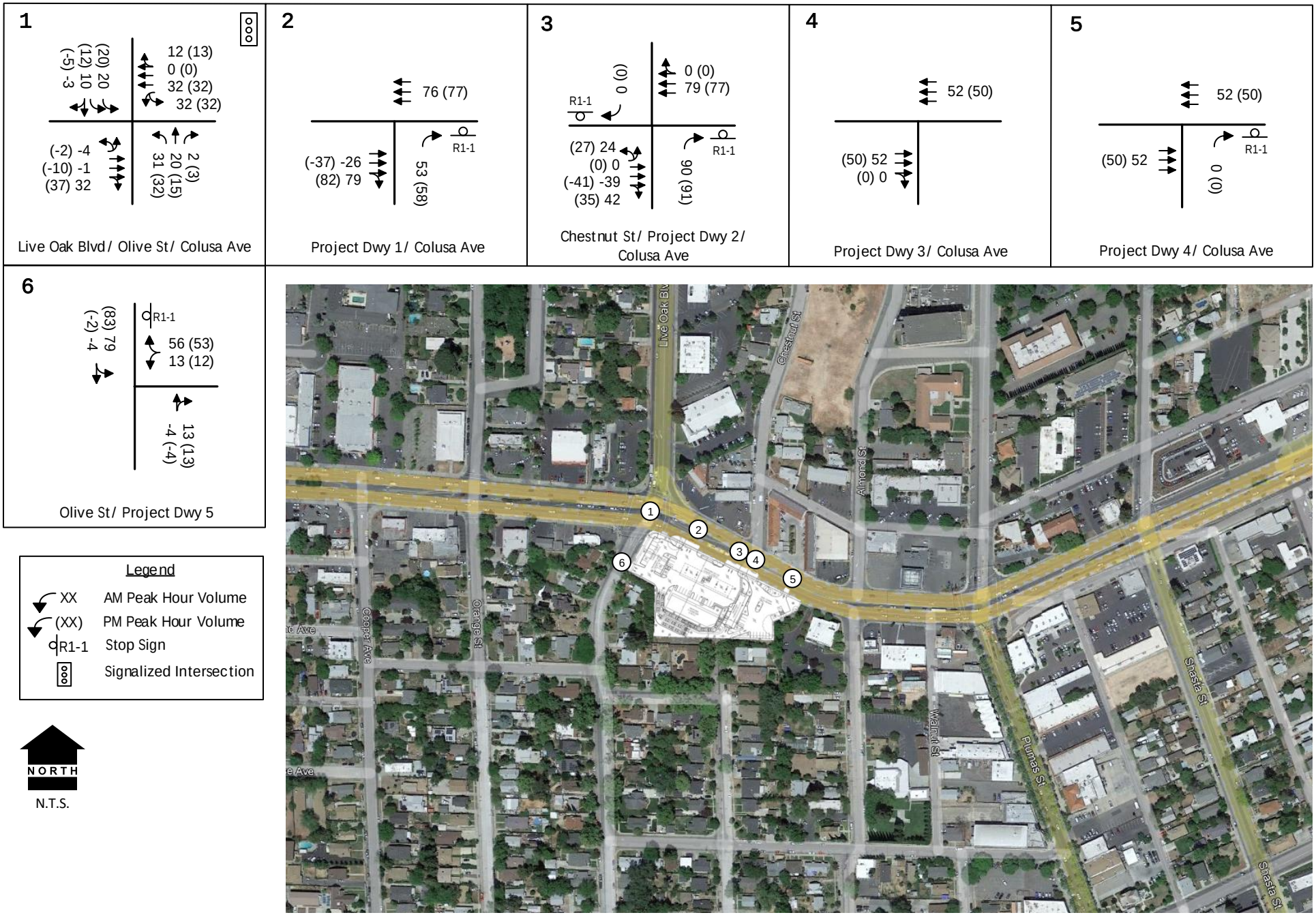
- Raintree Car Wash, 551 Plumas Street, Yuba City: 1 mile west of site
- Stabler Lane Car Wash, 1075 Stabler Lane, Yuba City: 1¼ miles west of site
- Surf Thru Express Car Wash, 1501 Colusa Hwy, Yuba City. 1 mile west of site
- Surf Thru Express Car Wash, 601 5th Street, Marysville, CA: 2 miles east of site

Competing Convenience Stores – Gas Sales. As indicated, three automated car washes are located west of the site and one is in Marysville to the east.

- Chevron, 525 Colusa Ave, Yuba City: north side of Colusa Ave 400 feet east of the site
- Arco, 886 Colusa Ave, Yuba City: south side of Colusa Ave, ½ mile west of site
- Shell, 831 Colusa Avenue, Yuba City: north side of Colusa Ave ½ mile west of the site
- Arco, 707 E Street, Marysville: east side of E Street, 2 miles east of the site

Trip Assignment. The projects were assigned to the study area circulation system based on the access identified in the site plan and the least time path between residences in the subdivision and identified destinations. "Project only" traffic under this scenario is presented in Figure 4. As indicated, some of the trips assumed to and from the site will involve drivers making u-turns. Some motorists arriving from the east can be expected to make legal u-turns to reach the convenience store's driveways.

TABLE 9 PROJECT TRIP DISTRIBUTION ASSUMPTIONS				
Direction	**Route**	**Percentage**		
		Primary	**Pass-By**	
			AM Peak	**PM Peak**
North	Live Oak Blvd	30%		
East	Colusa Avenue	30%		
South	Olive Street	10%		
West	Colusa Avenue	30%		
	Westbound Colusa Avenue		31%	30%
	Eastbound Colusa Avenue		48%	54%
	Southbound Live Oak Blvd		17%	13%
	Northbound Olive Street		4%	3%
Total		**100%**	**100.00%**	**100.00%**



PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Transportation Engineers

CEQA TRANSPORTATION IMPACTS

This report section identifies transportation impact under current CEQA requirements and Caltrans transportation analysis guidelines.

Vehicle Miles Traveled Analysis

Vehicle Miles Traveled (VMT) refers to the amount and distance of vehicle travel attributable to a project. VMT generally represents the number of vehicle trips generated by a project multiplied by the average trip length for those trips. For CEQA transportation impact assessment, VMT shall be calculated using the origin-destination VMT method, which accounts for the full distance of vehicle trips with one end from the project.

Process. Because Yuba City has not yet adopted guidelines for addressing VMT impacts for land development projects in compliance with CEQA Guidelines Section 15064.3, guidance provided in the Governor's Office of Planning and Research (OPR) technical directive on CEQA has been employed. The directive addresses several aspects of VMT impact analysis, and is organized as follows:

- ***Screening Criteria***: Screening criteria are intended to quickly identify when a project should be expected to cause a less-than-significant VMT impact without conducting a detailed study.

- ***Significance Thresholds***: Significance thresholds define what constitutes an acceptable level of VMT and what is considered a significant level of VMT requiring mitigation.

- ***Analysis Methodology***: These are the procedures and tools for producing VMT forecasts to use in the VMT impact assessment.

- ***Mitigation***: Projects that are found to have a significant VMT impact based on the County's significance thresholds are required to implement mitigation measures to reduce impacts to a less than significant level (or to the extent feasible).

Screening Criteria. Screening criteria can be used to quickly identify whether sufficient evidence exists to presume a project will have a less than significant VMT impact without conducting a detailed study. However, each project should be evaluated against the evidence supporting that screening criteria to determine if it applies. Projects meeting at least one of the criteria below can be presumed to have a less than significant VMT impact, absent substantial evidence that the project will lead to a significant impact.

The following screening criteria have been reviewed. The extent to which the proposed project qualifies under each criterion is also noted.

- ***Small Projects:*** Defined as a project that generates 110 or fewer average daily vehicle trips or less than 880 VMT on a typical day.

Assessment. The proposed project is estimated to generate 2,582 primary vehicle trips per day. As this value exceeds the 110 daily trip threshold, the project does not qualify under this metric.

Conclusion. This criterion does not apply to the project.

- ***Local Serving Retail:*** Defined as retail uses of 50,000 square feet or less.

  Assessment. *Local-Serving Non-Residential Development* is assessed by criterion that notes that local serving retail uses can reduce travel by offering customers more choices in closer proximity. Local serving retail uses of 50,000 square feet or less can be presumed to have a less than significant impact. OPR guidance notes:

  > By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

  The Town Center Circle K project clearly provides goods and services to Yuba City / Marysville residents and to motorists already traveling on SR 20. The project site is closer to some residents than existing gas stations and car washes. By reducing the need to travel further and being in closer proximity to the center of the Yuba City / Marysville area, the proposed project will have a positive effect (i.e., reduction) on total regional VMT. As suggested by OPR, the Town Center Circle K project is less than 50,000 sf, its VMT impact can be presumed to be less than significant, and no further analysis is required.

- ***Locations Served by High Quality Transit*:** Projects within ½ mile of "high quality" transit can be presumed to have a less than significant impact on regional VMT. High quality transit is defined as headways of 15 minutes or less.

  Assessment. The proposed project is ¼ mile from a Yuba Sutter Transit terminal, but current service does not meet the 15-minute headway requirements.

  Conclusion. The proposed project is not in an area served by high quality transit.

Overall, the project does qualify under screening criterion related to its local-serving nature, and additional assessment is not required. However, further support for this conclusion is available.

Projects in Low VMT-Generating Area. This evaluation criterion is defined as a residential or office project that is in a VMT efficient area where regional VMT reduction goals are already satisfied. The project must be consistent in size and land use type (i.e., density, mix of uses, transit accessibility, etc.) as the surrounding built environment.

The Sacramento Area Council of Governments (SACOG) has identified ***Low VMT generating locations*** within this region, including Yuba City. The Town Center Circle K project's location within SACOG region was determined, and the per job VMT characteristics of the existing businesses in this area of Yuba City was identified, as noted in Table 10. As shown, the SACOG regional average per job VMT rate is 21.30 vehicles miles per day. The location primarily containing the Town Center Circle K project has a rate of 16.13. The OPR recommended goal would be a 15% reduction from the regional average, or 18.10. Thus, the project is located in a defined Low VMT generating region that meets the goal, and the project's impact can be presumed to be less than significant under this screen line criteria.

TABLE 10
VMT ANALYSIS RESULTS

Per Job VMT			Town Center Circle K Reduction from Average	Regional Goal Met?
SACOG Regional Average	15% Reduction Goal	Town Center Circle K Project		
21.30	18.10	16.13	24%	Yes

Multi-Modal Plan Consistency

The significance of the project's Multi-Modal impacts is discussed in the text which follows.

Transit Service and Facilities. While no fixed route transit service runs along Colusa Avenue (SR 20) in the area of the project today nor is planned in the future, the project and its access does not physically disrupt an existing transit service or facility nor interfere with implementation of a planned transit service or facility. The project's traffic contribution to streets near the Altrusa / Plumas Transit Center would be too slight to result in increased travel time for busses that adversely affects system on-time performance. The project could result in use of the fixed route service or the dial-a-ride service operated by Yuba-Sutter Transit, but the number of employees associated with the project would not result in increased transit ridership demands that result in passenger loads that exceed vehicle loading standards. As the project access is not adjacent to any Transit facility and demand response service can be loaded and unloaded on site, the project does not result in increased potential for safety conflicts involving transit vehicles and other modes of travel.

Conclusion. The project's impact to Transit Service and Facilities is not significant.

Bicycle Facilities. The project will close some access and construct new access on Olive Street and Colusa Avenue, but for the most part curb lines will remain in their current position, and no roadway widening is proposed. By designing and constructing these improvements to Caltrans Yuba City standards, the project does not physically disrupt an existing bicycle facility or interfere with implementation of any planned facilities. Some project customers or employees

may elect to ride bicycles to the site. However, that number would not be so large as to suggest that changes to the City's Bicycle Master Plan to provide lanes or trails would in order. By reducing the number of driveways on Olive Street, the project is consistent with Master Plan's suggestion that Olive Street be made a Class 3 Bicycle route. The project would not result in a significant increase in bicyclists on a facility that does not have adequate bicycle facilities, such that conflicts between bicyclists and other travel modes are likely to increase.

Conclusion. The project's impact to Bicycle Facilities is not significant.

Pedestrian Facilities. The project's improvements on Olive Street and Colusa Avenue include sidewalks, and an identified path of travel from Colusa Avenue to the Convenience Store provides accessible and safe pedestrian connection to adjacent streets. By closing two existing driveways and constructing new driveway to current City of Yuba City and Caltrans standards, the proposed project does not physically disrupt an existing pedestrian facility nor interfere with implementation of a planned pedestrian facility. Some customers may walk to and from the site, partial from the neighborhood to the south via Olive Street. Sidewalks are available in that neighborhood, with the exception of a short section on the west side of Olive Street just south of the project. However, the traffic volume on Olive Street is low (i.e., 165 vph in the p.m. peak hour), and the number of pedestrians added along this section of Olive Street would not be expected to be so great as to justify offsite improvements.

Conclusion. The project's impact to Pedestrian Facilities is not significant.

General Plan Consistency. The project's consistency with General Plan policies other than LOS has not been reviewed as part of this analysis.

State Highways. The project will take access to Colusa Avenue (SR 20) at two reconstructed driveways just east of the Live Oak Blvd traffic signal. As noted in the LTA under long term conditions the project could result in increases in queuing in the area of traffic signal that will disrupt traffic flow as queueing could exceed available storage. Project traffic could negatively affect safety of the State highway facility.

Conclusion. The project's impact with regards to State facilities is cumulatively significant, and improvements are needed, as noted in the LTA. These include:

- Close off the Chestnut Street median opening on Colusa Avenue
- Limit the project's Olive Street access to right turns only
- Provide deceleration tapers at the Colusa Avenue driveways

TRAFFIC OPERATIONAL EFFECTS

Standards of Significance / Level of Service Thresholds

In this transportation impact study, the significance of the proposed project's effects on traffic operating conditions is based on a determination of whether project generated traffic results in roadway or intersection operating conditions below acceptable standards as defined by the governing agency. A project's effect on traffic conditions is considered significant if implementation of the project would result in LOS changing from levels considered acceptable to levels considered unacceptable, or if the project would significantly worsen an already unacceptable LOS without the project. Relevant policies for the study area consist of the following.

SB 743

SB 743 requires that as of July 1, 2020 evaluation of transportation impacts under CEQA may no longer be based on consideration of Level of Service and will move to evaluation based on Vehicle Miles Traveled (VMT). Methods for estimating project VMT and for evaluating VMT impacts are outlined in Office of Planning & Research (OPR) directives and are implemented by individual jurisdictions. The City of Yuba City is working towards creation and adoption of applicable methods for estimating and evaluating a project's effects on VMT but thresholds of significance have been not yet been adopted.

State Route 20 Transportation Concept Report (Caltrans District 3, March 2013)

The Route Concept Report for SR 20 identifies the following standard:

- Concept LOS E is identified for SR 20 roadway segments in the City of Yuba City between Harter Pkwy and SR 99

Yuba City General Plan (Adopted April 2004)

Implementing Policy 5.2-1-12 *(Traffic Level of Service)* of the General Plan's Transportation section states the following:

> Develop and manage the roadway system to obtain LOS D or better for all major roadways and intersections in the City. This policy does not extend to residential streets (i.e., streets with direct driveway access to homes) or bridges across the Feather River nor does the policy apply to state highways and their intersections, where Caltrans policies apply. Exceptions to LOS D policy may be allowed by the City Council in areas, such as downtown, where allowing a lower LOS would result in clear public benefits. Specific exceptions granted by the Council shall be added to the list of exceptions below:
>
> - SR 20 (SR 99 to Feather River Bridge) – LOS F is acceptable;

- SR 20 (Feather River Bridge) – LOS F is acceptable;
- Bridge Street (Twin Cities Bridge) – LOS F is acceptable;
- Lincoln Road (New Bridge across the Feather River) – LOS F is acceptable;
- Bridge Street from Palora Avenue to Second Street – LOS F is acceptable.

No new development will be approved unless it can be shown that the required level of service can be maintained on the affected roadways.

Based upon the above, the following standards and significance criteria have been used for this analysis to identify a significant impact.

- Cause level of service at a study intersection to degrade from an acceptable LOS D or better to LOS E or F.

- Exacerbate the no project level of service at a study intersection operating at an unacceptable LOS. Based upon direction provided by City staff for past studies in this area, exacerbation of unacceptable operations at a City signalized intersection is considered an impact if the proposed project causes an increase in the average vehicle delay of 5 seconds or more.

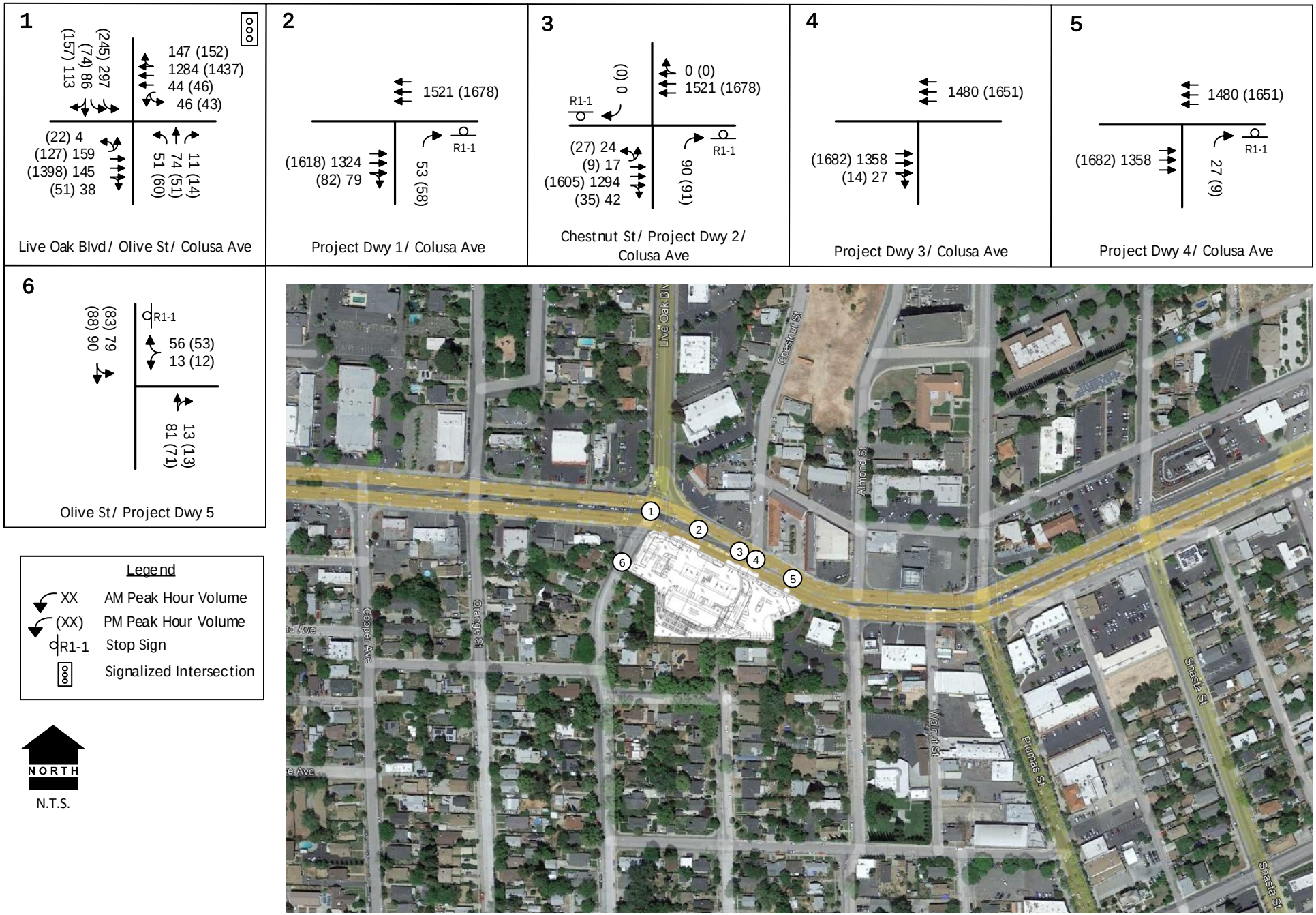
Existing Plus Project Traffic Operating Conditions

Intersection Levels of Service. Figure 5 presents the sum of existing traffic and project trips. Table 11 compares current Levels of Service at study intersections with "Plus Project" conditions. As shown, the addition of project trips does not result in any location operating at an acceptable condition deteriorating to an unacceptable level. No improvements are needed based on operating Level of service.

95th Percentile Queues. As indicated in Table 12, the addition of project traffic will increase the length of peak period queues at study intersections slightly. Resulting queues will exceed the length of available in turn lane storage at these locations:

- Colusa Avenue / Live Oak Blvd: westbound left turn lane
- Colusa Avenue / Live Oak Blvd: northbound left turn lane

Neither situation appears to create a significant safety issue. In the case of the westbound left turn lane, the additional queue length can be accommodated in the bay taper. In the case of the Olive Street turn lanes, the resulting queues do not extend to the project's driveway and would not interfere with access to the project.



EXISTING PLUS PROJECTTRAFFIC VOLUMES AND LANE CONFIGURATIONS

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0045-01 RA 3/22/2022

figure 5

TABLE 11
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	Min LOS[1]	AM Peak Hour				PM Peak Hour			
			Existing		Existing Plus Project		Existing		Existing Plus Project	
			Average Delay (sec/veh)	LOS	Average Delay (Sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Colusa Avenue (SR 20) / Live Oak Blvd	Signal	F	19.6	B	21.7	C	16.9	B	22.9	C
Colusa Avenue / Driveway #1 NB right turn	NB Stop	F	-	-	6.6	A	-	-	9.9	A
Colusa Avenue / Driveway # 2 NB right turn	NB Stop	F	-	-	11.3	B			37.2	E
Colusa Ave (SR 20) / Java Detour Dwy / Chestnut Street EB left turn	SB Stop	F	12.0	B	12.6	B	19.3	C	24.8	C
Colusa Ave (SR 20) / Java Detour Dwy	NB Stop	F	7.6	A	8.4	A	55.3	F	49.5	E
Olive Street / Access WB approach	WB Stop	F	-	-	9.8	A			8.3	A

[1] minimum LOS accepted by the City of Yuba City General Plan and Caltrans SR 20 TCR .

TABLE 12
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION 95th PERCENTILE SIMULATION QUEUE LENGTHS

Intersection	Lane	Storage (feet)	AM Peak Hour				PM Peak Hour			
			Existing		Existing Plus Project		Existing		Existing Plus Project	
			Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)
Colusa Ave (SR 20) / Live Oak Blvd / Olive Street	EB left	200	158	165	157	170	129	155	127	205
	WB left	90[2]	26	45	90	**105**	25	45	89	**105**
	NB left	40[1]	20	**55**	51	**65**	28	**55**	60	**65**
	NB through	-	54	80	74	85	36	70	51	85
	NB right	40	9	**60**	11	**45**	11	40	14	**45**
Colusa Ave / Driveway #1	NB right	-	-	-	53	55	-	-	58	55
Colusa Ave / Driveway #2	NB right	-	-	-	90	75	-	-	91	145
Colusa Ave (SR 20) / Chestnut St	EB left	17	10	<25	41	30	9	<25	36	40
Olive Street / Driveway	WB approach	-	-	-	69	65	-	-	65	60
	SB left turn	-	-	-	79	40	-	-	83	40

[1] sum of left turn lane and bay taper is 90 feet. [2] sum of left turn lane and bay taper is about 165 feet

BOLD values exceed storage or extend beyond next intersection

CUMULATIVE TRAFFIC OPERATIONS

Long Term Cumulative Traffic Conditions

Basis for Long Term Projections. The City of Yuba City's *Traffic Impact Fee Update Traffic Circulation / Operational Analysis* was the source of long term traffic volumes for this analysis. The analysis' Market Absorption scenario was employed, and peak hour traffic volume forecasts from that analysis at intersections on SR 20 were conservatively assumed to be the "no project" condition for this cumulative analysis.

Circulation System Assumptions. The traffic volume forecasts made for this analysis include those city-wide circulation system improvements incorporated into the City's updated General Plan traffic model and CIP. SR 20 was assumed to be widened to 6 lanes at the Civic Center Blvd intersection and easterly. SR 99 was assumed to remain a four-lane facility through Yuba City. Harter Pkwy was extended southerly from to Pease Road and southerly from its current terminus at Lassen Avenue. No improvements were assumed locally.

Traffic Volume Forecasts. Peak hour intersection turning movements were created for No Project and Plus Project Cumulative conditions. Figure 6 identifies cumulative traffic volumes at study intersections without the Town Center Circle K project, while Figure 7 presents volumes with the addition of the proposed project.

Cumulative No Project Conditions

Levels of Service. Table 13 identifies peak hour Levels of Service under future conditions. If no site development occurs, then the signalized Colusa Avenue / Live Oak Blvd / Olive Street intersection is projected to operate at LOS D or better during peak traffic hours. Note: These results are similar to but slightly better than the results of a community wide operations analysis conducted for the City for the Cumulative Market condition based on simulation of a broader length of Colusa Avenue.

Because the background traffic level on Colusa Avenue increases substantially in the future, the delays for motorists at unsignalized intersections and driveways are projected to become very long (i.e., LOS F).

95th Percentile Queues. As noted in Table 14, if the site remains vacant then projected queues will become slightly longer in the future. As is the case today, the length of the northbound queues in Olive Street turn lanes will exceed the length of the striped lanes.

Cumulative Plus Project Conditions

Level of Service. As noted in Table 13, the addition of traffic from the proposed project will affect long term cumulative traffic conditions at study area intersections. With full project access to Olive Street the Level of Service at the Colusa Avenue / Live Oak Blvd / Olive Street intersection is projected to reach LOS F in the a.m. and p.m. peak hour. This condition is

consistent with the Level of Service anticipated in the SR 20 TCR and the City of Yuba City General Plan. Improvements to address these conditions are discussed later in this section.

Because the background traffic volume on Colusa Avenue is high and congestion occurs at the Plumas Street intersection, long delays are projected at the site's project's driveways, and LOS F will result.

95th Percentile Queues. As noted in Table 14, if the proposed project proceeds, then projected queues will become much longer in the turn lanes at and near the Colusa Avenue / Live Oak Blvd / Olive Street intersection in the future. Because several turn lanes are short and in close proximity to the traffic signal, the spillover queuing has an appreciable effect on the overall operation of the intersection. For example, the queue of westbound through traffic on Colusa Avenue regularly extends beyond Chestnut Street and blocks eastbound left turns from Colusa Avenue. In turn, the queue of eastbound left turn extends into the through travel lanes, affecting through travel and limiting access at the project's driveway. In the long term, the queue of northbound traffic on Olive Street interferes with southbound traffic attempting to turn left into the project site, and southbound traffic can extend back to Colusa Avenue. Very long queues are also forecast at the project's driveways.

Traffic Control Alternatives

Access Changes. Measure to reduce the effects of queueing on long term traffic operations were evaluated. Alternatives include:

- Close the Chestnut Street median opening on Colusa Avenue, and
- Limit project access to Olive Street to right turn only.

Background traffic volumes and project trips were redistributed assuming that these changes are implemented, as noted in Figure 8. Eliminating the eastbound Chestnut Street left turn would increase the amount of project traffic on northbound Olive Street, and some additional project traffic would likely make u-turns at the Plumas Street intersection. Limiting the project's Olive Street access to right turns only would force all project traffic on Colusa Avenue to use those two driveways.

Level of Service. Table 13 identifies long term p.m. peak hour Level of Service with the project if access is limited as noted above. As shown, the overall average delay at the Colusa Avenue / Live Oak Blvd intersection is reduced, and LOS E conditions result. These conditions are consistent with the results of the City's city-wide operational analysis.

However, the changes in access control do not appreciably reduce delays at the project's driveways, and LOS conditions are still forecast.

95th Percentile Queues. As noted in Table 14, if the proposed project proceeds with the identified access controls, then projected queues will be better accommodated by available storage. The westbound left turn queue on Colusa Avenue would fit within the available storage

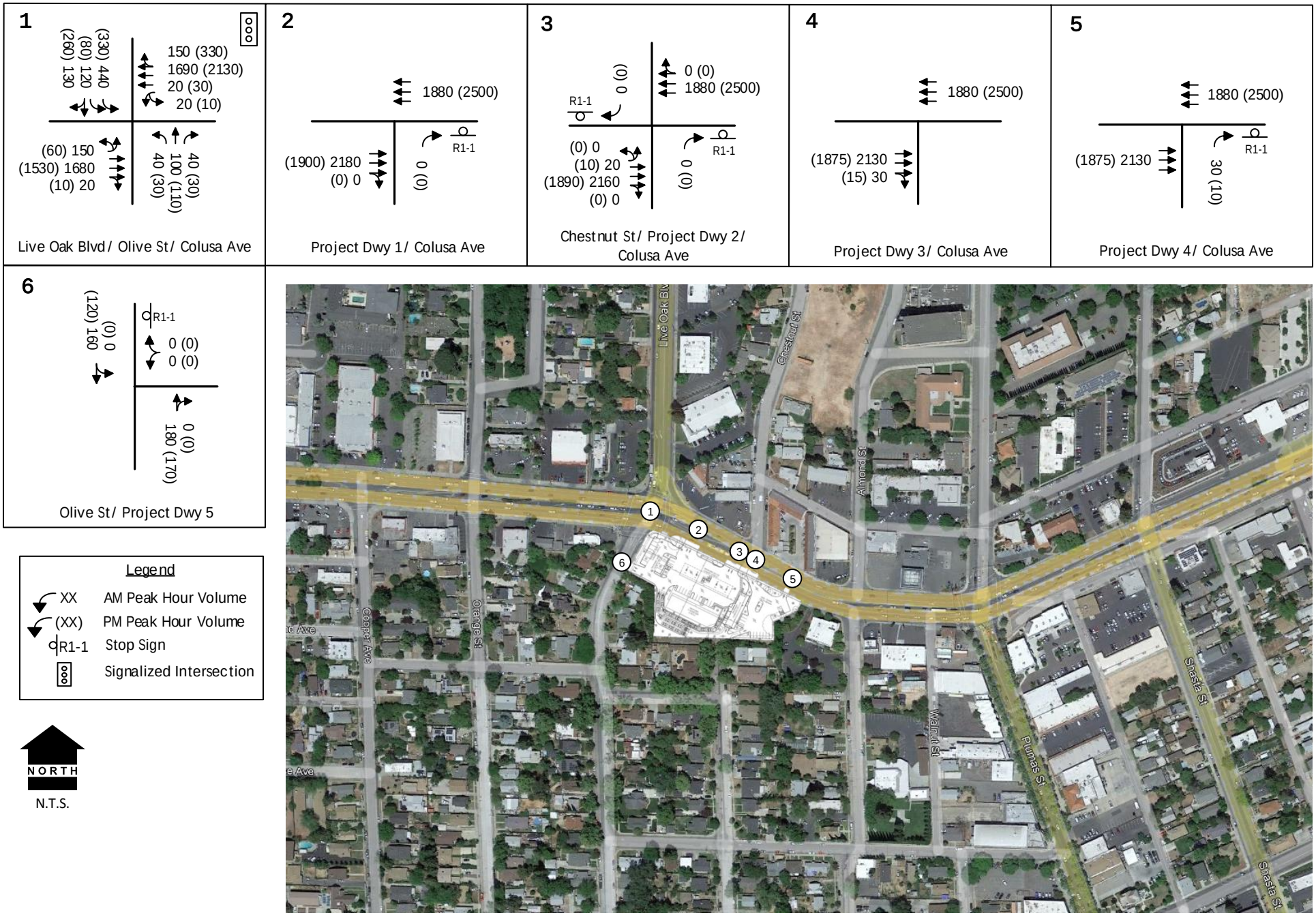
with the closure of the Chestnut Street median opening. However by limiting access from Olive Street and increasing the level of activity at the Colusa Avenue driveways, the queues at the project's driveways could lengthen.

Access and Circulation

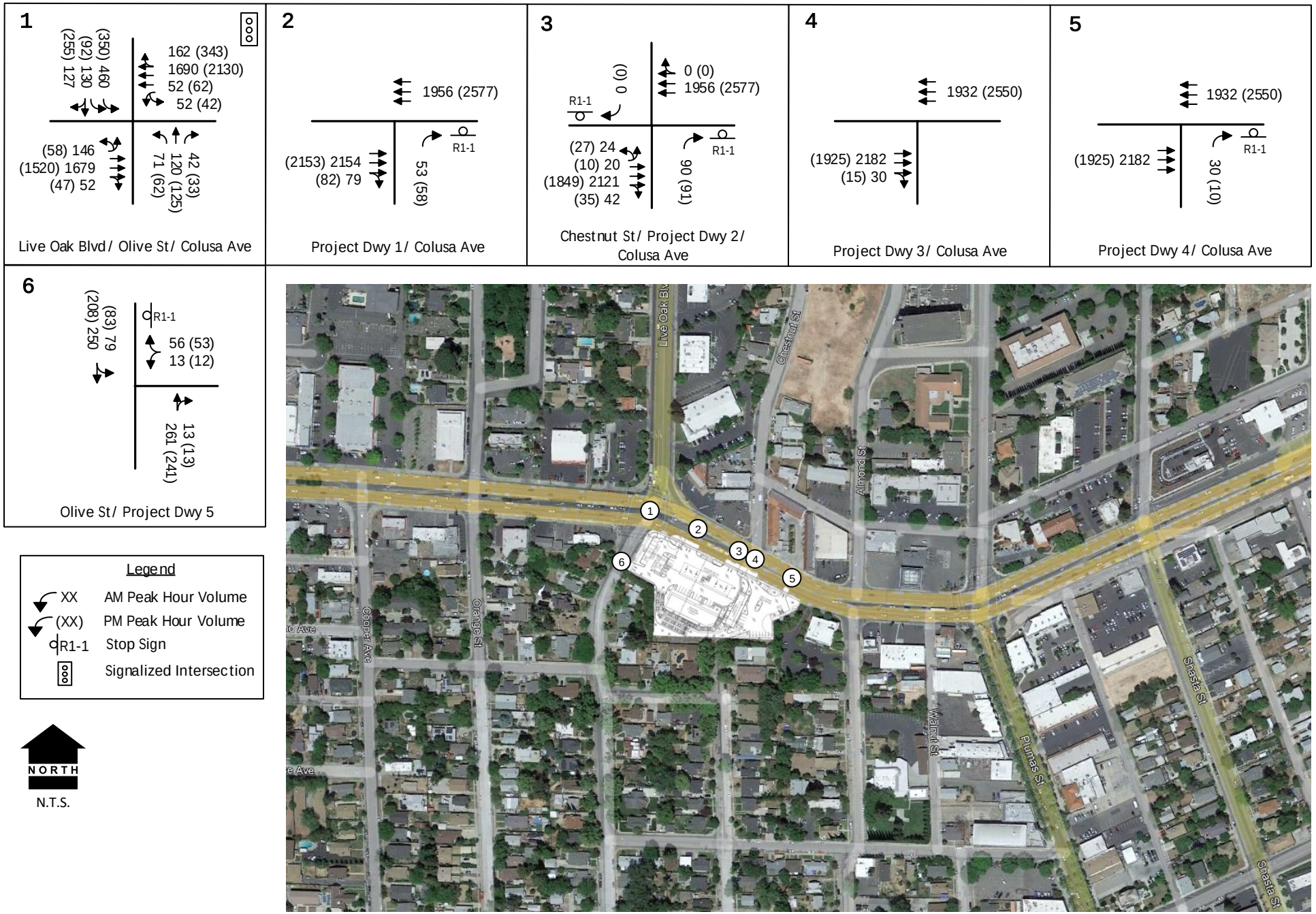
Driveway Throat Depth. Driveway queuing can affect safety on the state highway if inbound traffic is delayed by existing traffic waiting to exit the site. In this case each driveway has about 50 feet of throat depth that accommodates two waiting vehicles before affecting the path of inbound vehicles. As noted in the queueing analysis, these throat depths are generally adequate under "Existing plus Project" conditions (i.e., Table 11) except during the p.m. peak hour when the queue at the eastern driveway exceeds 100 feet.

Site improvements have been identified to address the effects of driveway queuing. While it may be difficult to construct a right turn lane on Colusa Avenue, Colusa Avenue could be widened to provide a ***deceleration taper*** outside of the path of through traffic to accommodate entering traffic. Alternatively, the site layout could be modified to ***create separate inbound and outbound driveways.***

Fuel Delivery Truck Access. The site plan does not indicate the location of fuel storage tanks or a fuel truck path through the site. Caltrans is likely to require both details when considering the project.



CUMULATIVE NO PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS



CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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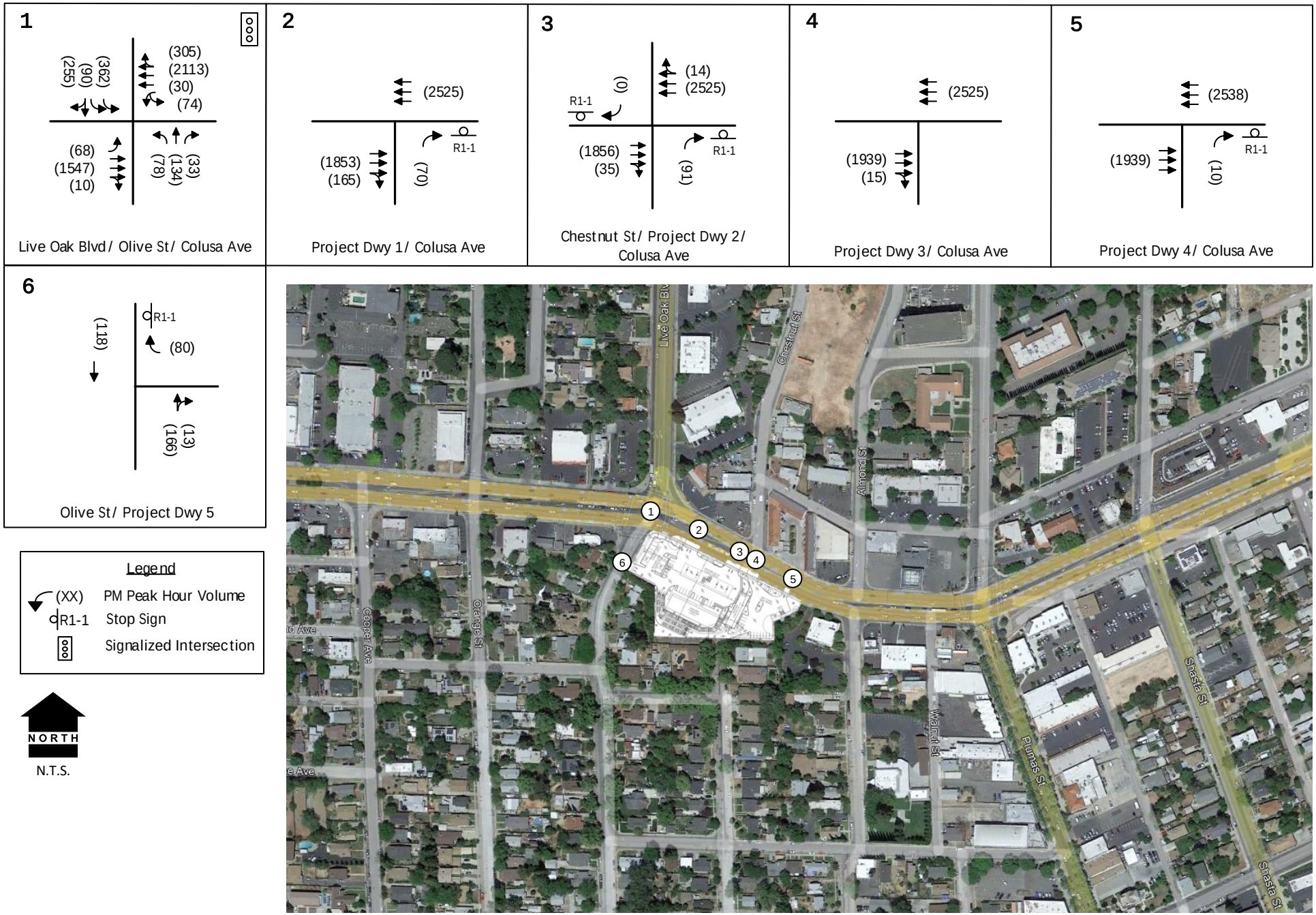
figure 7



CUMULATIVE PLUS PROJECT PM TRAFFIC VOLUMES AND LANE CONFIGURATIONS
CHESTNUT LANE CLOSURE AND OLIVE ST RIGHT TURN ACCESS

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figure 8

TABLE 13
CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	Min LOS[1]	AM Peak Hour				PM Peak Hour					
			No Project		Cumulative Plus Project		No Project		Cumulative Plus Project			
									Base		Close Chestnut & Olive St RTO	
			Average Delay (sec/veh)	LOS	Average Delay (Sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Colusa Ave (SR 20) / Live Oak Blvd	Signal	F	34.3[2]	C	92.7	F	54.3[2]	D	174.4	F	74.1	E
Colusa Ave / Driveway #1 NB right turn	NB Stop	F	-	-	109.4	F	-	-	213.7	F	39.6	E
Colusa Ave / Driveway # 2 NB right turn	NB Stop	F	-	-	102.1	F	-	-	37.6	E	>300	F
Colusa Ave (SR 20) / Java Detour Dwy / Chestnut St EB left turn	SB Stop	F	53.3	F	286.8	F	>300	F	>300	F	-	-
Colusa Ave (SR 20) / Java Detour Dwy	NB Stop	F	>300	F	220.1	F	160.9	F	>300	F	>300	F
Olive Street / Access WB approach	WB Stop	F	-	-	>300	F	-	-	>300	F	>300	F

[1] minimum LOS accepted by the City of Yuba City General Plan and Caltrans SR 20 TCR .

[2] City of Technical Memorandum: City of Yuba City Cumulative Traffic Forecasts and Operation Analysis, Fehr & Peers, (1/19/2021) reports LOS D (47.7 sec) in the a.m. peak hour and LOS E (74.2 sec) in the p.m. peak hour

TABLE 14
CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION 95th PERCENTILE SIMULATION QUEUE LENGTHS

Intersection	Lane	Storage (feet)	AM Peak Hour				PM Peak Hour					
			No Project		Cumulative Plus Project		No Project		Cumulative Plus Project			
									Base		Close Chestnut & Olive St RTO	
			Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)
Colusa Ave (SR 20) / Live Oak Blvd / Olive Street	EB left	200	150	165	146	170	60	155	127	205		280
	WB left	90[2]	40	45	104	**105**	40	45	89	**105**		145[3]
	NB left	40[1]	40	**55**	71	**65**	30	**55**	60	**65**		**65**
	NB Through	-	100	80	120	85	110	70	51	85		155
	NB right	40	40	**60**	42	**45**	30	40	14	**45**		**60**
Colusa Ave / Driveway #1	NB right	-	-	-	53	55	-	-	58	55		85
Colusa Ave / Driveway #2	NB right	-	-	-	90	75	-	-	91	145		390
Colusa Ave (SR 20) / Chestnut St	EB left	17	20	<25	44	30	10	<25	36	40	-	-
Olive Street / Driveway	WB Approach	-	-	-	69	65	-	-	65	60		160
	SB left turn	-	-	-	79	40	-	-	83	40	-	-

[1] sum of left turn lane and bay taper is 90 feet. [2] sum of left turn lane and bay taper is about 165 feet. [3] available sum of left turn lane and bay taper is estimated to be 260 feet.

BOLD values exceed storage or extend beyond next intersection

APPENDIX

Traffic Counts
Existing / Future Traffic Volumes from City of Yuba City
Synchro / SimTraffic Worksheets

Prepared by National Data & Surveying Services

Olive St/Live Oak Blvd & Colusa Ave

Peak Hour Turning Movement Count

ID: 21-070206-001
City: Yuba City

Day: Wednesday
Date: 12/8/2021

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Olive St/Live Oak Blvd)

AM	113	74	269	0	337	AM
NOON	0	0	0	0	0	NOON
PM	162	62	225	0	280	PM

EASTBOUND (Colusa Ave)

AM	NOON	PM	
1383	0	1649	⇦
4	0	22	↶ 0
154	0	107	↱ 0
1019	0	1408	→ 0
6	0	14	↴ 0
AM	NOON	PM	

WESTBOUND (Colusa Ave)

PM	NOON	AM	
137	0	131	↰ 0
1437	0	1247	← 0
14	0	12	↰ 0
11	0	14	↶ 0
1655	0	1311	⇨
PM	NOON	AM	

NORTHBOUND (Olive St/Live Oak Blvd)

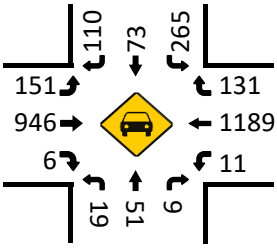
PM	90	0	28	36	11	PM
NOON	0	0	0	0	0	NOON
AM	92	0	19	52	9	AM

CONTROL

Signalized

TEV	3123 AM	0 NOON	3674 PM
PHF	0.90		0.95

Cars (AM)



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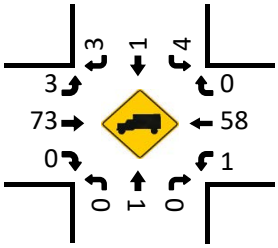
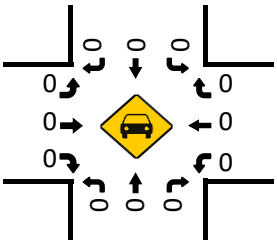


Cars (NOON)



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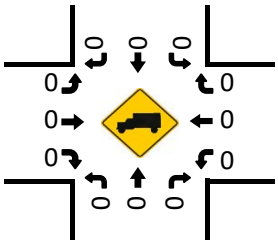
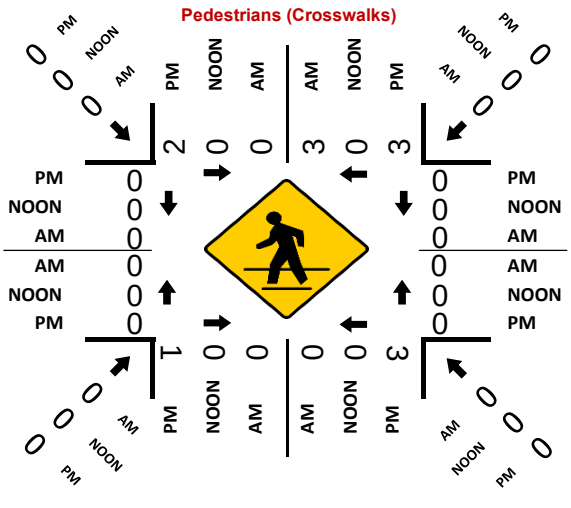
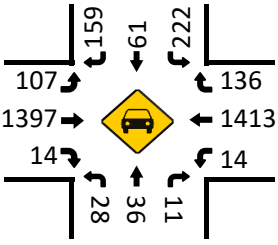


Pedestrians (Crosswalks)



Cars (PM)



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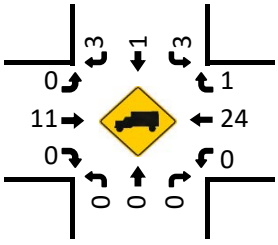


National Data & Surveying Services Intersection Turning Movement Count

Location: Olive St/Live Oak Blvd & Colusa Ave
City: Yuba City
Control: Signalized

Project ID: 21-070206-001
Date: 12/8/2021

Data - Total

NS/EW Streets:	Olive St/Live Oak Blvd				Olive St/Live Oak Blvd				Colusa Ave				Colusa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	2	2	0	37	6	12	0	15	178	1	0	0	154	10	2	420
7:15 AM	1	4	2	0	48	8	15	0	12	252	3	0	0	261	19	0	625
7:30 AM	4	11	4	0	64	16	26	0	21	244	1	2	1	277	14	0	685
7:45 AM	6	19	5	0	77	22	20	0	56	271	2	0	2	351	40	1	872
8:00 AM	5	17	2	0	77	28	31	0	47	246	2	0	5	295	37	4	796
8:15 AM	4	8	2	0	64	12	30	0	28	257	1	3	3	289	23	4	728
8:30 AM	4	8	0	0	51	12	32	0	23	245	1	1	2	312	31	5	727
8:45 AM	5	3	0	0	50	8	17	0	32	233	1	2	1	339	27	3	721
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	30	72	17	0	468	112	183	0	234	1926	12	8	14	2278	201	19	5574
APPROACH %'s :	25.21%	60.50%	14.29%	0.00%	61.34%	14.68%	23.98%	0.00%	10.73%	88.35%	0.55%	0.37%	0.56%	90.68%	8.00%	0.76%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	19	52	9	0	269	74	113	0	154	1019	6	4	12	1247	131	14	3123
PEAK HR FACTOR :	0.792	0.684	0.450	0.000	0.873	0.661	0.883	0.000	0.688	0.940	0.750	0.333	0.600	0.888	0.819	0.700	0.895
	0.667				0.838				0.899				0.891				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	16	0	0	61	8	31	0	23	365	9	8	5	384	37	2	959
4:15 PM	8	14	2	0	55	14	45	0	24	327	4	3	2	296	29	2	825
4:30 PM	4	9	2	0	61	16	34	0	21	360	0	5	3	385	29	3	932
4:45 PM	7	12	1	0	56	19	43	0	35	322	7	8	1	341	30	3	885
5:00 PM	10	9	4	0	61	14	46	0	17	357	2	5	7	378	49	3	962
5:15 PM	7	6	4	0	47	13	39	0	34	369	5	4	3	333	29	2	895
5:30 PM	4	9	0	0	50	9	22	0	20	367	3	7	1	324	28	1	845
5:45 PM	3	7	1	0	42	3	24	0	27	293	4	5	2	318	18	0	747
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	53	82	14	0	433	96	284	0	201	2760	34	45	24	2759	249	16	7050
APPROACH %'s :	35.57%	55.03%	9.40%	0.00%	53.26%	11.81%	34.93%	0.00%	6.61%	90.79%	1.12%	1.48%	0.79%	90.52%	8.17%	0.52%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	28	36	11	0	225	62	162	0	107	1408	14	22	14	1437	137	11	3674
PEAK HR FACTOR :	0.700	0.750	0.688	0.000	0.922	0.816	0.880	0.000	0.764	0.954	0.500	0.688	0.500	0.933	0.699	0.917	0.955
	0.815				0.928				0.941				0.915				

National Data & Surveying Services Intersection Turning Movement Count

Location: Olive St/Live Oak Blvd & Colusa Ave
City: Yuba City
Control: Signalized

Project ID: 21-070206-001
Date: 12/8/2021

Data - Cars

NS/EW Streets:	Olive St/Live Oak Blvd				Olive St/Live Oak Blvd				Colusa Ave				Colusa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	2	1	0	36	6	9	0	14	161	1	0	0	146	9	2	388
7:15 AM	1	4	2	0	47	8	14	0	11	240	3	0	0	253	19	0	602
7:30 AM	4	10	4	0	64	16	26	0	21	227	0	2	1	268	14	0	657
7:45 AM	6	19	5	0	77	21	19	0	56	256	2	0	2	343	40	1	847
8:00 AM	5	16	2	0	77	28	29	0	45	225	2	0	4	277	37	4	751
8:15 AM	4	8	2	0	61	12	30	0	27	238	1	3	3	276	23	4	692
8:30 AM	4	8	0	0	50	12	32	0	23	227	1	1	2	293	31	5	689
8:45 AM	5	3	0	0	46	8	16	0	32	214	1	2	1	319	25	3	675
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	30	70	16	0	458	111	175	0	229	1788	11	8	13	2175	198	19	5301
APPROACH %'s :	25.86%	60.34%	13.79%	0.00%	61.56%	14.92%	23.52%	0.00%	11.25%	87.82%	0.54%	0.39%	0.54%	90.44%	8.23%	0.79%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	19	51	9	0	265	73	110	0	151	946	6	4	11	1189	131	14	2979
PEAK HR FACTOR :	0.792	0.671	0.450	0.000	0.860	0.652	0.859	0.000	0.674	0.924	0.750	0.333	0.688	0.867	0.819	0.700	0.879
	0.658				0.836				0.881				0.871				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	16	0	0	59	8	30	0	22	353	9	8	5	377	36	2	934
4:15 PM	8	14	2	0	55	13	45	0	23	321	4	3	2	285	27	2	804
4:30 PM	4	9	2	0	60	16	32	0	21	356	0	5	3	376	28	3	915
4:45 PM	7	12	1	0	54	19	42	0	35	322	7	8	1	334	30	3	875
5:00 PM	10	9	4	0	61	14	46	0	17	353	2	5	7	373	49	3	953
5:15 PM	7	6	4	0	47	12	39	0	34	366	5	4	3	330	29	2	888
5:30 PM	4	9	0	0	50	9	22	0	20	363	3	7	1	318	28	1	835
5:45 PM	3	7	1	0	42	3	24	0	27	286	4	5	2	309	17	0	730
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	52	82	14	0	428	94	280	0	199	2720	34	45	24	2702	244	16	6934
APPROACH %'s :	35.14%	55.41%	9.46%	0.00%	53.37%	11.72%	34.91%	0.00%	6.64%	90.73%	1.13%	1.50%	0.80%	90.49%	8.17%	0.54%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	28	36	11	0	222	61	159	0	107	1397	14	22	14	1413	136	11	3631
PEAK HR FACTOR :	0.700	0.750	0.688	0.000	0.910	0.803	0.864	0.000	0.764	0.954	0.500	0.688	0.500	0.939	0.694	0.917	0.953
	0.815				0.913				0.941				0.911				

National Data & Surveying Services Intersection Turning Movement Count

Location: Olive St/Live Oak Blvd & Colusa Ave
City: Yuba City
Control: Signalized

Project ID: 21-070206-001
Date: 12/8/2021

Data - HT

NS/EW Streets:	Olive St/Live Oak Blvd				Olive St/Live Oak Blvd				Colusa Ave				Colusa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	1	0	1	0	3	0	1	17	0	0	0	8	1	0	32
7:15 AM	0	0	0	0	1	0	1	0	1	12	0	0	0	8	0	0	23
7:30 AM	0	1	0	0	0	0	0	0	0	17	1	0	0	9	0	0	28
7:45 AM	0	0	0	0	0	1	1	0	0	15	0	0	0	8	0	0	25
8:00 AM	0	1	0	0	0	0	2	0	2	21	0	0	1	18	0	0	45
8:15 AM	0	0	0	0	3	0	0	0	1	19	0	0	0	13	0	0	36
8:30 AM	0	0	0	0	1	0	0	0	0	18	0	0	0	19	0	0	38
8:45 AM	0	0	0	0	4	0	1	0	0	19	0	0	0	20	2	0	46
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	1	0	10	1	8	0	5	138	1	0	1	103	3	0	273
APPROACH %'s :	0.00%	66.67%	33.33%	0.00%	52.63%	5.26%	42.11%	0.00%	3.47%	95.83%	0.69%	0.00%	0.93%	96.26%	2.80%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	1	0	0	4	1	3	0	3	73	0	0	1	58	0	0	144
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.333	0.250	0.375	0.000	0.375	0.869	0.000	0.000	0.250	0.763	0.000	0.000	0.800
	0.250				0.667				0.826				0.776				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	2	0	1	0	1	12	0	0	0	7	1	0	25
4:15 PM	0	0	0	0	0	1	0	0	1	6	0	0	0	11	2	0	21
4:30 PM	0	0	0	0	1	0	2	0	0	4	0	0	0	9	1	0	17
4:45 PM	0	0	0	0	2	0	1	0	0	0	0	0	0	7	0	0	10
5:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	9
5:15 PM	0	0	0	0	0	1	0	0	0	3	0	0	0	3	0	0	7
5:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	0	10
5:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	9	1	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	0	0	0	5	2	4	0	2	40	0	0	0	57	5	0	116
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%	45.45%	18.18%	36.36%	0.00%	4.76%	95.24%	0.00%	0.00%	0.00%	91.94%	8.06%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	3	1	3	0	0	11	0	0	0	24	1	0	43
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.375	0.250	0.375	0.000	0.000	0.688	0.000	0.000	0.000	0.667	0.250	0.000	0.632
					0.583				0.688				0.625				

National Data & Surveying Services Intersection Turning Movement Count

Location: Olive St/Live Oak Blvd & Colusa Ave
City: Yuba City
Control: Signalized

Project ID: 21-070206-001
Date: 12/8/2021

Data - Bikes

NS/EW Streets:	Olive St/Live Oak Blvd				Olive St/Live Oak Blvd				Colusa Ave				Colusa Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
APPROACH %'s :													0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250
														0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	3	0	0	0	0	1	0	5
APPROACH %'s :					0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
										0.500							

National Data & Surveying Services Intersection Turning Movement Count

Location: Olive St/Live Oak Blvd & Colusa Ave
City: Yuba City

Project ID: 21-070206-001
Date: 12/8/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Olive St/Live Oak Blvd		Olive St/Live Oak Blvd		Colusa Ave		Colusa Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	1
7:15 AM	1	0	0	0	0	0	0	0	1
7:30 AM	1	0	0	2	0	4	0	0	7
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	2	0	0	0	0	0	0	2
8:30 AM	0	1	0	0	0	0	0	0	1
8:45 AM	1	1	0	1	0	0	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	5	0	3	0	4	0	0	15
APPROACH %'s :	37.50%	62.50%	0.00%	100.00%	0.00%	100.00%			
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	0	3	0	0	0	0	0	0	3
PEAK HR FACTOR :		0.375							0.375
	0.375								

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	1	0	0	0	0	0	1
4:15 PM	0	1	1	2	0	0	0	0	4
4:30 PM	0	2	1	1	0	0	0	0	4
4:45 PM	0	0	0	1	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	2
5:15 PM	2	0	0	0	0	0	0	0	2
5:30 PM	1	2	0	1	0	0	0	0	4
5:45 PM	2	1	0	0	0	0	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	7	3	6	0	0	0	0	21
APPROACH %'s :	41.67%	58.33%	33.33%	66.67%					
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	2	3	1	3	0	0	0	0	9
PEAK HR FACTOR :	0.250	0.375	0.250	0.750					0.563
	0.625		0.500						

Prepared by National Data & Surveying Services

Queue Per Cycle Study - NB

Location: Olive St & Colusa Ave
City: Yuba City

Day: Wednesday
Date: 12/8/2021

AM

Time of BOG (hh:mm:ss)	Queue Length			Time of EOY (hh:mm:ss)	Queue Length		
	NL	NT	NR		NL	NT	NR
7:00:21	0	0	0	7:00:52	0	0	0
7:02:09	0	0	0	7:02:35	0	0	0
7:02:45	0	1	0	7:03:08	0	0	0
7:04:26	0	0	0	7:04:52	0	0	0
7:04:56	0	1	0	7:05:59	0	0	0
7:06:51	0	0	0	7:07:17	0	0	0
7:07:18	0	0	0	7:07:52	0	0	0
7:09:13	0	0	0	7:09:57	0	0	0
7:11:55	0	0	0	7:12:33	0	0	0
7:13:46	1	0	0	7:14:11	0	0	0
7:14:19	0	0	0	7:14:52	0	0	0
7:16:05	0	0	0	7:16:31	0	0	0
7:16:53	0	0	0	7:17:06	0	0	0
7:18:31	0	0	0	7:18:39	0	0	0
7:18:41	0	1	0	7:19:24	0	0	0
7:20:56	0	0	0	7:21:17	0	0	0
7:21:20	0	0	0	7:21:52	0	0	0
7:23:06	0	0	0	7:23:31	0	0	0
7:23:44	0	0	0	7:24:07	0	0	0
7:25:12	0	0	0	7:25:39	0	0	0
7:25:53	0	1	0	7:26:16	0	0	0
7:27:55	1	0	0	7:27:58	0	0	0
7:28:20	0	2	0	7:28:54	0	0	0
7:30:06	0	0	0	7:30:31	0	0	0
7:30:48	0	0	0	7:31:01	0	0	0
7:32:39	0	0	0	7:32:58	0	0	0
7:33:01	0	2	0	7:33:32	0	0	0
7:34:50	1	0	0	7:35:15	0	0	0
7:35:18	0	0	0	7:35:52	0	0	0
7:37:13	2	0	0	7:37:36	0	0	0
7:37:43	0	0	0	7:37:57	0	0	0
7:39:52	0	1	0	7:40:32	0	0	0
7:41:58	0	0	0	7:42:17	0	0	0
7:42:21	0	2	0	7:42:52	0	0	0
7:44:15	1	0	0	7:44:37	0	0	0
7:44:40	0	4	0	7:45:12	0	0	0
7:46:38	0	0	0	7:46:57	0	0	0
7:47:01	0	1	0	7:47:34	0	0	0
7:48:58	2	0	0	7:49:19	0	0	0
7:49:29	0	0	0	7:49:52	0	0	0
7:51:41	0	3	0	7:52:04	0	0	0
7:53:38	2	0	0	7:53:53	0	0	0
7:54:00	0	2	0	7:54:24	0	0	0
7:55:59	1	0	0	7:56:10	0	0	0
7:56:21	0	5	0	7:56:50	0	0	0
7:58:40	0	5	0	7:59:03	0	0	0
8:02:47	1	0	0	8:02:58	0	0	0
8:03:21	0	7	0	8:03:45	0	0	0
8:05:20	1	0	0	8:05:37	0	0	0
8:05:40	0	3	0	8:06:12	0	0	0
8:08:01	0	4	0	8:08:25	0	0	0
8:09:58	0	0	0	8:10:18	0	0	0
8:10:20	0	1	0	8:10:44	0	0	0
8:12:18	1	0	0	8:12:29	0	0	0
8:14:34	2	0	0	8:14:48	0	0	0
8:14:51	0	1	0	8:15:15	0	0	0
8:16:58	1	0	0	8:17:10	0	0	0
8:17:21	0	5	0	8:17:43	0	0	0
8:19:14	2	0	0	8:19:28	0	0	0
8:19:41	0	1	0	8:19:54	0	0	0
8:23:54	1	0	0	8:24:05	0	0	0
8:24:20	0	1	0	8:24:37	0	0	0
8:26:39	0	2	0	8:26:57	0	0	0
8:31:01	0	2	0	8:31:35	0	0	0
8:33:12	3	0	0	8:33:27	0	0	0
8:33:35	0	2	0	8:33:49	0	0	0
8:36:00	0	2	0	8:36:17	0	0	0
8:40:13	1	0	0	8:40:25	0	0	0
8:40:38	0	1	0	8:40:50	0	0	0
8:42:45	0	1	0	8:43:01	0	0	0
8:47:17	3	0	0	8:47:34	0	0	0
8:47:50	0	1	0	8:48:12	0	0	0
8:51:53	0	0	0	8:52:17	0	0	0
8:52:19	0	1	0	8:52:33	0	0	0
8:54:18	2	0	0	8:54:31	0	0	0
8:56:37	0	0	0	8:57:03	0	0	0
8:58:55	0	0	0	8:59:21	0	0	0
	29	66	0		0	0	0

PM

Time of BOG (hh:mm:ss)	Queue Length			Time of EOY (hh:mm:ss)	Queue Length		
	NL	NT	NR		NL	NT	NR
16:01:12	1	0	0	16:01:24	0	0	0
16:01:39	0	3	0	16:01:55	0	0	0
16:03:33	1	0	0	16:03:44	0	0	0
16:03:59	0	1	0	16:04:12	0	0	0
16:05:46	3	0	0	16:06:03	0	0	0
16:06:14	0	3	0	16:06:33	0	0	0
16:08:09	1	0	0	16:08:20	0	0	0
16:08:37	0	4	0	16:08:56	0	0	0
16:10:35	1	0	0	16:10:56	0	0	0
16:10:59	0	1	0	16:11:16	0	0	0
16:12:56	2	0	0	16:13:10	0	0	0
16:13:13	0	3	0	16:13:28	0	0	0
16:15:33	0	1	0	16:15:46	0	0	0
16:17:59	0	3	1	16:18:22	0	0	0
16:19:50	2	0	0	16:20:01	0	0	0
16:20:15	0	3	0	16:20:31	0	0	0
16:22:17	4	2	0	16:22:35	0	0	0
16:22:41	0	2	0	16:23:01	0	0	0
16:26:55	2	0	0	16:27:08	0	0	0
16:27:20	0	1	0	16:27:26	0	0	0
16:29:38	0	2	0	16:29:52	0	0	0
16:31:31	1	0	0	16:31:41	0	0	0
16:31:59	0	1	0	16:32:10	0	0	0
16:33:52	0	0	0	16:34:16	0	0	0
16:34:20	0	3	0	16:34:51	0	0	0
16:36:08	1	0	0	16:36:18	0	0	0
16:36:40	0	1	0	16:36:52	0	0	0
16:38:30	1	0	0	16:38:41	0	0	0
16:38:53	0	1	0	16:39:05	0	0	0
16:40:56	1	0	0	16:41:07	0	0	0
16:41:18	0	2	0	16:41:37	0	0	0
16:43:35	0	1	0	16:43:49	0	0	0
16:45:37	0	0	0	16:45:57	0	0	0
16:46:01	0	3	0	16:46:30	0	0	0
16:48:19	0	1	0	16:48:30	0	0	0
16:50:16	3	0	0	16:50:35	0	0	0
16:50:40	0	1	0	16:51:09	0	0	0
16:52:53	0	1	0	16:53:01	0	0	0
16:55:20	0	1	0	16:55:52	0	0	0
16:57:39	0	2	0	16:57:58	0	0	0
16:59:32	2	0	0	16:59:47	0	0	0
16:59:59	0	3	0	17:00:31	0	0	0
17:01:50	4	0	0	17:02:07	0	0	0
17:02:18	0	1	0	17:02:34	0	0	0
17:04:08	1	0	0	17:04:20	0	0	0
17:04:40	0	1	0	17:04:53	0	0	0
17:06:35	3	0	0	17:06:51	0	0	0
17:07:01	0	1	0	17:07:30	0	0	0
17:09:15	0	1	0	17:09:28	0	0	0
17:11:40	0	2	0	17:11:59	0	0	0
17:13:30	1	0	0	17:13:40	0	0	0
17:16:18	0	2	0	17:16:32	0	0	0
17:18:08	1	0	0	17:18:20	0	0	0
17:18:41	0	2	0	17:18:42	0	0	0
17:20:37	2	0	0	17:20:51	0	0	0
17:25:17	2	0	0	17:25:32	0	0	0
17:27:37	1	0	0	17:27:49	0	0	0
17:27:57	0	2	0	17:28:22	0	0	0
17:30:19	0	1	0	17:30:39	0	0	0
17:32:17	1	0	0	17:32:35	0	0	0
17:32:37	0	1	0	17:32:51	0	0	0
17:34:31	1	0	0	17:34:42	0	0	0
17:37:17	0	2	0	17:37:34	0	0	0
17:39:17	1	0	0	17:39:31	0	0	0
17:39:34	0	3	0	17:39:51	0	0	0
17:41:37	0	0	0	17:41:51	0	0	0
17:41:59	0	1	0	17:42:16	0	0	0
17:44:20	0	1	0	17:44:38	0	0	0
17:46:11	1	0	0	17:46:22	0	0	0
17:46:39	0	1	0	17:46:59	0	0	0
17:48:38	2	0	0	17:48:54	0	0	0
17:48:58	0	1	0	17:49:14	0	0	0
17:51:21	0	2	0	17:51:40	0	0	0
17:53:40	0	3	0	17:53:57	0	0	0
17:55:38	1	0	0	17:56:06	1	0	0
17:57:48	1	0	0	17:58:08	1	0	0
	49	78	1		2	0	0

Prepared by National Data & Surveying Services

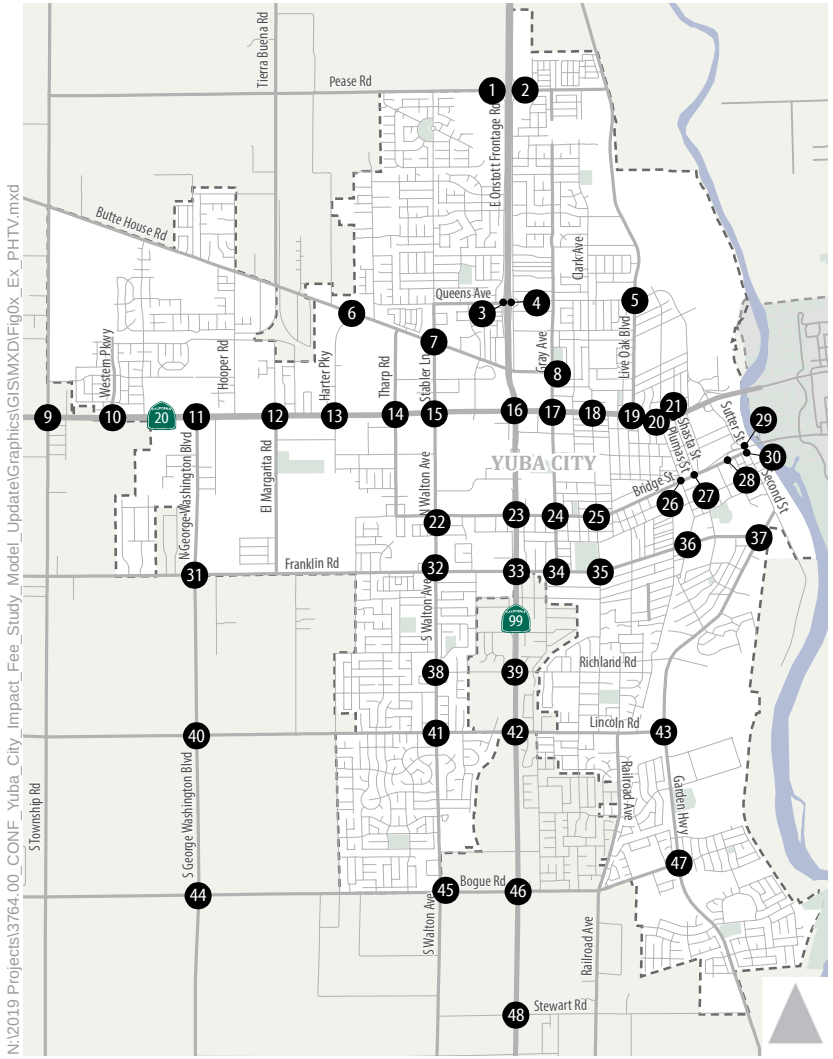
Queue Per Cycle Study - WB

Location: Olive St & Colusa Ave
City: Yuba City

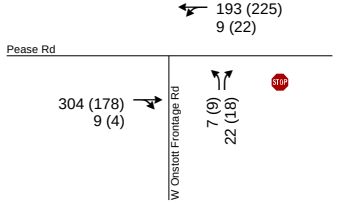
Day: Wednesday
Date: 12/8/2021

AM			
Time of BOG (hh:mm:ss)	Queue Length WL	Time of EOY (hh:mm:ss)	Queue Length WL
7:00:54	0	7:02:00	0
7:03:09	0	7:04:13	1
7:05:30	0	7:06:51	0
7:07:54	0	7:09:03	0
7:09:59	0	7:11:12	0
7:12:32	0	7:13:32	1
7:14:54	0	7:15:52	0
7:17:07	0	7:18:11	0
7:19:23	0	7:20:32	0
7:21:54	0	7:22:54	0
7:24:09	0	7:25:33	0
7:26:17	0	7:27:34	0
7:28:52	0	7:29:52	0
7:31:02	0	7:32:13	0
7:33:31	0	7:34:48	0
7:34:52	0	7:36:52	0
7:37:58	0	7:39:12	0
7:40:33	0	7:41:33	0
7:42:52	0	7:43:53	1
7:45:12	0	7:46:12	2
7:47:41	0	7:48:32	0
7:49:51	0	7:50:53	0
7:52:02	0	7:53:12	1
7:54:23	0	7:55:32	0
7:56:48	0	7:57:52	0
7:59:02	0	7:59:40	0
8:00:34	0	8:02:08	2
8:03:44	0	8:04:52	3
8:06:10	0	8:07:12	2
8:08:24	1	8:09:32	1
8:10:41	0	8:11:52	0
8:13:07	0	8:14:12	1
8:15:14	0	8:16:32	0
8:17:42	0	8:18:52	1
8:19:52	0	8:21:12	1
8:21:54	1	8:23:32	2
8:24:37	0	8:25:52	0
8:26:58	0	8:28:12	0
8:29:00	0	8:30:32	0
8:31:34	1	8:32:51	2
8:33:47	0	8:35:12	1
8:36:14	0	8:37:32	2
8:38:22	0	8:39:52	0
8:40:49	0	8:42:12	1
8:42:56	0	8:44:32	1
8:45:18	0	8:46:52	2
8:48:11	0	8:49:12	2
8:49:58	0	8:51:34	0
8:52:32	0	8:53:52	0
8:54:56	0	8:56:12	0
8:57:02	0	8:58:33	1
8:59:21	1	9:00:51	1
	4		32

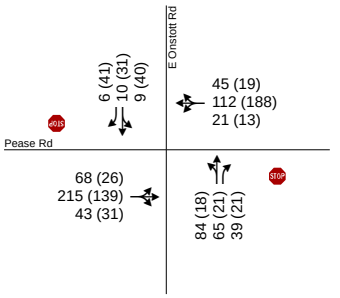
PM			
Time of BOG (hh:mm:ss)	Queue Length WL	Time of EOY (hh:mm:ss)	Queue Length WL
15:59:33	1	16:00:50	2
16:01:55	0	16:03:10	0
16:04:12	1	16:05:30	1
16:06:32	0	16:07:50	0
16:08:54	0	16:10:09	2
16:11:15	0	16:12:30	2
16:13:27	0	16:14:50	0
16:15:45	0	16:17:35	0
16:18:22	0	16:19:30	0
16:20:30	0	16:21:49	1
16:23:00	0	16:24:10	3
16:24:52	0	16:26:30	0
16:27:46	0	16:29:03	0
16:29:52	0	16:31:10	2
16:32:12	0	16:33:31	0
16:34:51	1	16:35:50	2
16:35:52	0	16:38:11	0
16:39:06	0	16:40:31	2
16:41:37	0	16:42:51	0
16:43:48	0	16:45:11	0
16:46:29	0	16:47:31	0
16:48:31	0	16:49:51	0
16:51:08	0	16:52:11	2
16:53:04	0	16:54:31	0
16:55:51	0	16:56:51	0
16:57:58	0	16:59:11	1
17:00:30	0	17:01:31	1
17:02:34	0	17:03:50	1
17:04:54	0	17:06:11	3
17:07:31	0	17:08:31	0
17:09:29	0	17:10:51	1
17:11:58	0	17:13:11	4
17:13:59	0	17:15:31	0
17:16:32	0	17:17:51	3
17:19:03	0	17:20:11	0
17:21:04	0	17:22:31	0
17:23:20	0	17:24:51	0
17:25:45	0	17:27:11	1
17:28:22	0	17:29:32	1
17:30:39	0	17:31:51	1
17:32:51	0	17:34:12	1
17:34:59	0	17:36:32	0
17:37:32	0	17:38:52	0
17:39:52	0	17:41:12	0
17:42:14	0	17:43:32	0
17:44:38	0	17:45:52	0
17:46:58	0	17:48:12	1
17:49:16	1	17:50:33	1
17:51:40	0	17:52:52	0
17:53:57	0	17:55:12	0
17:56:05	0	17:57:32	0
17:58:07	0	17:59:52	0
	4		39



1. W Onstott Frontage Rd/Pease Rd

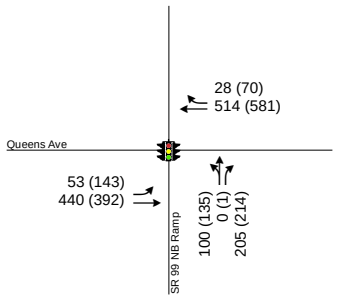


2. E Onstott Rd/Pease Rd

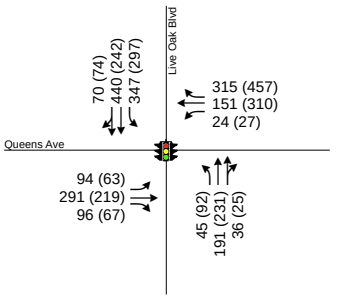


3. SR 99 SB Ramps/Queens Ave

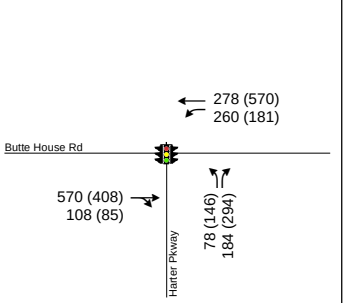
4. SR 99 NB Ramps/Queens Ave



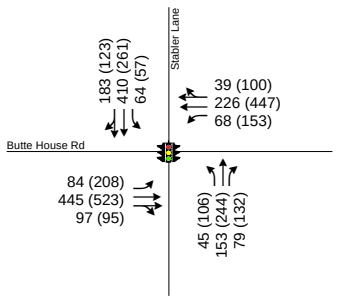
5. Live Oak Blvd/Queens Ave



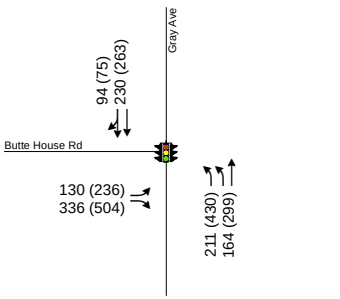
6. Harter Pkway/Butte House Rd



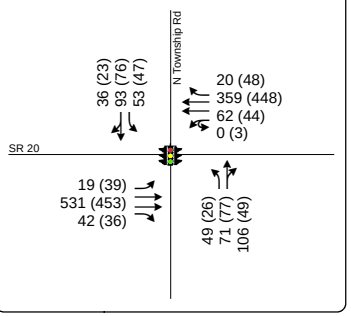
7. Stabler Lane/Butte House Rd



8. Gray Ave/Butte House Rd



9. N Township Rd/SR 20



1 Study Intersection

Turn Lane

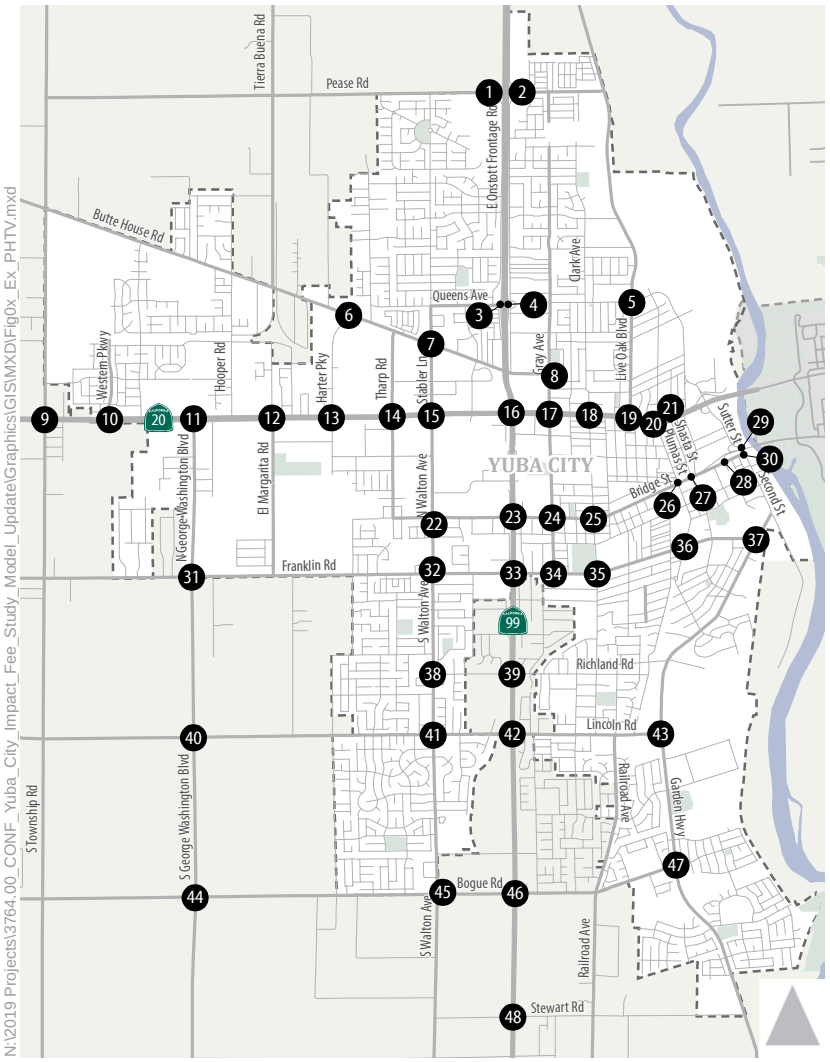
AM (PM) Peak Hour Traffic Volume

Traffic Signal

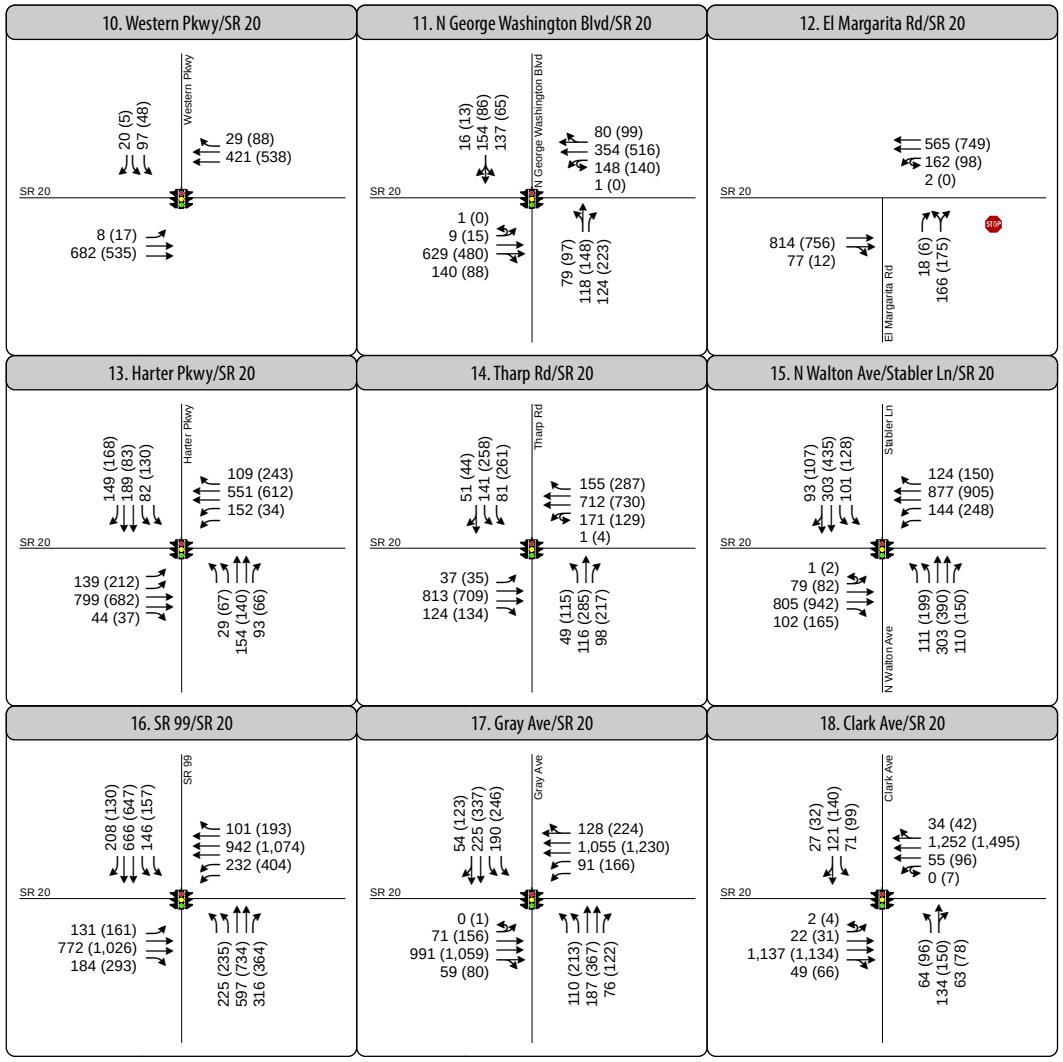
Stop Sign

Figure 3A

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



1 Study Intersection



Turn Lane

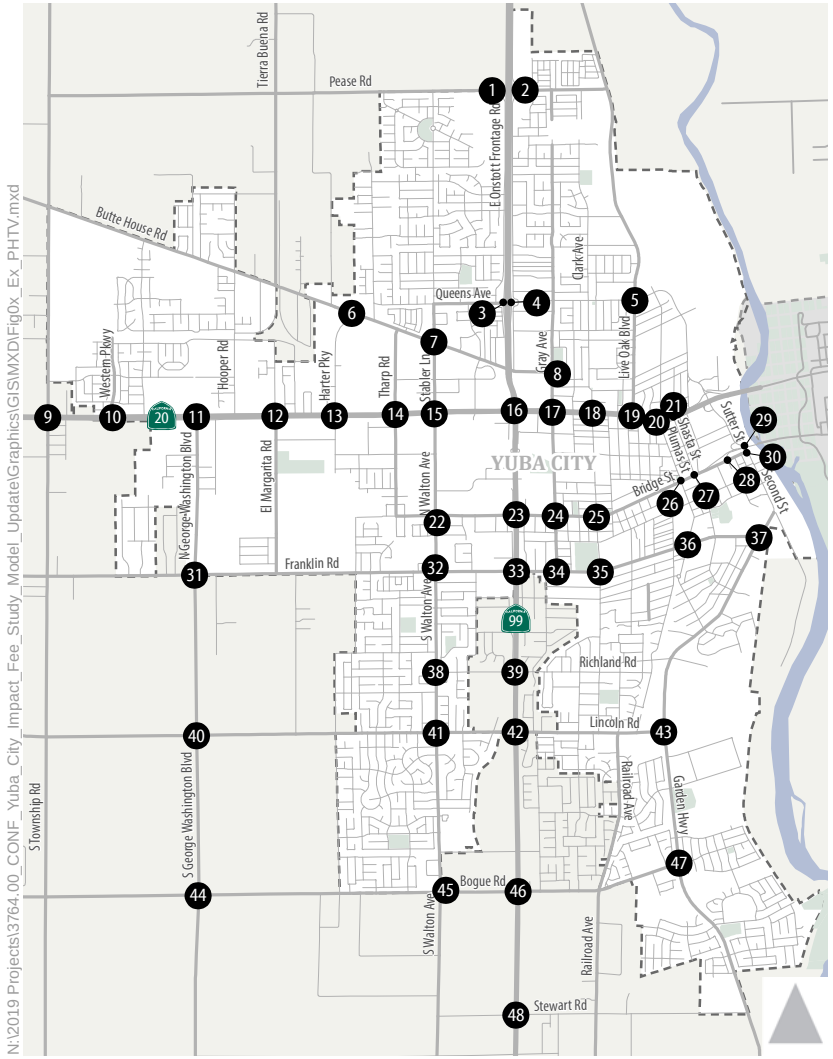
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 3B

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



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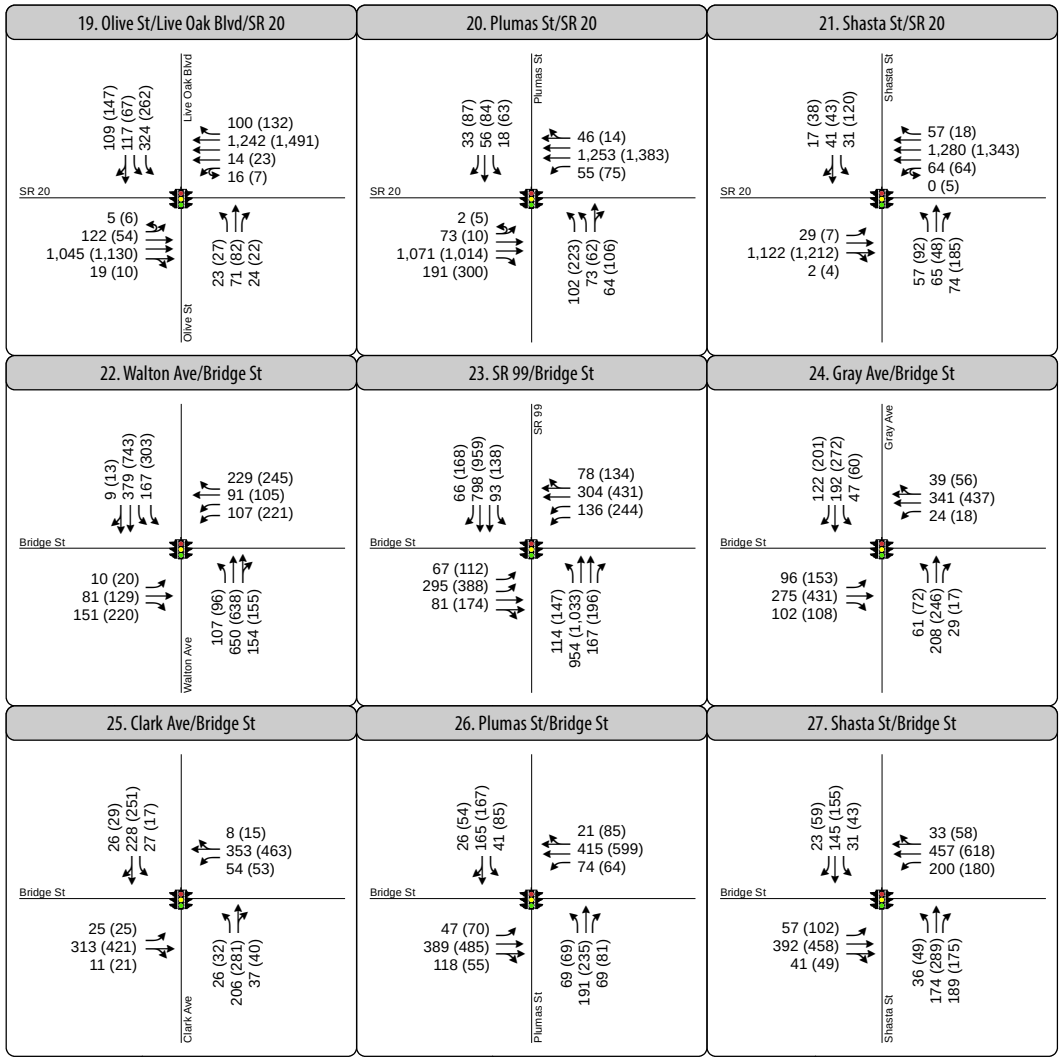


1 Study Intersection

Turn Lane

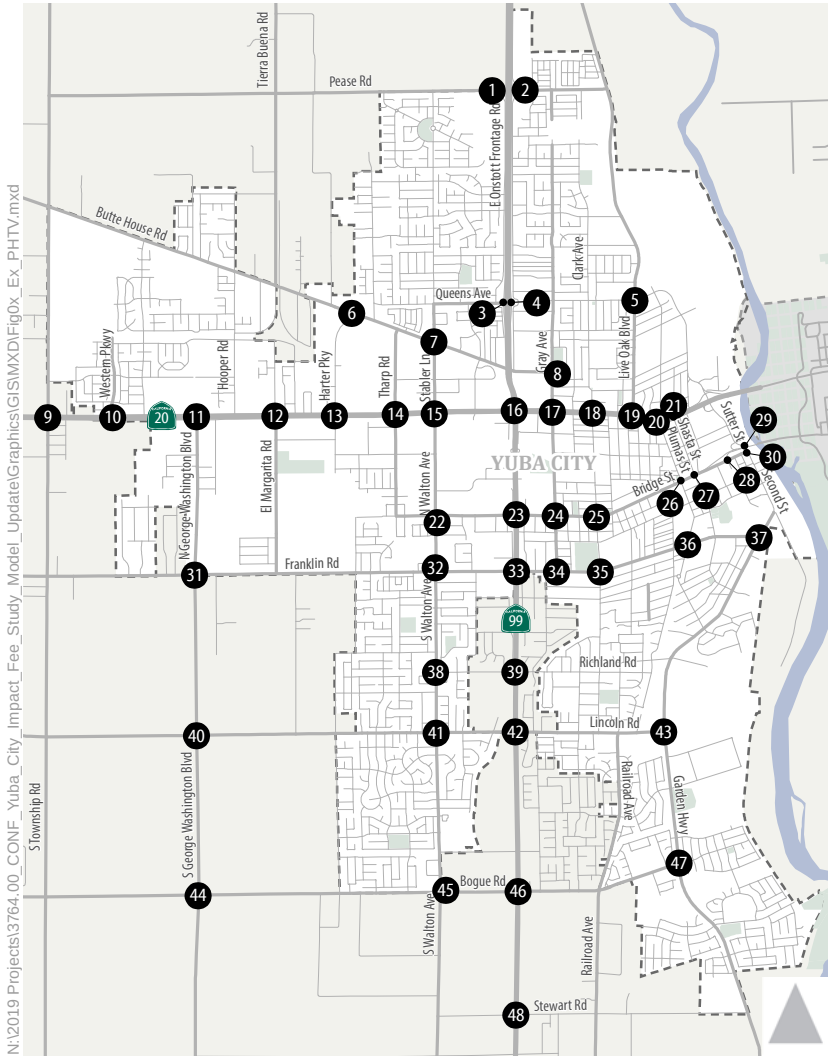
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 3C

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



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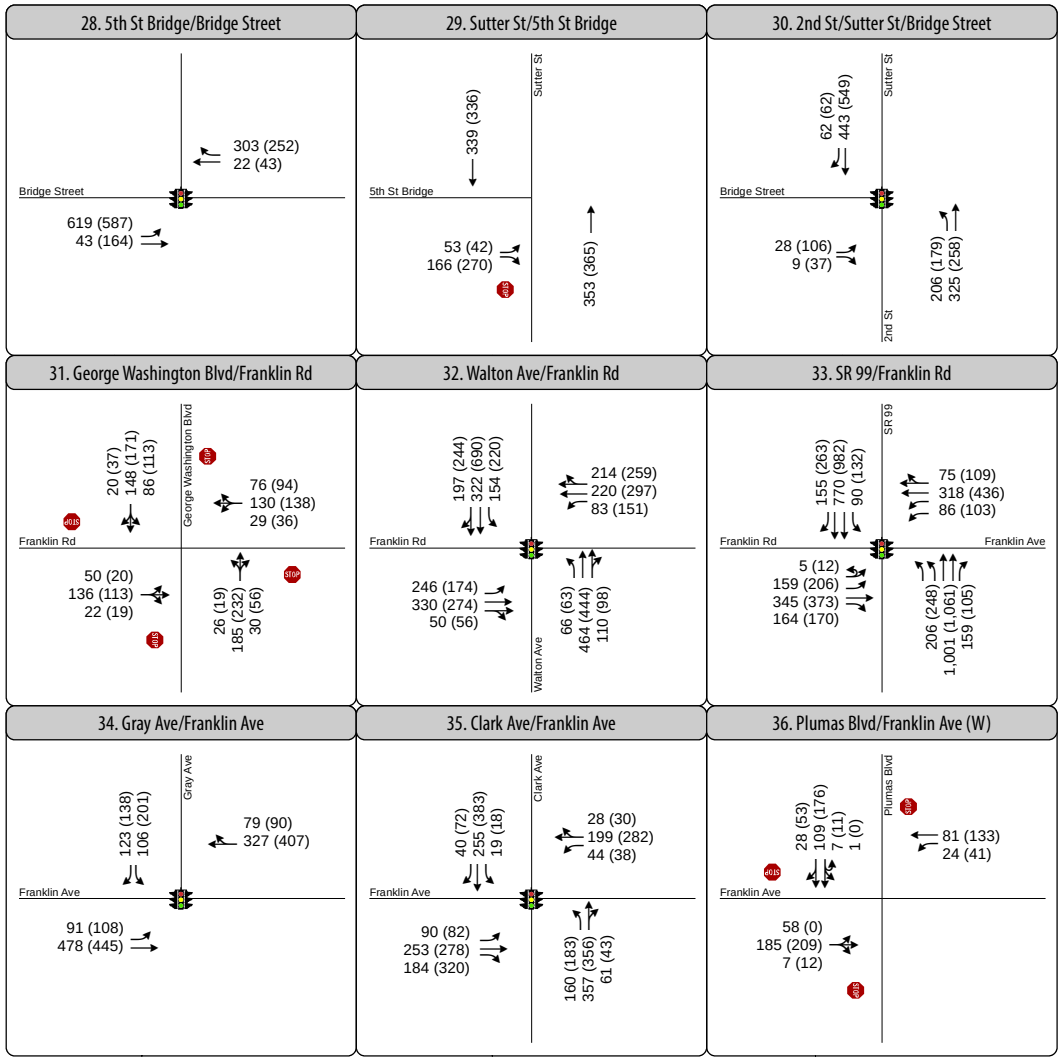


1 Study Intersection

Turn Lane

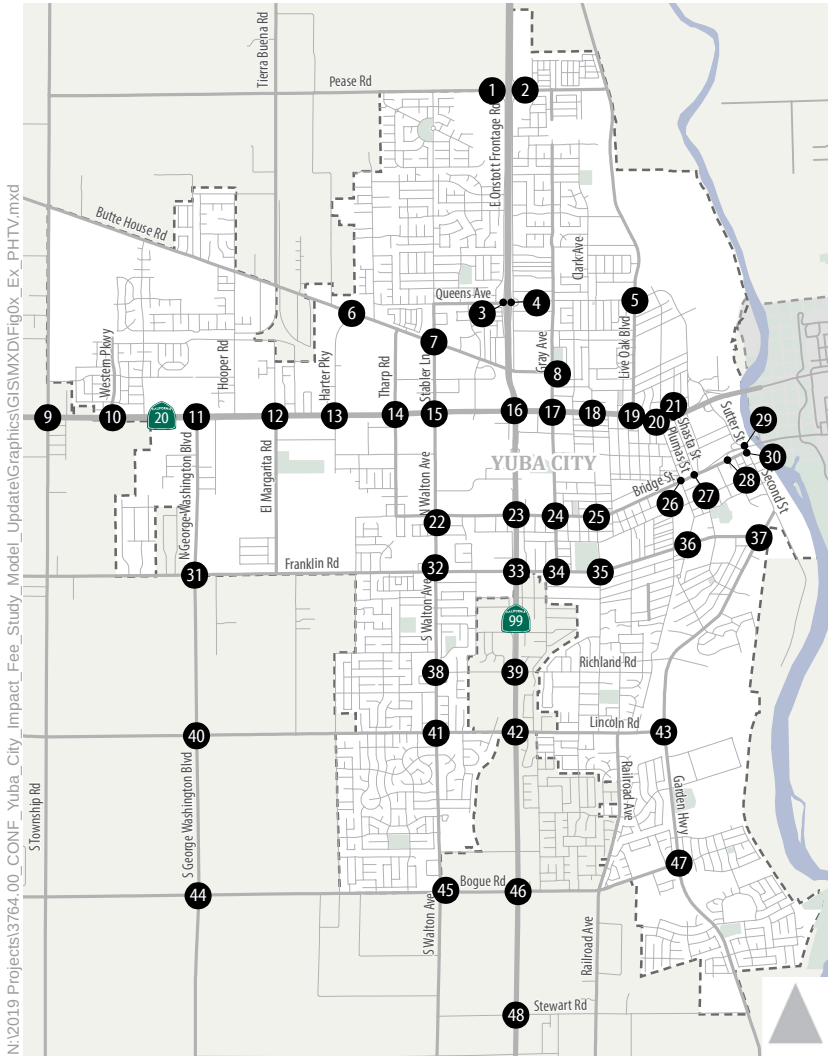
AM (PM) Peak Hour Traffic Volume

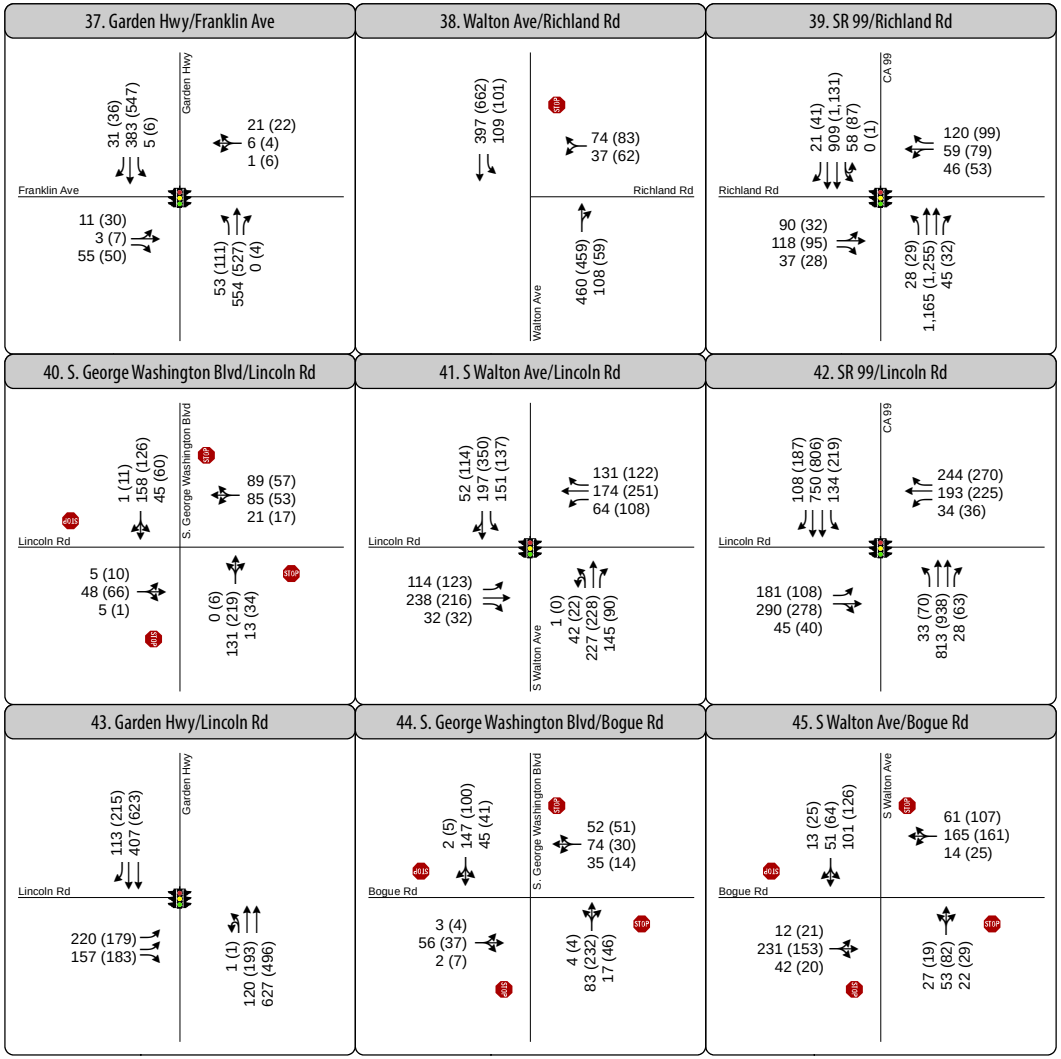
Traffic Signal

Stop Sign

Figure 3D

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions





1 Study Intersection

Turn Lane

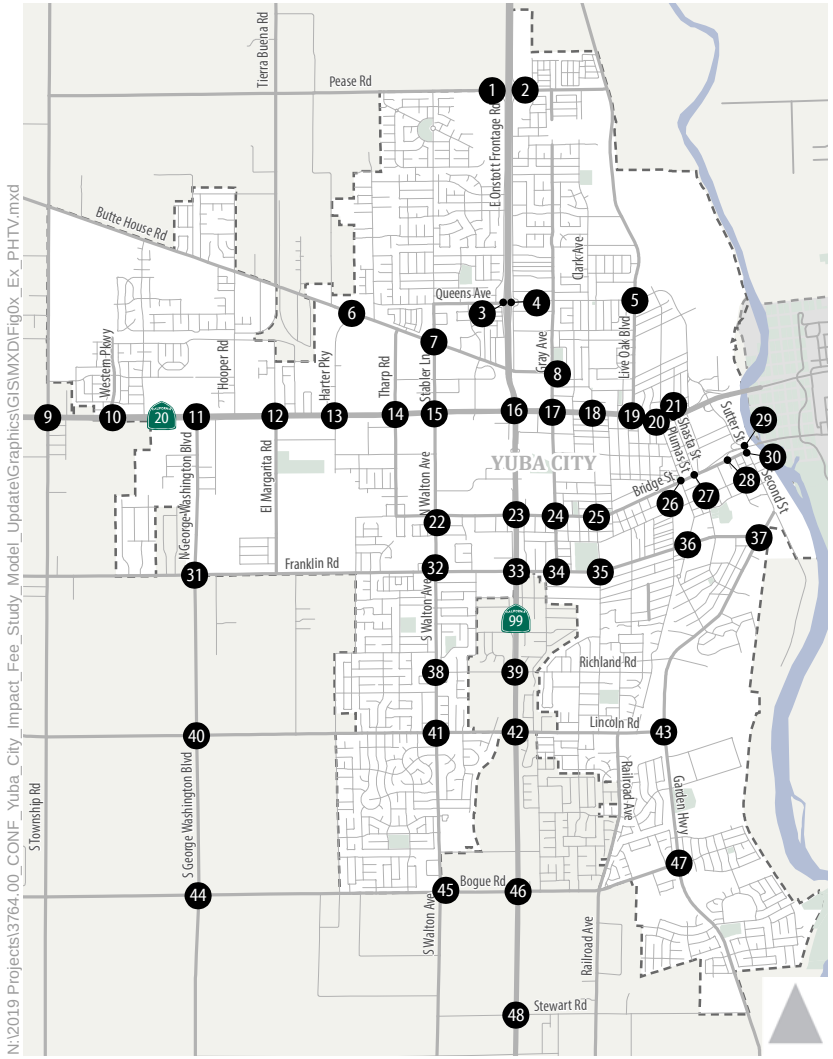
AM (PM) Peak Hour Traffic Volume

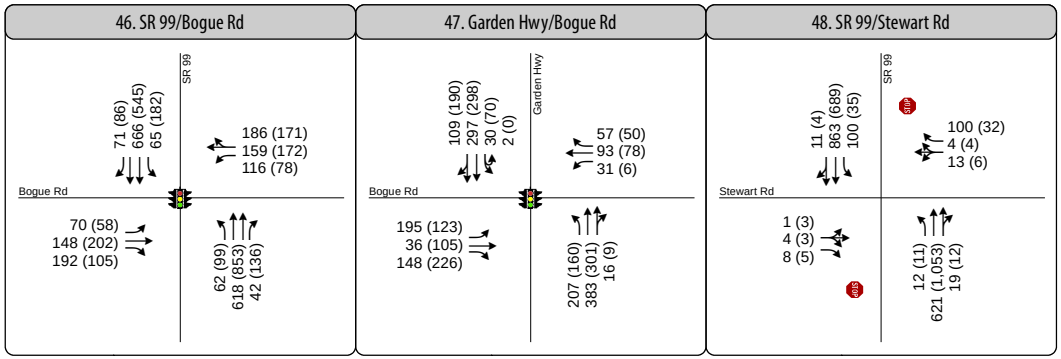
Traffic Signal

Stop Sign

Figure 3E

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions





1 Study Intersection

Turn Lane

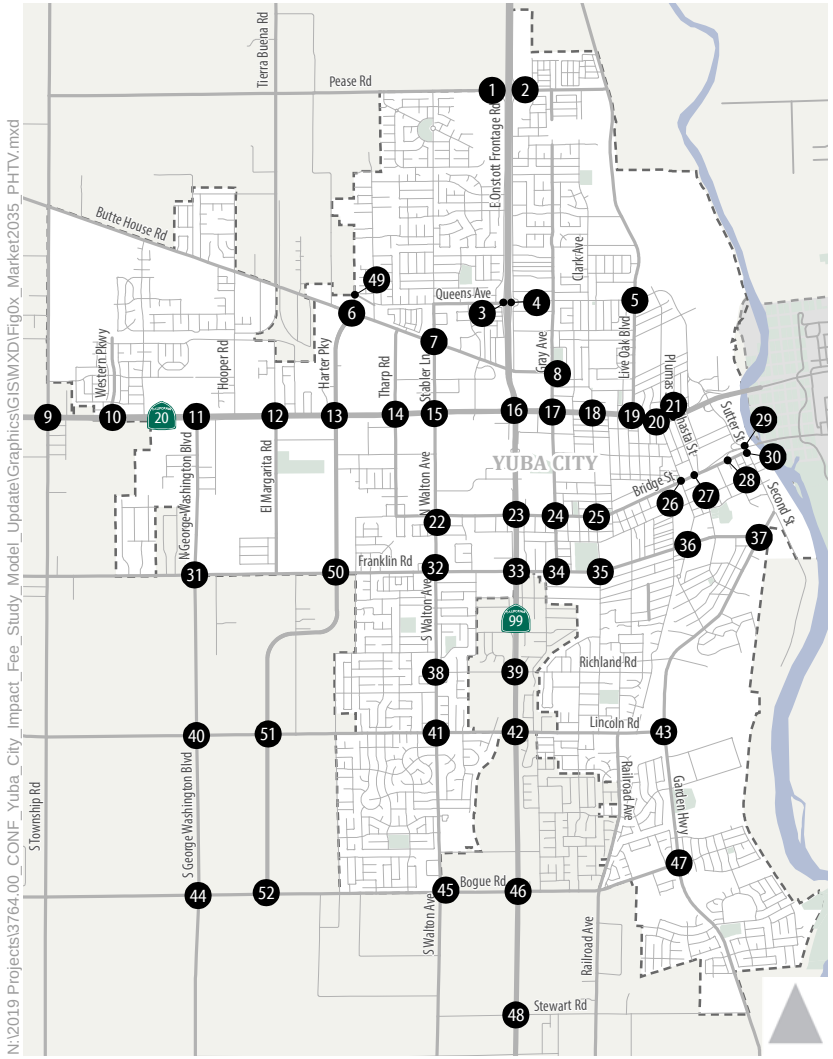
AM (PM) Peak Hour Traffic Volume

Traffic Signal

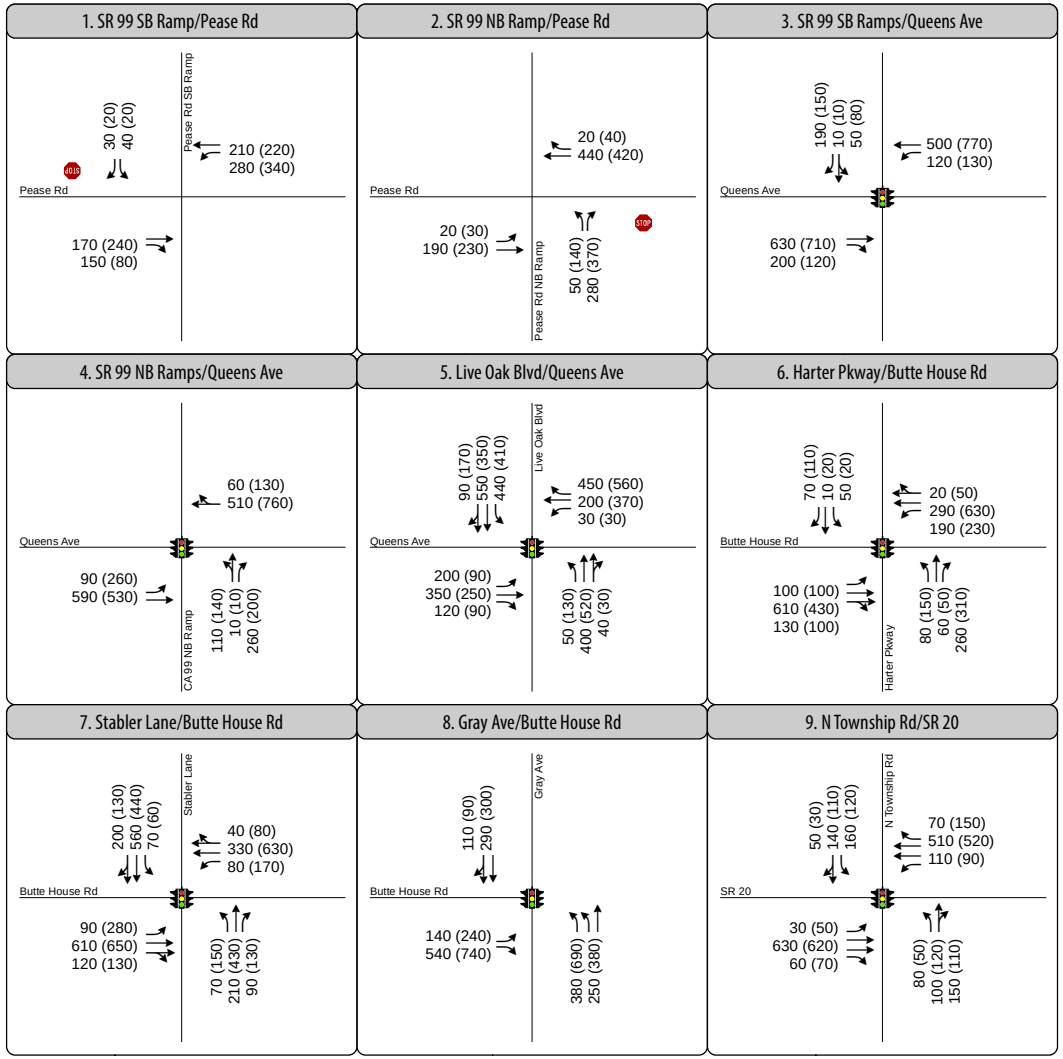
Stop Sign

Figure 3F

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



1 Study Intersection



Turn Lane

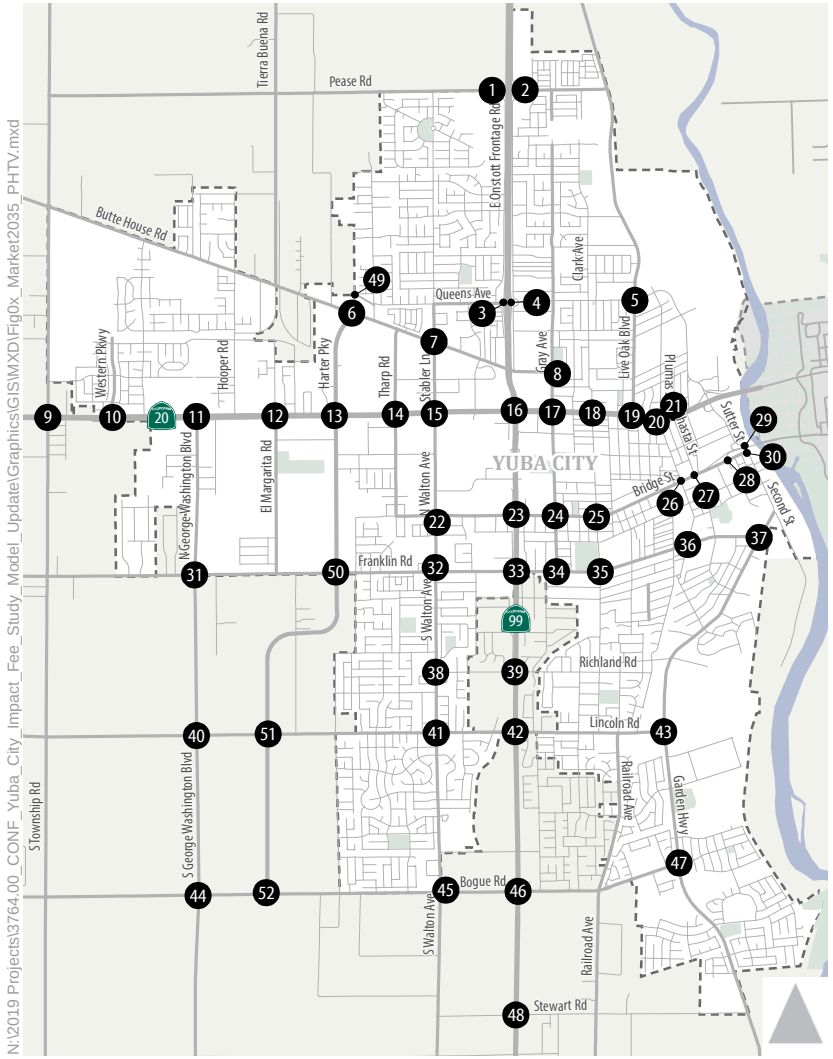
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 1A

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Market Absorption Conditions



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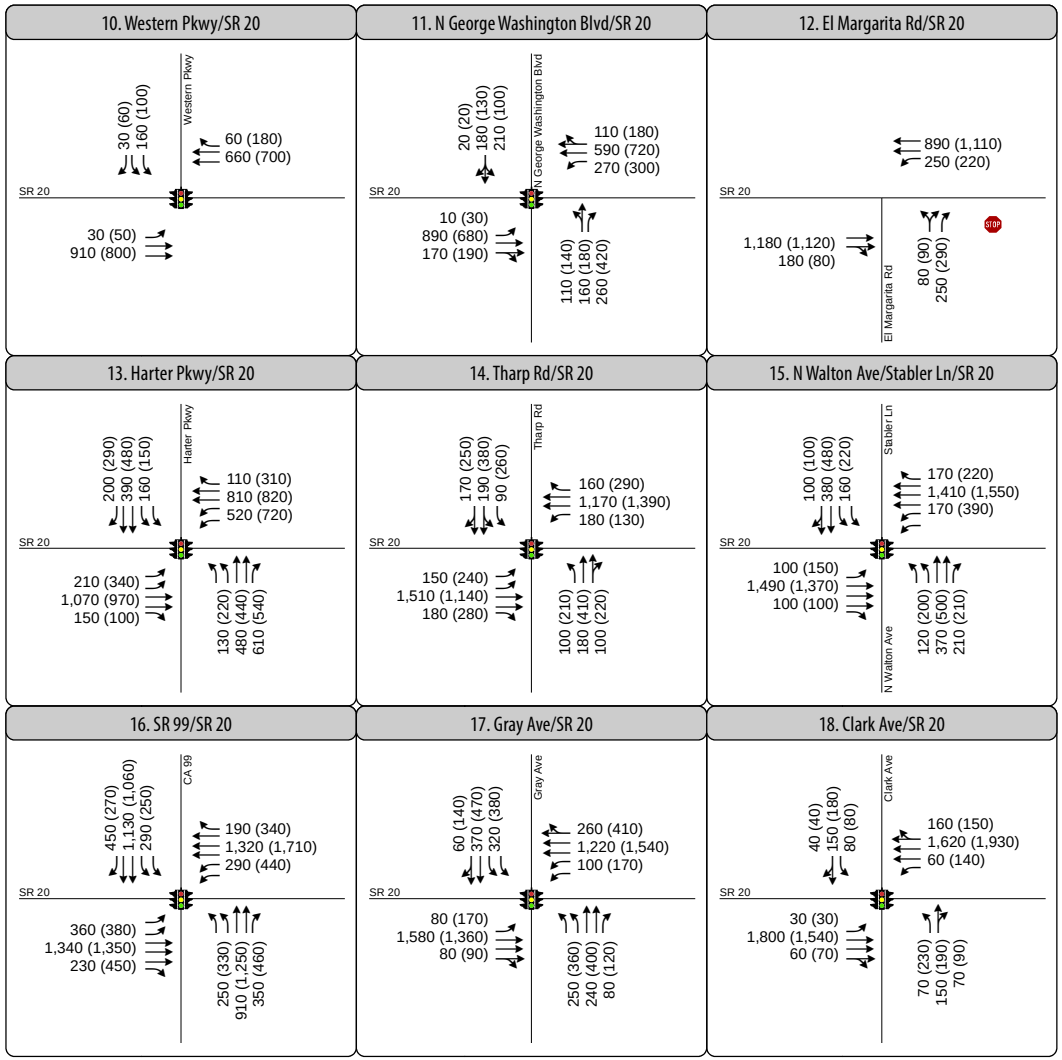


1 Study Intersection

Turn Lane

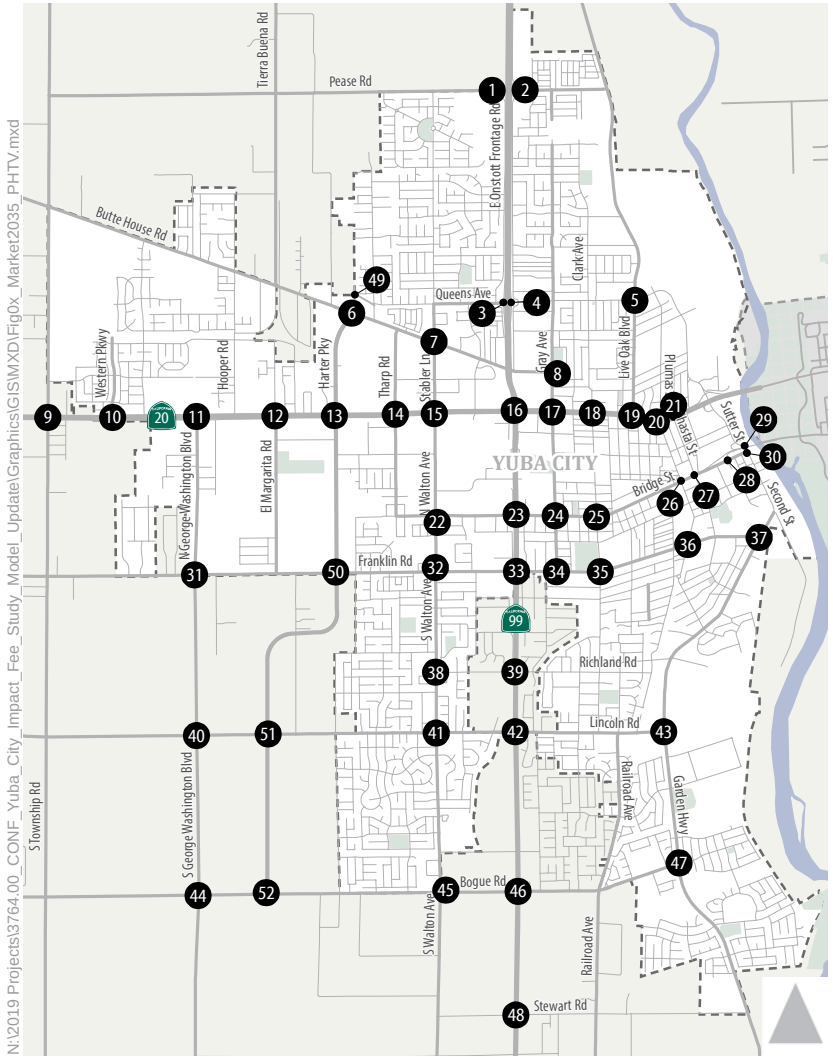
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

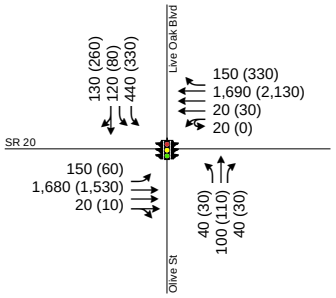
Figure 1B

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Market Absorption Conditions

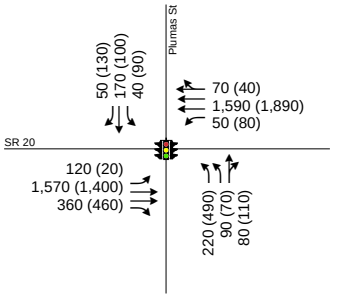


1 Study Intersection

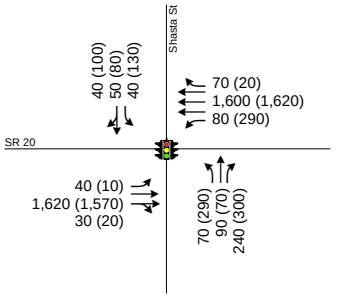
19. Olive St/Live Oak Blvd/SR 20



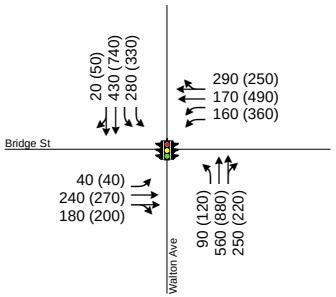
20. Plumas St/SR 20



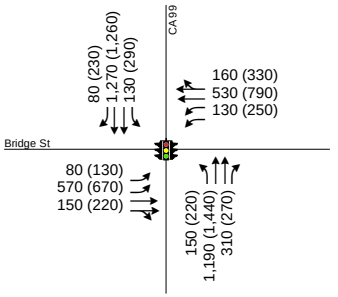
21. Shasta St/SR 20



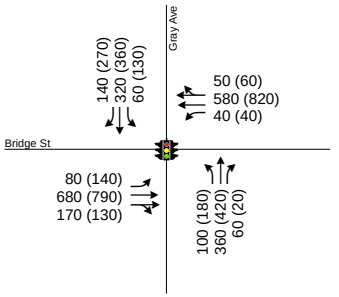
22. Walton Ave/Bridge St



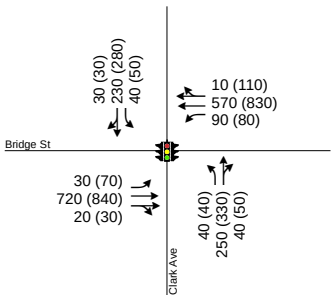
23. SR 99/Bridge St



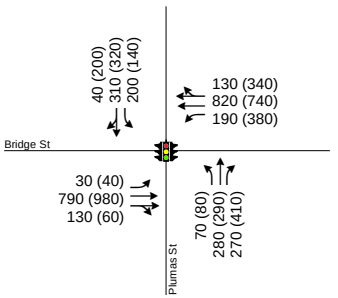
24. Gray Ave/Bridge St



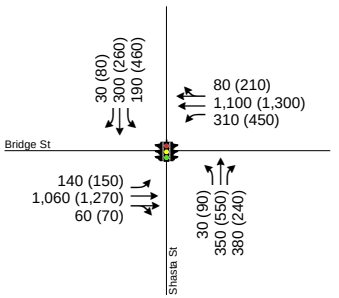
25. Clark Ave/Bridge St



26. Plumas St/Bridge St



27. Shasta St/Bridge St



Turn Lane

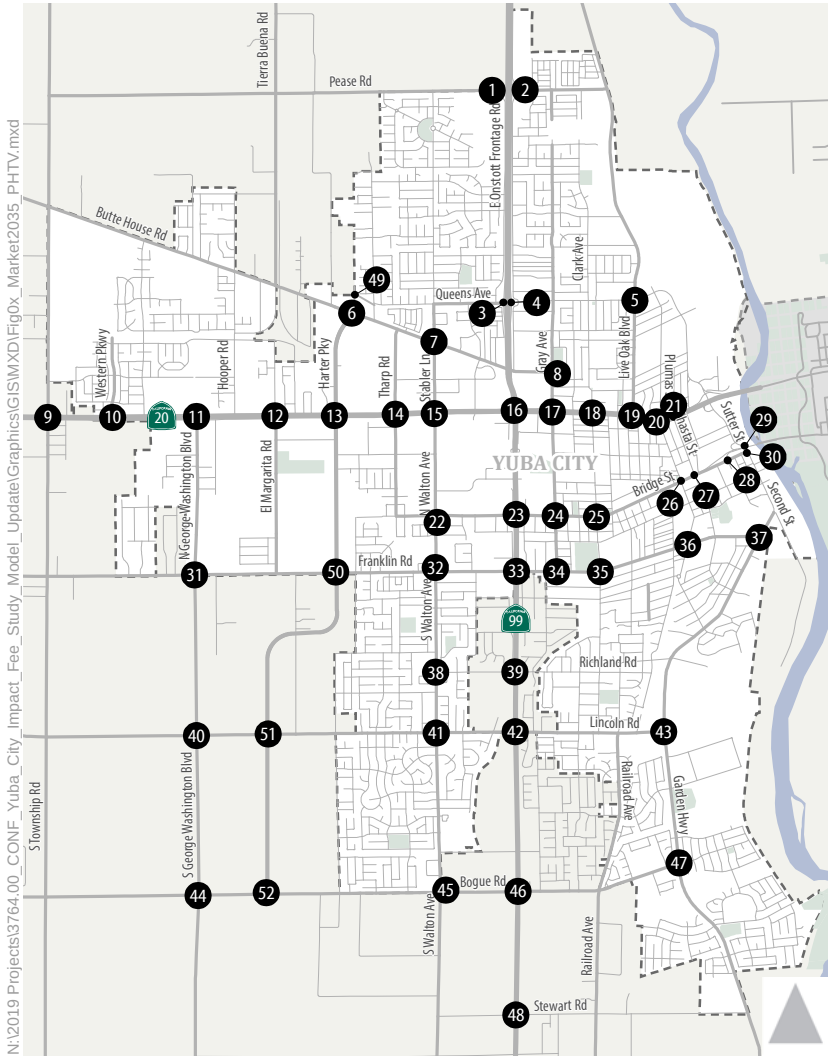
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

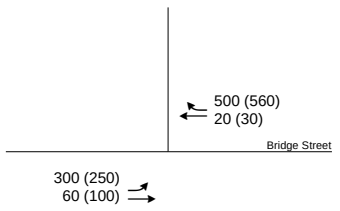
Figure 1C

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Market Absorption Conditions

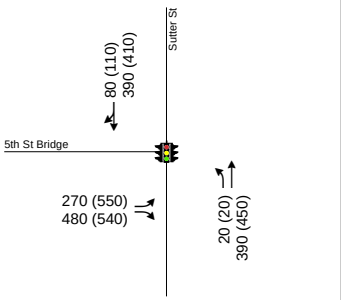


1 Study Intersection

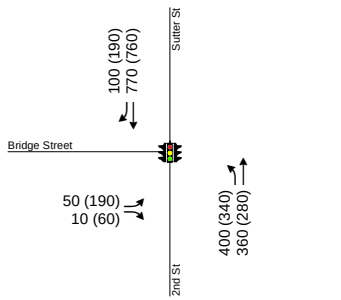
28. 5th St Bridge/Bridge Street



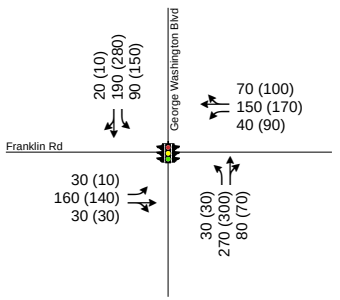
29. Sutter St/5th St Bridge



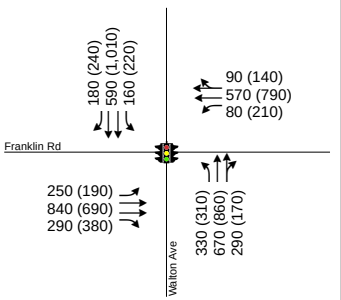
30. 2nd St/Sutter St/Bridge Street



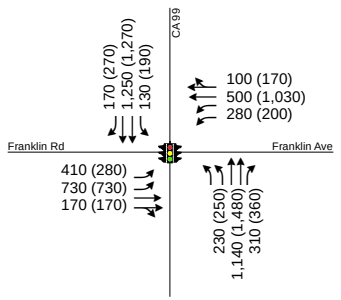
31. George Washington Blvd/Franklin Rd



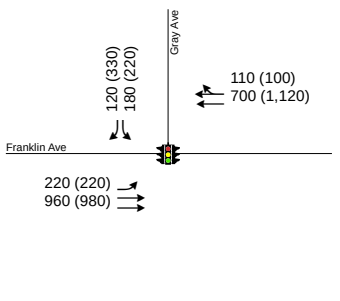
32. Walton Ave/Franklin Rd



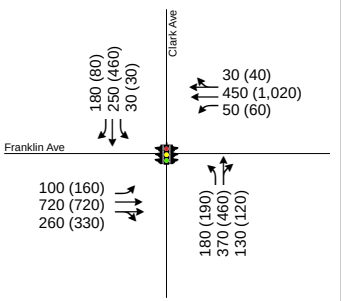
33. SR 99/Franklin Rd



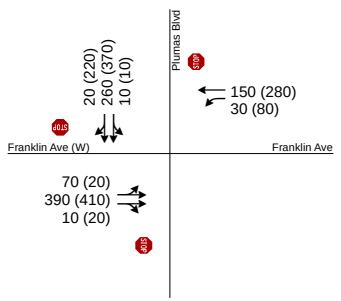
34. Gray Ave/Franklin Ave



35. Clark Ave/Franklin Ave



36. Plumas Blvd/Franklin Ave (W)



Turn Lane

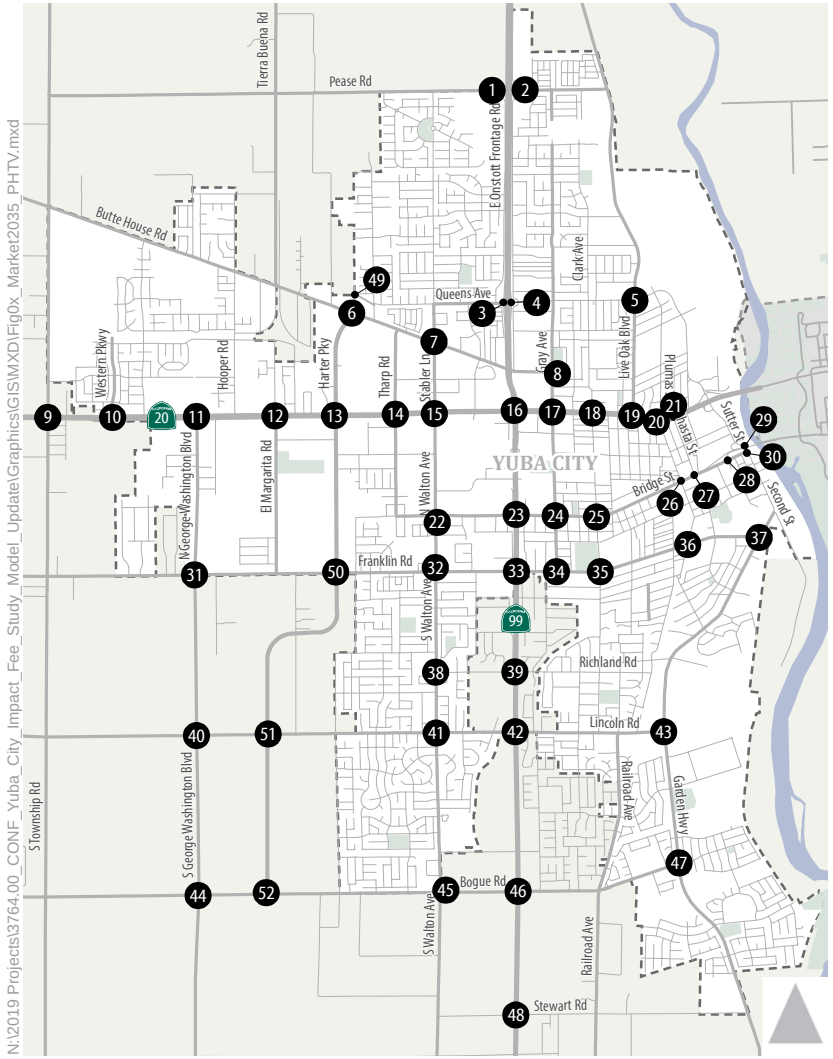
AM (PM) Peak Hour Traffic Volume

Traffic Signal

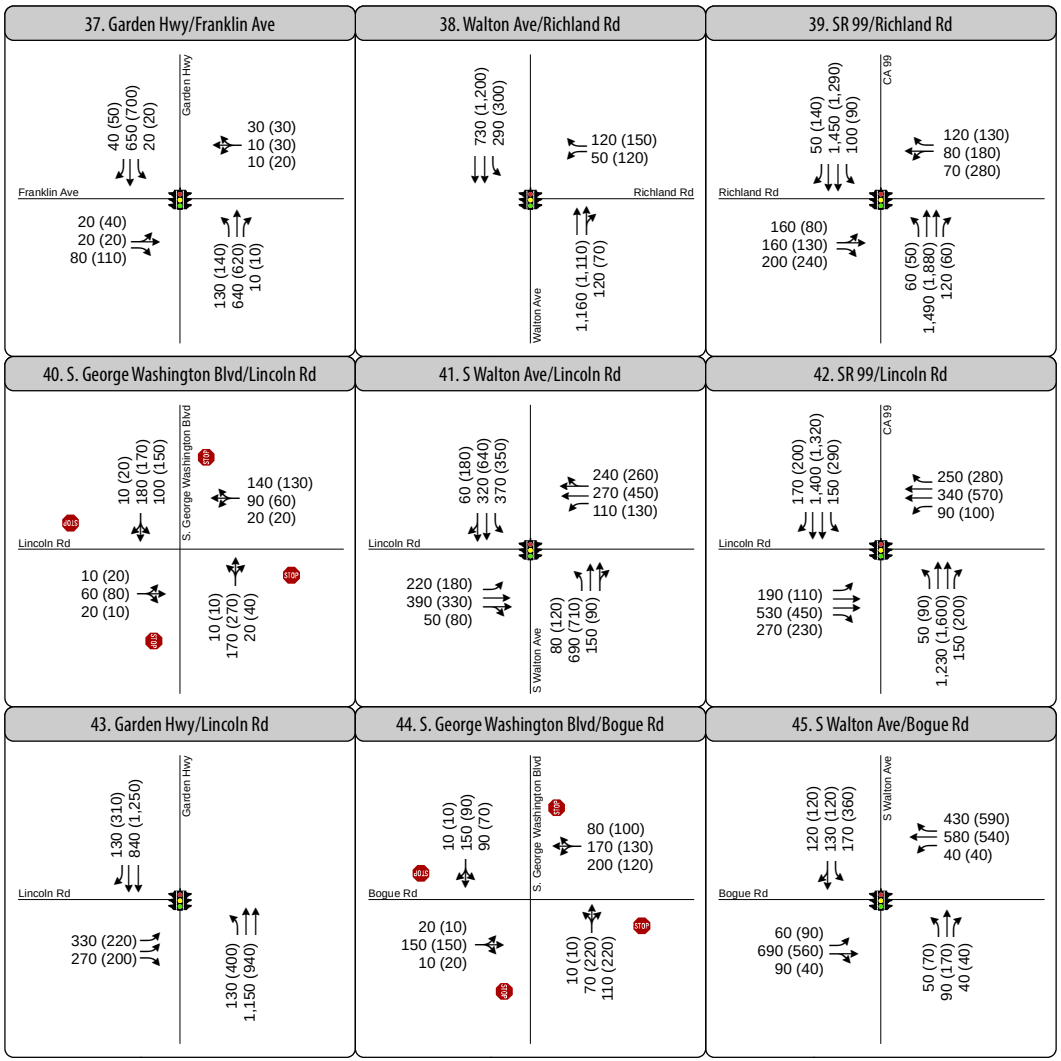
Stop Sign

Figure 1D

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Market Absorption Conditions



1 Study Intersection



Turn Lane

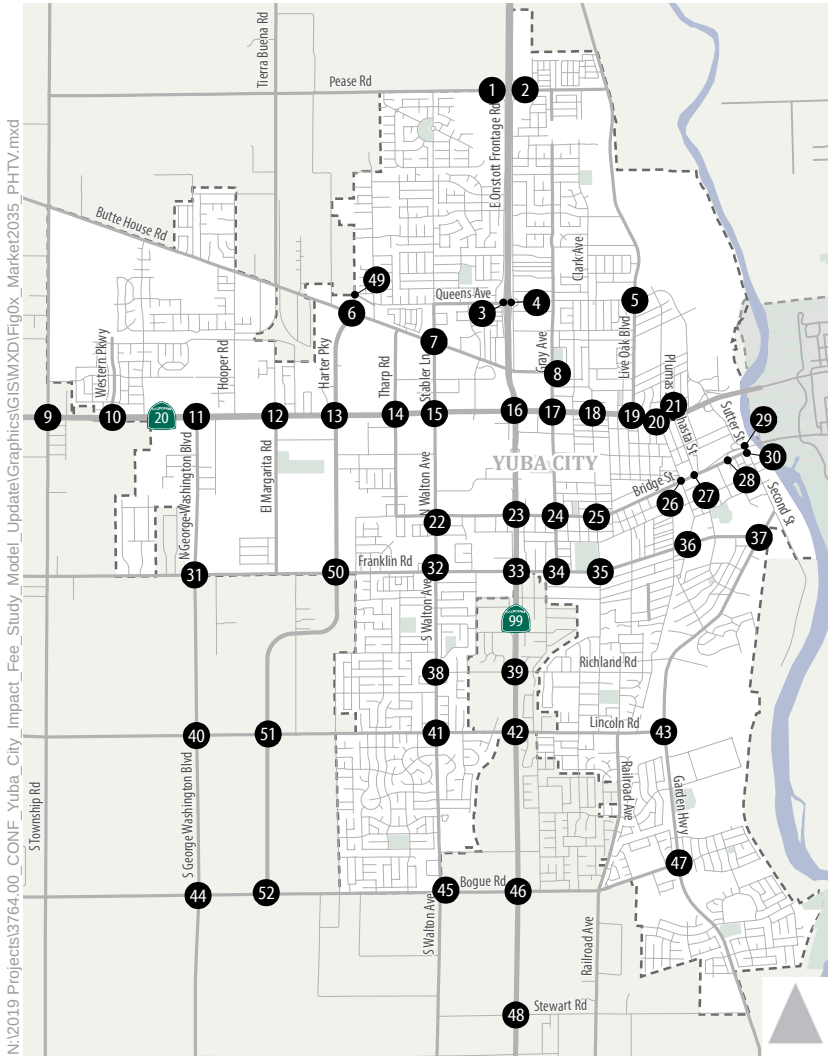
AM (PM) Peak Hour Traffic Volume

Traffic Signal

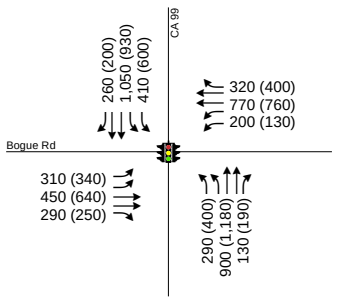
Stop Sign

Figure 1E

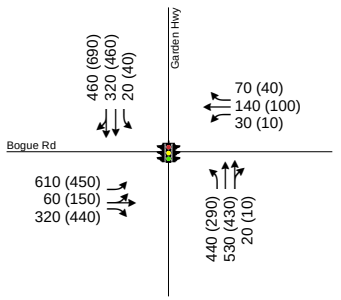
Peak Hour Traffic Volumes and Lane Configurations - Cumulative Market Absorption Conditions



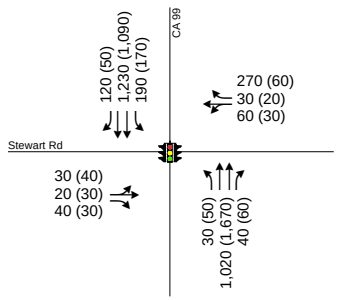
46. SR 99/Bogue Rd



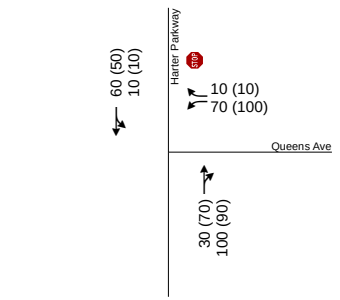
47. Garden Hwy/Bogue Rd



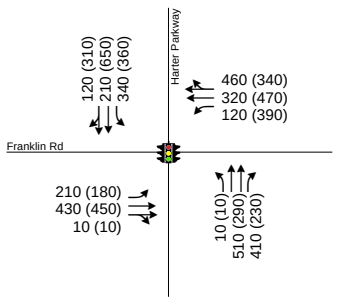
48. SR 99/Stewart Rd



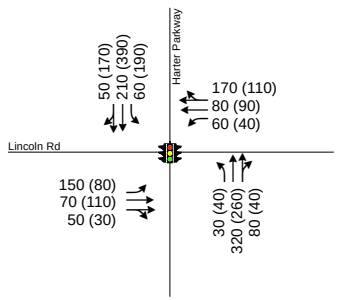
49. Harter Parkway/Queens Ave



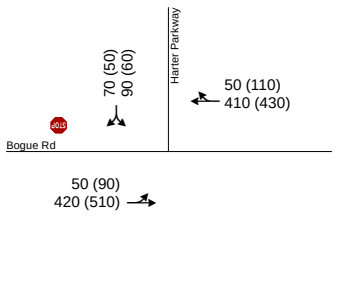
50. Harter Parkway/Franklin Rd



51. Harter Parkway/Lincoln Rd



52. Harter Parkway/Bogue Rd



1 Study Intersection

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 1F

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Market Absorption Conditions

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.4	6.3	2.4	0.4	0.1
Total Del/Veh (s)	33.2	15.5	5.6	40.0	37.2	19.9	6.8	32.7	25.5	7.9	29.1	25.1

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	0.2	0.3
Total Del/Veh (s)	14.5	19.6

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.1	4.5	2.9

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	12.0	0.4	0.5	0.6

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.0	0.3	0.2

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.2	0.3	7.6	0.3

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.1
Total Del/Veh (s)	3.1	1.4	2.1

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.3	0.2	0.2	0.6	3.4	4.0	3.4	0.3	3.6
Total Del/Veh (s)	27.0	17.5	3.7	31.0	19.1	9.0	25.5	15.3	8.8	27.2	26.8	8.2

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	17.9

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.6	0.2	0.2	0.0	0.2	0.4	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	30.2	18.6	8.4	33.1	12.3	9.9	23.8	19.1	11.2	29.3	22.4	15.9

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.2

Total Zone Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	476.7

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	207	281	270	183	60	173	186	179	41	56	87	57
Average Queue (ft)	91	129	137	64	15	136	140	131	31	26	52	25
95th Queue (ft)	165	229	233	135	43	176	182	190	51	56	81	60
Link Distance (ft)		962	962	962	48	48	48	48			57	
Upstream Blk Time (%)					1	38	39	31	1	0	10	1
Queuing Penalty (veh)					3	137	141	114	0	0	8	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	0	2						47	1	7	23	1
Queuing Penalty (veh)	1	3						63	6	10	18	1

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	129	151	185
Average Queue (ft)	57	90	86
95th Queue (ft)	107	136	155
Link Distance (ft)		1624	1624
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	18	25	182	192	173
Average Queue (ft)	1	1	63	66	52
95th Queue (ft)	9	12	157	165	145
Link Distance (ft)	48	48	92	92	92
Upstream Blk Time (%)	0	0	4	4	4
Queuing Penalty (veh)	0	0	21	21	19
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	UL	TR	T	T	TR
Maximum Queue (ft)	30	7	44	45	36
Average Queue (ft)	6	0	3	2	2
95th Queue (ft)	21	6	22	19	18
Link Distance (ft)		92	28	28	28
Upstream Blk Time (%)			0	0	0
Queuing Penalty (veh)			2	2	2
Storage Bay Dist (ft)	100				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	4	6	7	9	12
Average Queue (ft)	0	0	0	0	1
95th Queue (ft)	3	6	5	6	9
Link Distance (ft)	28	28	31	31	31
Upstream Blk Time (%)		0	0	0	0
Queuing Penalty (veh)		0	0	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	B71	NB
Directions Served	T	T	T	T	T	T	R
Maximum Queue (ft)	20	7	13	6	7	6	55
Average Queue (ft)	1	0	0	0	0	0	19
95th Queue (ft)	11	6	9	6	6	5	46
Link Distance (ft)	31	31	31	86	86	283	251
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	NB
Directions Served	TR
Maximum Queue (ft)	63
Average Queue (ft)	9
95th Queue (ft)	39
Link Distance (ft)	1062
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	R	T	T	L	T	T	TR	L	L
Maximum Queue (ft)	168	329	352	96	18	14	151	333	284	243	68	109
Average Queue (ft)	45	168	181	37	2	1	40	191	158	114	9	44
95th Queue (ft)	111	301	316	77	17	15	106	293	256	207	38	86
Link Distance (ft)		283	283	283	86	86		1223	1223	1223		700
Upstream Blk Time (%)	0	1	2		0	0						
Queuing Penalty (veh)	0	7	11		0	0						
Storage Bay Dist (ft)	240						205				110	
Storage Blk Time (%)		3						6			0	0
Queuing Penalty (veh)		2						3			0	1

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	68	52	102	72
Average Queue (ft)	24	16	38	26
95th Queue (ft)	51	45	77	64
Link Distance (ft)			1088	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	110	150		50
Storage Blk Time (%)			7	1
Queuing Penalty (veh)			4	1

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	136	299	251	200	86	164	173	179	130	169	3	109
Average Queue (ft)	24	170	127	86	43	119	133	140	43	80	0	52
95th Queue (ft)	77	261	213	163	87	183	189	190	91	141	3	100
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					0	15	19	22	0	1		
Queuing Penalty (veh)					0	72	91	105	0	0		
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	11			0	15			0	3		2
Queuing Penalty (veh)	0	3			2	8			0	2		2

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	176
Average Queue (ft)	71
95th Queue (ft)	134
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	5
Queuing Penalty (veh)	3

Zone Summary

Zone wide Queuing Penalty: 892

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2
Total Del/Veh (s)	30.7	15.4	6.1	36.8	33.7	16.5	7.2	33.4	29.3	10.7	23.5	23.9

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	0.2	0.1
Total Del/Veh (s)	14.0	16.9

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.3	4.4	2.8

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.0
Total Del/Veh (s)	19.3	0.9	0.6	22.4	1.4

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.8	0.0	0.3	0.5

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.1	0.3	55.3	0.8

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.2	0.0	0.1
Total Del/Veh (s)	2.0	1.3	1.6

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	2.6	1.6	2.2	0.2	0.2	0.9	3.5	3.5	3.5	0.4	3.4
Total Del/Veh (s)	47.2	33.8	6.1	38.7	15.8	6.9	31.4	29.0	18.1	33.5	32.9	10.1

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	1.6
Total Del/Veh (s)	23.9

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.3	0.2	0.2	0.0	0.3	0.2	0.0	0.0	0.0	0.3	0.2	0.3
Total Del/Veh (s)	42.3	25.2	14.4	42.5	13.6	11.2	34.5	26.0	17.8	38.5	30.1	21.1

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	21.3

Total Zone Performance

Denied Del/Veh (s)	1.5
Total Del/Veh (s)	551.4

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	238	314	338	202	57	180	187	170	43	54	70	49
Average Queue (ft)	78	156	164	80	14	133	140	133	34	22	32	11
95th Queue (ft)	155	274	282	167	42	180	186	184	50	52	67	41
Link Distance (ft)		962	962	962	48	48	48	48			57	
Upstream Blk Time (%)					1	32	34	32	2	1	3	0
Queuing Penalty (veh)					4	128	135	128	0	0	2	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	0	3						48	2	4	8	0
Queuing Penalty (veh)	0	4						65	9	2	3	0

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	90	132	217
Average Queue (ft)	37	72	86
95th Queue (ft)	79	114	155
Link Distance (ft)		1624	1624
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	34	23	14	196	187	189
Average Queue (ft)	2	1	0	71	66	55
95th Queue (ft)	16	11	7	174	162	153
Link Distance (ft)	48	48	48	92	92	92
Upstream Blk Time (%)	0	0	0	5	4	4
Queuing Penalty (veh)	0	0	0	27	24	24
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	NB
Directions Served	UL	T	T	TR	T	T	TR	R
Maximum Queue (ft)	25	56	58	8	55	41	59	121
Average Queue (ft)	3	5	5	0	3	3	3	48
95th Queue (ft)	16	39	38	7	24	23	28	99
Link Distance (ft)		92	92	92	28	28	28	288
Upstream Blk Time (%)		0	0		1	0	1	
Queuing Penalty (veh)		1	1		3	3	5	
Storage Bay Dist (ft)	100							
Storage Blk Time (%)		0						
Queuing Penalty (veh)		0						

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	84	84	17	16	18
Average Queue (ft)	9	12	1	1	1
95th Queue (ft)	59	64	12	11	12
Link Distance (ft)	28	28	31	31	31
Upstream Blk Time (%)	2	4	0	0	0
Queuing Penalty (veh)	13	24	1	1	1
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	R
Maximum Queue (ft)	85	79	12	10	6	46
Average Queue (ft)	12	15	0	0	0	9
95th Queue (ft)	66	70	7	7	6	38
Link Distance (ft)	31	31	86	86	86	251
Upstream Blk Time (%)	4	7				
Queuing Penalty (veh)	22	37				
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	NB
Directions Served	TR
Maximum Queue (ft)	48
Average Queue (ft)	3
95th Queue (ft)	22
Link Distance (ft)	1062
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	253	399	400	168	151	160	7	176	301	263	229	157
Average Queue (ft)	25	297	310	62	39	43	0	52	178	148	105	39
95th Queue (ft)	124	431	442	124	136	142	6	112	263	242	200	109
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	19	23	0	7	9						
Queuing Penalty (veh)	0	105	126	0	38	50						
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)		24						0	4			0
Queuing Penalty (veh)		4						0	3			1

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	203	183	115	160	74
Average Queue (ft)	102	71	44	60	45
95th Queue (ft)	164	134	87	124	80
Link Distance (ft)	700			1088	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	9	3	0	18	3
Queuing Penalty (veh)	26	6	0	27	4

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	170	357	330	267	86	176	176	181	142	213	49	109
Average Queue (ft)	61	231	196	149	64	138	143	147	66	109	2	70
95th Queue (ft)	163	325	292	235	99	195	195	192	126	189	24	118
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					3	22	24	28	0	4		
Queuing Penalty (veh)					0	124	136	155	0	0		
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	26			3	22			1	7		4
Queuing Penalty (veh)	0	9			13	23			2	7		7

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	213
Average Queue (ft)	99
95th Queue (ft)	176
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	11
Queuing Penalty (veh)	11

Zone Summary

Zone wide Queuing Penalty: 1547

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2
Total Del/Veh (s)	34.2	20.4	11.8	37.9	36.2	19.8	7.1	37.3	32.3	9.4	27.7	28.1

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	0.2	0.1
Total Del/Veh (s)	15.1	21.7

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.4	0.9	4.8	6.6	3.2

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBU	EBL	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	12.6	12.5	0.7	0.3	0.6	11.3	1.1

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.3	0.3

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.2	0.3	8.4	0.3

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.1
Total Del/Veh (s)	8.7	9.8	5.7	1.1	2.4	1.5	4.4

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	2.2	0.2	0.2	0.7	4.8	3.9	3.7	0.3	3.7
Total Del/Veh (s)	26.7	18.0	3.4	30.2	19.0	9.1	24.4	23.8	8.2	29.0	26.6	7.8

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	17.9

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.3	0.2	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	30.4	18.6	9.8	35.2	11.7	8.4	26.9	19.3	11.5	29.5	23.5	13.9

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.1

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	794.2

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	214	279	260	207	122	173	173	170	41	56	80	55
Average Queue (ft)	95	145	152	98	51	130	140	134	32	35	53	12
95th Queue (ft)	168	234	240	181	103	174	182	189	50	65	85	44
Link Distance (ft)		962	962	962	48	48	48	48			57	
Upstream Blk Time (%)					12	36	38	33	1	1	15	0
Queuing Penalty (veh)					47	137	146	124	0	0	21	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	0	2						49	2	12	24	0
Queuing Penalty (veh)	1	3						72	7	10	15	0

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	152	171	181
Average Queue (ft)	61	95	85
95th Queue (ft)	121	149	149
Link Distance (ft)		1624	1624
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	T	R
Maximum Queue (ft)	40	27	30	201	204	182	65
Average Queue (ft)	2	2	2	75	66	58	26
95th Queue (ft)	16	16	15	181	164	155	52
Link Distance (ft)	48	48	48	92	92	92	239
Upstream Blk Time (%)	0	0	0	6	5	5	
Queuing Penalty (veh)	0	0	0	33	27	26	
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	NB
Directions Served	UL	T	T	TR	T	T	TR	R
Maximum Queue (ft)	42	7	25	3	80	52	43	88
Average Queue (ft)	11	0	1	0	7	3	2	40
95th Queue (ft)	31	6	8	3	40	26	19	73
Link Distance (ft)		92	92	92	28	28	28	288
Upstream Blk Time (%)					1	0	0	
Queuing Penalty (veh)					6	2	2	
Storage Bay Dist (ft)	100							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	6	5	32	19	11
Average Queue (ft)	0	0	1	1	0
95th Queue (ft)	5	4	15	14	10
Link Distance (ft)	28	28	31	31	31
Upstream Blk Time (%)	0	0	0	0	0
Queuing Penalty (veh)	0	0	1	1	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	WB	WB	WB	B71	NB
Directions Served	T	T	T	T	T	R
Maximum Queue (ft)	5	6	10	19	31	64
Average Queue (ft)	0	0	1	1	1	19
95th Queue (ft)	0	6	11	8	29	51
Link Distance (ft)	31	86	86	86	283	251
Upstream Blk Time (%)	0		0			
Queuing Penalty (veh)	0		0			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	88	100	59
Average Queue (ft)	34	13	10
95th Queue (ft)	65	57	39
Link Distance (ft)	125	1062	57
Upstream Blk Time (%)	0		0
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	R	T	T	L	T	T	TR	L	L
Maximum Queue (ft)	130	324	355	105	16	27	240	322	272	242	52	117
Average Queue (ft)	43	174	187	35	1	1	47	192	156	114	11	42
95th Queue (ft)	83	292	309	73	10	11	132	287	248	201	37	84
Link Distance (ft)		283	283	283	86	86		1223	1223	1223		700
Upstream Blk Time (%)		1	2									
Queuing Penalty (veh)		3	7									
Storage Bay Dist (ft)	240						205				110	
Storage Blk Time (%)		2						6			0	0
Queuing Penalty (veh)		2						3			0	0

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	SB	SB	SB
Directions Served	TR	L	T	R
Maximum Queue (ft)	60	55	92	66
Average Queue (ft)	24	16	37	23
95th Queue (ft)	50	45	75	53
Link Distance (ft)			1088	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	110	150		50
Storage Blk Time (%)			8	1
Queuing Penalty (veh)			4	0

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	L	TR
Maximum Queue (ft)	142	324	280	233	86	178	183	172	122	180	106	169
Average Queue (ft)	26	168	127	99	42	121	133	138	44	86	47	72
95th Queue (ft)	88	266	220	172	86	189	195	197	90	147	93	135
Link Distance (ft)						86	86	86		143		4223
Upstream Blk Time (%)					0	14	18	19	0	1		
Queuing Penalty (veh)					0	67	87	93	0	0		
Storage Bay Dist (ft)	145				175				120		85	
Storage Blk Time (%)		11			0	14			0	3	1	5
Queuing Penalty (veh)		3			2	8			0	2	2	4

Zone Summary

Zone wide Queuing Penalty: 971

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.4	0.1	0.2	0.0	0.2	0.0	0.3	0.2
Total Del/Veh (s)	38.7	24.6	15.0	39.7	41.7	18.7	8.9	40.7	34.9	11.5	28.3	28.8

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	0.2	0.1
Total Del/Veh (s)	17.2	22.9

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.7	1.0	6.1	9.9	4.0

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBU	EBL	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	1.3	0.0
Total Del/Veh (s)	24.8	21.8	1.4	0.4	0.8	37.2	2.2

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.0	0.1	0.4	0.7

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.3	0.4	49.5	1.0

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.0	0.0	0.1
Total Del/Veh (s)	7.0	8.3	3.9	0.8	2.1	1.3	3.3

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.2	0.1	2.2	0.2	0.2	1.1	3.5	3.5	3.4	0.5	3.5
Total Del/Veh (s)	46.1	34.3	5.5	38.7	15.5	8.0	32.1	30.4	19.4	35.1	32.9	11.7

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	24.1

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.2	0.3	0.0	0.3	0.4	0.0	0.0	0.0	0.2	0.2	0.2
Total Del/Veh (s)	43.2	25.1	16.6	43.5	14.5	10.2	34.3	27.3	18.1	37.9	29.5	20.4

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	21.7

Total Zone Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	920.0

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	240	396	400	312	125	172	178	174	43	57	79	55
Average Queue (ft)	97	213	217	142	54	133	143	142	33	38	47	12
95th Queue (ft)	205	362	363	265	106	176	182	183	51	65	83	45
Link Distance (ft)		962	962	962	48	48	48	48			57	
Upstream Blk Time (%)					14	34	38	38	2	2	12	0
Queuing Penalty (veh)					60	141	159	161	0	0	15	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	0	10						51	2	17	18	0
Queuing Penalty (veh)	0	14						77	8	11	14	0

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	124	146	235
Average Queue (ft)	45	85	106
95th Queue (ft)	95	133	190
Link Distance (ft)		1624	1624
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	T	R
Maximum Queue (ft)	52	42	32	208	202	192	72
Average Queue (ft)	3	3	2	107	93	81	28
95th Queue (ft)	27	23	17	225	199	186	56
Link Distance (ft)	48	48	48	92	92	92	239
Upstream Blk Time (%)	0	0	0	11	8	8	
Queuing Penalty (veh)	2	1	0	64	49	47	
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	NB
Directions Served	UL	T	T	TR	T	T	TR	R
Maximum Queue (ft)	55	102	94	9	89	77	64	183
Average Queue (ft)	14	8	8	0	13	5	5	57
95th Queue (ft)	41	56	63	8	56	35	34	146
Link Distance (ft)		92	92	92	28	28	28	288
Upstream Blk Time (%)	0	0	1		2	1	1	2
Queuing Penalty (veh)	0	3	6		12	6	6	0
Storage Bay Dist (ft)	100							
Storage Blk Time (%)	0	0						
Queuing Penalty (veh)	0	0						

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	67	78	4	33	17	24
Average Queue (ft)	9	13	0	1	1	1
95th Queue (ft)	56	67	3	18	11	13
Link Distance (ft)	28	28	28	31	31	31
Upstream Blk Time (%)	3	5	0	0	0	0
Queuing Penalty (veh)	18	30	0	2	0	1
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	B71	B71	B71	NB
Directions Served	T	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	79	90	4	22	20	21	26	29	7	43
Average Queue (ft)	14	19	0	1	1	1	0	0	0	10
95th Queue (ft)	69	78	3	12	10	15	0	3	6	35
Link Distance (ft)	31	31	31	86	86	86	283	283	283	251
Upstream Blk Time (%)	5	8	0			0				
Queuing Penalty (veh)	30	45	0			0				
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	74	65	53
Average Queue (ft)	31	8	9
95th Queue (ft)	58	39	37
Link Distance (ft)	125	1062	57
Upstream Blk Time (%)	0		0
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	282	398	402	136	164	158	25	169	316	276	241	161
Average Queue (ft)	26	300	310	56	42	47	1	56	179	139	98	42
95th Queue (ft)	128	434	439	107	146	154	18	125	276	245	193	111
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	19	23		8	11	0					
Queuing Penalty (veh)	0	111	133		49	63	0					
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)		24							5			0
Queuing Penalty (veh)		4							3			0

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	227	189	120	170	75
Average Queue (ft)	99	77	44	62	47
95th Queue (ft)	174	151	90	127	84
Link Distance (ft)	700			1088	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	8	5	0	18	4
Queuing Penalty (veh)	22	11	0	28	6

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	169	362	334	285	87	176	173	181	143	212	65	109
Average Queue (ft)	45	219	182	156	62	139	143	147	68	117	4	68
95th Queue (ft)	127	321	277	245	98	193	194	192	126	200	29	119
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					4	24	26	29	0	5		
Queuing Penalty (veh)					0	133	143	162	0	0		
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	23			4	24			0	9		4
Queuing Penalty (veh)	0	8			20	25			1	9		8

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	218
Average Queue (ft)	101
95th Queue (ft)	187
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	10
Queuing Penalty (veh)	10

Zone Summary

Zone wide Queuing Penalty: 1934

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	1.9	1.0	1.1	0.0	0.2	0.1	0.1	0.0	0.1	0.0	0.4	0.2
Total Del/Veh (s)	58.9	34.8	16.9	62.4	59.1	20.8	11.6	71.6	40.9	20.3	80.1	38.3

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	0.2	0.5
Total Del/Veh (s)	25.8	34.3

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.6	13.7	7.7

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	53.3	5.1	3.2	4.5

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	0.0	1.8	2.9

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	29.8	0.2
Total Del/Veh (s)	3.8	1.6	393.9	5.5

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.2	0.0	0.1
Total Del/Veh (s)	31.1	1.3	17.3

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	2.1	0.2	0.3	0.9	3.5	3.6	3.3	0.4	3.4
Total Del/Veh (s)	48.6	36.9	7.5	49.0	29.3	19.5	40.0	32.3	23.7	42.4	39.2	18.0

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	31.8

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.9	0.2	0.3	3.9	3.7	5.2	0.0	0.0	0.0	0.3	0.2	0.3
Total Del/Veh (s)	49.9	25.7	14.8	45.2	12.8	9.5	36.6	29.5	19.7	41.7	33.5	25.6

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	1.8
Total Del/Veh (s)	21.3

Total Zone Performance

Denied Del/Veh (s)	1.9
Total Del/Veh (s)	1454.2

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	290	636	638	556	100	178	183	179	41	57	88	57
Average Queue (ft)	158	361	364	211	28	141	150	152	31	33	65	29
95th Queue (ft)	310	595	600	476	71	176	179	178	48	65	88	69
Link Distance (ft)		962	962	962	48	48	48	48			57	
Upstream Blk Time (%)					6	41	45	46	1	1	41	2
Queuing Penalty (veh)					28	194	213	218	0	0	73	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	1	27						54	2	18	49	5
Queuing Penalty (veh)	4	41						81	10	26	40	7

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	332	450	430
Average Queue (ft)	167	229	152
95th Queue (ft)	349	605	364
Link Distance (ft)		1624	1624
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	300		
Storage Blk Time (%)	9	10	
Queuing Penalty (veh)	19	22	

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	146	170	38	212	222	214
Average Queue (ft)	44	39	2	151	156	159
95th Queue (ft)	150	140	22	252	253	249
Link Distance (ft)	48	48	48	92	92	92
Upstream Blk Time (%)	7	7	0	26	28	30
Queuing Penalty (veh)	51	51	1	164	176	188
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB
Directions Served	L	T	T	TR	T	T	TR
Maximum Queue (ft)	81	200	202	80	114	122	107
Average Queue (ft)	13	76	76	6	36	43	47
95th Queue (ft)	51	217	212	45	106	115	117
Link Distance (ft)		92	92	92	28	28	28
Upstream Blk Time (%)	0	12	13	0	11	13	16
Queuing Penalty (veh)	0	85	99	1	71	85	103
Storage Bay Dist (ft)	100						
Storage Blk Time (%)	0	12					
Queuing Penalty (veh)	0	2					

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	148	148	105	115	103
Average Queue (ft)	64	67	20	21	31
95th Queue (ft)	161	159	79	85	99
Link Distance (ft)	28	28	31	31	31
Upstream Blk Time (%)	20	24	5	6	9
Queuing Penalty (veh)	146	174	34	38	58
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	WB	WB	WB	B71	B71	B71	NB
Directions Served	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	126	129	105	123	152	39	41	59	213
Average Queue (ft)	60	65	11	16	21	3	4	5	85
95th Queue (ft)	142	145	69	83	94	36	42	49	220
Link Distance (ft)	31	31	86	86	86	283	283	283	251
Upstream Blk Time (%)	24	29	2	2	3				8
Queuing Penalty (veh)	170	206	10	13	16				0
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	NB
Directions Served	TR
Maximum Queue (ft)	250
Average Queue (ft)	80
95th Queue (ft)	220
Link Distance (ft)	1062
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	283	405	412	231	182	186	70	246	446	420	364	178
Average Queue (ft)	169	348	354	80	110	112	4	63	278	253	209	47
95th Queue (ft)	345	449	448	169	222	223	33	188	403	376	325	134
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	35	41	0	28	33	0					
Queuing Penalty (veh)	0	253	293	0	206	241	0					
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)	0	38							22			0
Queuing Penalty (veh)	0	46							11			1

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	252	204	148	257	75
Average Queue (ft)	113	82	39	121	37
95th Queue (ft)	199	163	93	214	89
Link Distance (ft)	700			1088	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	14	6		44	2
Queuing Penalty (veh)	38	13		40	4

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	169	453	422	366	86	176	186	173	134	212	63	109
Average Queue (ft)	44	285	251	199	47	132	141	147	58	111	4	64
95th Queue (ft)	130	411	383	315	91	189	193	188	123	195	36	119
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					1	19	22	26	0	6		
Queuing Penalty (veh)					0	91	106	124	0	0		
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	32			1	19			0	10		3
Queuing Penalty (veh)	0	9			6	12			1	7		6

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	258
Average Queue (ft)	115
95th Queue (ft)	209
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	15
Queuing Penalty (veh)	12

Zone Summary

Zone wide Queuing Penalty: 4440

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	0.5	1.9	0.0	2.5	0.3	0.8	1.5	0.0	1.0	0.0	1.5	1.3
Total Del/Veh (s)	99.6	66.6	33.4	131.8	135.3	27.9	19.8	101.8	66.5	18.6	128.9	93.6

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	1.9	1.3
Total Del/Veh (s)	86.9	54.3

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.1	0.0	0.0
Total Del/Veh (s)	7.1	21.6	15.4

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1123.3	7.7	9.3	10.9

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.7	0.0	7.9	6.1

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	1.1	0.1	0.6
Total Del/Veh (s)	3.7	13.3	160.9	9.7

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	7.5	0.0	4.7
Total Del/Veh (s)	121.2	1.4	75.4

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.3	0.2	5.3	5.4	4.2	50.2	42.6	50.8	3.5	0.7	3.5
Total Del/Veh (s)	59.4	46.9	11.9	104.8	73.4	64.3	102.9	59.6	44.6	54.3	56.8	46.2

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	9.6
Total Del/Veh (s)	61.8

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.1	0.7	0.6	0.5	0.7	1.0	0.0	0.0	0.0	0.3	0.3	0.2
Total Del/Veh (s)	70.0	49.2	39.0	67.8	16.1	14.1	63.7	41.4	35.5	77.6	51.9	44.8

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	35.3

Total Zone Performance

Denied Del/Veh (s)	9.6
Total Del/Veh (s)	842.0

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	290	932	935	936	97	230	234	229	60	64	85	71
Average Queue (ft)	82	374	382	304	39	194	199	199	38	26	67	19
95th Queue (ft)	236	856	864	826	91	218	225	218	52	63	92	59
Link Distance (ft)		911	911	911		98	98	98			73	
Upstream Blk Time (%)		11	12	10	2	53	50	53		1	42	0
Queuing Penalty (veh)		56	60	50	0	442	420	439		0	71	0
Storage Bay Dist (ft)	200				100				15	40		50
Storage Blk Time (%)		34			2	53		50	5	16	56	3
Queuing Penalty (veh)		20			12	21		167	39	22	33	4

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	365	953	1014
Average Queue (ft)	149	268	285
95th Queue (ft)	331	840	854
Link Distance (ft)		1624	1624
Upstream Blk Time (%)		2	2
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	300		
Storage Blk Time (%)	11	14	
Queuing Penalty (veh)	17	23	

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	216	204	31	229	222	229
Average Queue (ft)	80	44	1	183	184	184
95th Queue (ft)	222	163	24	252	247	239
Link Distance (ft)	98	98	98	92	92	92
Upstream Blk Time (%)	32	7	0	50	47	49
Queuing Penalty (veh)	199	42	0	411	389	412
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	L	T	T	T	T	TR
Maximum Queue (ft)	83	199	186	130	123	131
Average Queue (ft)	36	98	55	78	80	82
95th Queue (ft)	88	237	182	141	140	134
Link Distance (ft)		92	92	28	28	28
Upstream Blk Time (%)	14	40	13	44	42	46
Queuing Penalty (veh)	0	250	83	366	345	381
Storage Bay Dist (ft)	100					
Storage Blk Time (%)	14	40				
Queuing Penalty (veh)	83	4				

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	140	139	3	124	126	128
Average Queue (ft)	42	44	0	70	72	76
95th Queue (ft)	136	134	3	143	145	142
Link Distance (ft)	28	28	28	31	31	31
Upstream Blk Time (%)	15	19	0	41	38	43
Queuing Penalty (veh)	98	120	0	338	314	354
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	WB	WB	WB	B71	B71	B71	NB
Directions Served	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	129	126	194	203	192	352	354	357	53
Average Queue (ft)	42	45	108	111	112	170	172	177	16
95th Queue (ft)	124	128	238	242	231	416	417	422	50
Link Distance (ft)	31	31	86	86	86	283	283	283	251
Upstream Blk Time (%)	18	22	38	35	39	14	11	13	
Queuing Penalty (veh)	116	143	314	291	321	114	92	105	
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	NB
Directions Served	TR
Maximum Queue (ft)	709
Average Queue (ft)	154
95th Queue (ft)	568
Link Distance (ft)	1062
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	238	406	397	308	184	176	29	265	1125	1099	1045	260
Average Queue (ft)	28	318	327	123	83	85	1	118	527	494	459	192
95th Queue (ft)	141	469	467	255	205	205	16	273	1043	1002	944	305
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	33	36	1	23	26	0		5	3	3	
Queuing Penalty (veh)	0	208	232	4	147	168	0		0	0	0	
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)		36							44			37
Queuing Penalty (veh)		7							35			155

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	705	260	194	440	75
Average Queue (ft)	365	148	80	141	63
95th Queue (ft)	713	306	168	344	91
Link Distance (ft)	700			1088	
Upstream Blk Time (%)	15			0	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	63	8	1	29	30
Queuing Penalty (veh)	268	38	3	65	58

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	170	993	971	920	86	192	189	185	143	230	625	109
Average Queue (ft)	44	347	314	274	67	155	154	156	129	194	182	74
95th Queue (ft)	138	684	643	592	104	195	192	184	164	261	575	129
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					13	43	39	42	9	38		
Queuing Penalty (veh)					0	350	316	340	0	0		
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	41			13	43			30	33		12
Queuing Penalty (veh)	0	12			83	61			83	76		27

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	516
Average Queue (ft)	171
95th Queue (ft)	348
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	28
Queuing Penalty (veh)	22

Zone Summary

Zone wide Queuing Penalty: 10339

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Del/Veh (s)	137.5	119.4	115.0	0.7	7.1	0.6	2.4	0.0	0.0	0.0	144.0	135.5
Total Del/Veh (s)	172.6	101.1	52.9	124.2	120.3	24.7	14.8	105.4	56.6	35.3	272.0	196.6

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by movement

Movement	SBR	All
Denied Del/Veh (s)	126.7	72.4
Total Del/Veh (s)	196.8	92.7

2: PROJ DWY 1 & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.4	2.4	0.0	34.1	0.8
Total Del/Veh (s)	6.2	1.0	22.3	109.4	15.5

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by movement

Movement	EBU	EBL	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.3	35.8	1.6
Total Del/Veh (s)	286.8	212.4	6.5	0.5	8.4	102.1	12.1

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by movement

Movement	EBT	EBR	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	0.1	6.2	4.4

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by movement

Movement	EBT	WBT	NBR	All
Denied Del/Veh (s)	0.0	1.1	26.6	0.8
Total Del/Veh (s)	2.7	9.4	220.1	7.8

6: OLIVE ST & PROJ DWY 5 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	572.9	668.1	227.3	300.6	0.0	0.0	196.9
Total Del/Veh (s)	512.9	422.6	457.6	364.8	3.2	1.6	228.7

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	75.7	64.8	82.5	32.8	29.2	30.9	29.8	32.9	42.9
Total Del/Veh (s)	48.6	33.1	6.8	207.1	76.1	53.1	87.4	58.4	45.4	153.2	135.1	165.9

7: PLUMAS ST & COLUSA AVE Performance by movement

Movement	All
Denied Del/Veh (s)	33.1
Total Del/Veh (s)	60.0

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	33.0	55.7	64.7	10.4	4.8	6.7	0.0	0.0	0.0	0.3	0.2	0.3
Total Del/Veh (s)	100.4	74.7	72.7	50.8	13.1	9.2	42.8	40.2	39.5	129.6	92.9	102.9

8: CLARK AVE & COLUSA HWY Performance by movement

Movement	All
Denied Del/Veh (s)	27.9
Total Del/Veh (s)	49.1

Total Zone Performance

Denied Del/Veh (s)	96.1
Total Del/Veh (s)	1596.5

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	290	856	876	858	138	170	180	181	41	49	82	50
Average Queue (ft)	157	584	552	464	84	122	143	145	28	29	68	21
95th Queue (ft)	349	1036	1017	998	130	199	197	205	52	65	81	62
Link Distance (ft)		962	962	962	48	48	48	48			57	
Upstream Blk Time (%)		21	14	11	54	26	49	51	1	5	78	1
Queuing Penalty (veh)		87	58	43	264	129	241	249	0	0	184	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	1	57						54	2	31	82	2
Queuing Penalty (veh)	6	83						88	9	50	92	5

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	391	1038	869
Average Queue (ft)	232	533	439
95th Queue (ft)	452	1465	1339
Link Distance (ft)		1624	1624
Upstream Blk Time (%)		17	13
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	300		
Storage Blk Time (%)	31	33	
Queuing Penalty (veh)	72	75	

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	T	R
Maximum Queue (ft)	165	127	56	223	219	213	154
Average Queue (ft)	64	17	3	170	162	162	59
95th Queue (ft)	179	84	30	252	263	260	169
Link Distance (ft)	48	48	48	92	92	92	239
Upstream Blk Time (%)	35	3	0	51	36	39	9
Queuing Penalty (veh)	257	19	1	337	240	259	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	NB
Directions Served	UL	T	T	TR	T	T	TR	R
Maximum Queue (ft)	77	191	164	42	123	119	124	222
Average Queue (ft)	34	95	40	2	62	60	65	99
95th Queue (ft)	72	226	152	23	128	130	132	246
Link Distance (ft)		92	92	92	28	28	28	288
Upstream Blk Time (%)	0	37	6	0	42	27	30	10
Queuing Penalty (veh)	0	271	44	0	273	175	192	0
Storage Bay Dist (ft)	100							
Storage Blk Time (%)	0	37						
Queuing Penalty (veh)	0	16						

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	WB	WB	WB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	124	119	113	103	116
Average Queue (ft)	31	38	51	44	50
95th Queue (ft)	114	123	126	121	123
Link Distance (ft)	28	28	31	31	31
Upstream Blk Time (%)	9	13	36	20	22
Queuing Penalty (veh)	66	100	231	131	145
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	WB	WB	WB	B71	B71	B71	NB
Directions Served	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	117	116	132	140	155	176	208	199	145
Average Queue (ft)	33	40	66	54	58	86	51	55	55
95th Queue (ft)	109	122	190	171	175	301	224	232	168
Link Distance (ft)	31	31	86	86	86	283	283	283	251
Upstream Blk Time (%)	11	17	31	14	15	24	6	6	6
Queuing Penalty (veh)	82	124	194	87	96	148	36	37	0
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	143	870	58
Average Queue (ft)	106	476	13
95th Queue (ft)	171	1153	47
Link Distance (ft)	125	1062	57
Upstream Blk Time (%)	66	26	1
Queuing Penalty (veh)	0	0	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	283	401	401	200	178	173	47	264	855	843	832	184
Average Queue (ft)	106	281	296	62	69	72	3	63	485	398	355	63
95th Queue (ft)	284	483	483	141	188	193	26	203	1098	952	915	156
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	21	26		15	19	0		16	7	6	
Queuing Penalty (veh)	0	159	195		115	140	0		0	0	0	
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)	0	25							41			13
Queuing Penalty (veh)	1	30							21			35

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	413	198	145	683	75
Average Queue (ft)	170	75	33	257	40
95th Queue (ft)	452	151	93	786	84
Link Distance (ft)	700			1088	
Upstream Blk Time (%)	8			9	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	13	9		41	21
Queuing Penalty (veh)	38	19		37	44

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	169	876	855	810	85	170	174	178	142	214	377	109
Average Queue (ft)	39	442	416	371	35	121	130	137	51	125	56	69
95th Queue (ft)	124	1047	1033	1004	79	191	198	203	108	215	403	124
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					0	16	20	24	0	15	2	
Queuing Penalty (veh)					0	77	97	116	0	0	0	
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	43			0	16			2	19		20
Queuing Penalty (veh)	0	13			1	9			5	13		37

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	934
Average Queue (ft)	237
95th Queue (ft)	832
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	13
Queuing Penalty (veh)	11

Zone Summary

Zone wide Queuing Penalty: 6513

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	4.0	0.2	0.0	12.4	3.3
Total Del/Veh (s)	96.0	23.6	102.3	177.9	74.1

2: PROJ DWY 1 & COLUSA AVE Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.0
Total Del/Veh (s)	6.9	23.5	39.6	16.2

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	249.5	5.4
Total Del/Veh (s)	17.3	10.4	425.5	20.2

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	12.8	9.2	10.8

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	2.8	31.5	1.7
Total Del/Veh (s)	12.5	15.5	1052.0	16.5

6: OLIVE ST & PROJ DWY 5 Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	502.0	8.5	0.0	106.4
Total Del/Veh (s)	350.4	194.9	1.4	140.1

7: PLUMAS ST & COLUSA AVE Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	25.2	40.4	4.3	16.8
Total Del/Veh (s)	62.6	128.1	93.8	69.8	95.0

8: CLARK AVE & COLUSA HWY Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.7	0.0	0.3	0.4
Total Del/Veh (s)	35.7	19.4	49.9	47.0	30.2

Total Zone Performance

Denied Del/Veh (s)	26.7
Total Del/Veh (s)	1273.6

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	289	952	963	957	146	177	178	177	42	55	144	55
Average Queue (ft)	109	517	537	538	80	146	150	154	38	42	118	21
95th Queue (ft)	279	981	992	998	143	170	167	166	44	64	152	61
Link Distance (ft)		962	962	962	49	49	49	49			55	
Upstream Blk Time (%)		2	3	3	32	55	56	56	3	37	81	1
Queuing Penalty (veh)		13	15	15	207	349	359	357	0	0	198	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	0	44						55	5	59	81	1
Queuing Penalty (veh)	0	30						186	32	98	89	3

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	450	1430	1262
Average Queue (ft)	267	538	393
95th Queue (ft)	522	1353	1106
Link Distance (ft)		1624	1624
Upstream Blk Time (%)		7	6
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	300		
Storage Blk Time (%)	41	43	
Queuing Penalty (veh)	72	77	

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	T	T	R
Maximum Queue (ft)	184	187	162	110	228	235	226	110
Average Queue (ft)	89	90	64	10	191	195	193	33
95th Queue (ft)	210	210	174	68	241	240	232	83
Link Distance (ft)	49	49	49	91	91	91	91	245
Upstream Blk Time (%)	21	25	14	1	51	54	55	0
Queuing Penalty (veh)	142	165	96	4	327	344	352	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	TR	R
Maximum Queue (ft)	214	213	198	128	131	128	310
Average Queue (ft)	127	128	115	91	92	92	200
95th Queue (ft)	261	256	236	134	134	125	391
Link Distance (ft)	91	91	91	28	28	28	292
Upstream Blk Time (%)	33	38	29	47	52	53	49
Queuing Penalty (veh)	214	246	185	398	438	451	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	153	150	144	131	134	130
Average Queue (ft)	98	99	85	88	93	93
95th Queue (ft)	181	174	160	141	143	134
Link Distance (ft)	28	28	28	31	31	31
Upstream Blk Time (%)	44	63	50	43	48	52
Queuing Penalty (veh)	287	413	324	366	412	439
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	B71	B71	B71	NB
Directions Served	T	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	138	135	135	197	197	190	355	354	365	150
Average Queue (ft)	87	92	83	144	147	147	223	227	238	58
95th Queue (ft)	151	151	145	238	233	226	433	431	435	164
Link Distance (ft)	31	31	31	86	86	86	283	283	283	251
Upstream Blk Time (%)	48	71	59	40	44	49	12	12	16	0
Queuing Penalty (veh)	313	463	380	341	378	415	99	99	131	0
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	WB	NB
Directions Served	R	TR
Maximum Queue (ft)	140	782
Average Queue (ft)	97	263
95th Queue (ft)	157	755
Link Distance (ft)	126	1068
Upstream Blk Time (%)	38	3
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	256	411	411	416	193	188	189	265	1273	1261	1271	260
Average Queue (ft)	55	375	379	379	146	149	142	145	796	767	735	203
95th Queue (ft)	214	402	403	409	209	206	204	317	1486	1466	1449	298
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	59	79	67	56	76	66		21	16	23	
Queuing Penalty (veh)	0	383	513	436	364	492	431		0	0	0	
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)	0	55						0	53			40
Queuing Penalty (veh)	0	11						0	42			168

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	729	260	202	540	75
Average Queue (ft)	392	146	79	179	64
95th Queue (ft)	763	309	166	516	93
Link Distance (ft)	700			1088	
Upstream Blk Time (%)	18			2	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	66	9	2	35	33
Queuing Penalty (veh)	281	47	3	78	63

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	169	524	480	424	86	187	179	180	143	242	579	109
Average Queue (ft)	47	323	291	245	71	156	157	159	128	193	175	73
95th Queue (ft)	137	485	454	397	97	185	177	173	165	264	582	128
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					15	47	42	45	11	39	3	
Queuing Penalty (veh)					0	388	343	367	0	0	0	
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)		38			15	47			32	33		9
Queuing Penalty (veh)		12			100	66			89	75		19

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	320
Average Queue (ft)	155
95th Queue (ft)	272
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	26
Queuing Penalty (veh)	21

Zone Summary

Zone wide Queuing Penalty: 15109

1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.4	0.6	0.2	33.7	5.7
Total Del/Veh (s)	80.2	24.0	97.1	251.3	78.5

2: PROJ DWY 1 & COLUSA AVE Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.0
Total Del/Veh (s)	7.6	23.8	38.9	16.9

3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	370.4	8.4
Total Del/Veh (s)	18.8	10.3	501.3	21.2

4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.4	0.0	0.2
Total Del/Veh (s)	13.4	9.1	11.0

5: PROJ DWY 4 (EXIT) & COLUSA AVE Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	1.3	0.1	0.8
Total Del/Veh (s)	12.7	15.3	991.4	16.6

6: OLIVE ST & PROJ DWY 5 Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	552.1	0.4	0.0	115.3
Total Del/Veh (s)	375.8	225.8	1.5	164.0

7: PLUMAS ST & COLUSA AVE Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	26.1	84.6	3.1	23.5
Total Del/Veh (s)	63.4	132.6	114.2	76.5	100.8

8: CLARK AVE & COLUSA HWY Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.5	0.0	0.3	0.3
Total Del/Veh (s)	32.7	18.8	47.8	48.0	28.8

Total Zone Performance

Denied Del/Veh (s)	35.0
Total Del/Veh (s)	1210.0

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	UL	T	T	T	R	L	T	R
Maximum Queue (ft)	290	812	828	827	144	174	181	184	42	55	144	55
Average Queue (ft)	101	441	458	460	79	145	151	155	38	41	117	19
95th Queue (ft)	262	846	859	859	143	163	166	171	46	65	151	57
Link Distance (ft)		962	962	962	49	49	49	49			55	
Upstream Blk Time (%)		1	1	1	33	56	57	57	3	33	79	1
Queuing Penalty (veh)		5	6	6	207	351	360	362	0	0	195	0
Storage Bay Dist (ft)	200								15	40		50
Storage Blk Time (%)	0	40						56	5	54	79	1
Queuing Penalty (veh)	0	27						187	36	90	88	3

Intersection: 1: OLIVE ST/LIVE OAK BLVD & COLUSA AVE

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	450	1643	1650
Average Queue (ft)	286	743	636
95th Queue (ft)	546	1791	1648
Link Distance (ft)		1624	1624
Upstream Blk Time (%)		17	12
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	300		
Storage Blk Time (%)	49	51	
Queuing Penalty (veh)	87	92	

Intersection: 2: PROJ DWY 1 & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	T	T	R
Maximum Queue (ft)	187	182	171	98	224	228	230	153
Average Queue (ft)	94	93	74	9	189	193	193	48
95th Queue (ft)	216	212	186	59	240	236	227	107
Link Distance (ft)	49	49	49	91	91	91	91	245
Upstream Blk Time (%)	23	27	18	0	51	54	56	
Queuing Penalty (veh)	156	184	118	3	324	340	353	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: PROJ DWY 2/CHESTNUT ST & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	TR	T	T	TR	R
Maximum Queue (ft)	213	210	201	129	128	128	317
Average Queue (ft)	127	126	119	88	90	92	200
95th Queue (ft)	266	257	246	135	132	125	396
Link Distance (ft)	91	91	91	28	28	28	292
Upstream Blk Time (%)	34	40	33	46	51	54	52
Queuing Penalty (veh)	217	256	213	387	428	454	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: PROJ DWY 3 (ENTRANCE) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB
Directions Served	T	T	TR	T	T	T
Maximum Queue (ft)	159	151	142	132	128	127
Average Queue (ft)	92	93	82	87	89	92
95th Queue (ft)	183	176	165	142	142	132
Link Distance (ft)	28	28	28	31	31	31
Upstream Blk Time (%)	44	65	51	42	47	51
Queuing Penalty (veh)	285	420	334	358	399	436
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: PROJ DWY 4 (EXIT) & COLUSA AVE

Movement	EB	EB	EB	WB	WB	WB	B71	B71	B71	NB
Directions Served	T	T	T	T	T	T	T	T	T	R
Maximum Queue (ft)	136	135	129	201	198	199	358	364	362	155
Average Queue (ft)	82	84	78	137	141	145	211	215	226	60
95th Queue (ft)	153	151	148	241	238	230	439	439	441	149
Link Distance (ft)	31	31	31	86	86	86	283	283	283	251
Upstream Blk Time (%)	48	68	59	40	43	48	13	12	17	
Queuing Penalty (veh)	314	443	380	337	367	406	109	106	142	
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 6: OLIVE ST & PROJ DWY 5

Movement	WB	NB
Directions Served	R	TR
Maximum Queue (ft)	140	841
Average Queue (ft)	102	315
95th Queue (ft)	159	888
Link Distance (ft)	126	1068
Upstream Blk Time (%)	39	1
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	EB	EB	EB	EB	B71	B71	B71	WB	WB	WB	WB	NB
Directions Served	L	T	T	R	T	T	T	L	T	T	TR	L
Maximum Queue (ft)	283	405	412	409	192	190	184	264	1278	1264	1275	260
Average Queue (ft)	45	370	374	373	140	141	136	131	816	784	756	208
95th Queue (ft)	189	422	421	441	219	214	211	295	1505	1485	1473	311
Link Distance (ft)		283	283	283	86	86	86		1223	1223	1223	
Upstream Blk Time (%)	0	57	77	66	54	72	64		23	18	25	
Queuing Penalty (veh)	0	370	498	430	350	468	416		0	0	0	
Storage Bay Dist (ft)	240							205				110
Storage Blk Time (%)	0	54							52			47
Queuing Penalty (veh)	0	11							42			200

Intersection: 7: PLUMAS ST & COLUSA AVE

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R
Maximum Queue (ft)	740	260	210	637	75
Average Queue (ft)	453	154	91	201	64
95th Queue (ft)	855	318	195	554	91
Link Distance (ft)	700			1088	
Upstream Blk Time (%)	28			1	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		110	150		50
Storage Blk Time (%)	69	9	2	34	37
Queuing Penalty (veh)	293	46	4	75	70

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	B90	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	TR	T	L
Maximum Queue (ft)	169	447	426	370	87	180	186	180	143	231	543	109
Average Queue (ft)	44	307	273	225	70	156	155	157	131	192	152	74
95th Queue (ft)	128	419	384	336	95	182	187	177	161	264	495	129
Link Distance (ft)						86	86	86		143	1232	
Upstream Blk Time (%)					10	43	39	42	10	37		
Queuing Penalty (veh)					0	356	321	346	0	0		
Storage Bay Dist (ft)	145				175				120			85
Storage Blk Time (%)	0	38			10	43			29	32		6
Queuing Penalty (veh)	0	11			68	61			81	74		13

Intersection: 8: CLARK AVE & COLUSA HWY

Movement	SB
Directions Served	TR
Maximum Queue (ft)	306
Average Queue (ft)	161
95th Queue (ft)	272
Link Distance (ft)	4223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	30
Queuing Penalty (veh)	24

Zone Summary

Zone wide Queuing Penalty: 14999

Flecker Associates
Transportation Engineers

November 30, 2023

Ms. Stephanie Manier
FIVE WAY DEVELOPMENT
1528 Colusa Highway
Yuba City, CA 95993

RE: TRIP GENERATION ASSESSMENT– TOWN CENTER, 590 COLUSA AVENUE, YUBA CITY, CA

Dear Ms. Monier:

Flecker Associates (FA) has completed our analysis for the proposed development of 590 Colusa Highway in Yuba City. The site is located in the southeast quadrant of the Colusa Highway / Olive Street – Live Oak Blvd intersection. The project consists of a 130-foot tunnel car wash and a 2,870 square foot fast food restaurant, or quick serve restaurant (QSR), with drive-through lane (Figure 1). The project will be constructed on two parcels. East of the site is a drive-through coffee kiosk. Access between the coffee kiosk and your project will remain. The site is zoned C-3, General Commercial.

A previous local transportation analysis was completed by KD Anderson & Associates, Inc. in March 2022. The analyzed project consisted of a convenience store (C-store)/ gas station that included 6,750 square feet of store and 10 gasoline fueling positions, a QSR with drive-through lane and an automated car wash (Figure 2).

The City has requested a trip generation assessment be conducted to determine whether the proposed project will generate more trips than the previous project.

Trip Generation. For many types of land use development projects, estimates of the number of vehicle trips generated by a project are developed using trip generation rates from the Institute of Transportation Engineers (ITE) document *Trip Generation*, 11th Edition. The publication is an industry-standard reference document. However, it does not contain information for all types of land uses, and for many types of land uses, the rates are based on limited survey data and may not be statistically valid.

The proposed project will construct a 2,870 square foot quick serve restaurant, i.e., fast-food restaurant, with single lane drive-through and a 130-foot tunnel touchless car wash on the site.

ITE Land Use Code (LU) 934, Fast Food Restaurant with Drive-Through Lane, was used to identify the projected trip generation for the QSR while LU 948, Automated Car Wash, was used as the basis for the tunnel car wash use. Data for automated car washes is limited with three studies conducted for the p.m. peak hour on a per tunnel basis. A single study was also identified using square footage of the car wash as the independent variable. Daily and a.m. peak hour trip data is unavailable. Due to the minimal number of data points using either independent variable, other studies were reviewed to develop trip rates. Several agencies in Southern California have identified trip rates for tunnel car washes based on the length of the tunnel. Table 1 presents data from two additional studies conducted in Southern California.

The three data points based on tunnel length were used to compare the expected trips generated during the p.m. peak hour for the proposed car wash. The p.m. trips using the trip rates per linear foot of tunnel are shown to be higher than those developed using the ITE rates. This provides a conservative assessment of expected trips. The average of the three 'per linear foot' data points were used to develop average rates for daily, a.m. and p.m. peak hours. Based on this information the daily rate is 8.73 trips per linear foot of tunnel with rates of 0.48 trips and 0.88 trips per linear foot in the a.m. and p.m. peak hours.

TABLE 1
AUTOMATED CAR WASH TRIP GENERATION RATE FORECAST

ITE Code	Description	Average Trips per Unit							
		Unit	Daily	AM Peak Hour			PM Peak Hour		
				Total	% in	% out	Total	% in	% out
948	Automated Car Wash	Tunnel (EA)	n.a.	n.a.			77.50	50%	50%
		KSF	n.a.	n.a.			14.20	50%	50%
Other[1]	Drive-Thru Car Wash	Length of tunnel (ft)	8.45	0.46	54%	46%	0.79	48%	52%
Other[2]	Drive-Thru Car Wash	Length of tunnel (ft)	8.90	0.49	38%	62%	0.79	62%	38%
Proposed Project Rates									
948	Automated Car Wash	1 tunnel	-	-	-	-	78[1]	39	39
		5.053	-	-	-	-	72[1]	36	36
Other[2]	Drive-Thru Car Wash	140	1183	64	35	30	111	53	58
Other[3]	Drive-Thru Car Wash	130	1157	64	24	39	122	76	46
Other[3]	Drive-Thru Car Wash	110	979	54	20	34	103	64	39
Average Automated Car Wash (volumes)			1106	60	26	34	106	59	47
Average Automated Car Wash (rates)			**8.73**	**0.48**	**43%**	**57%**	**0.88**	**57%**	**43%**

[1]Volumes not used in developing trip rates due to low number of studies
[2]City of Rancho Cucamonga, California. Arbor Car Wash Traffic Impact Analysis, Thames Solutions, Inc, 9/24/2018
[3]City of Anaheim, California. Lincoln Avenue Redevelopment, Linscott Law & Greenspan, 11/25/2019
Numbers may not match due to rounding
ksf – thousand square feet

Table 2 applies the car wash rates from Table 1 along with the trip rates for LU 934, the QSR with drive-through lane.

Traffic engineers recognize that a portion of the total trips attracted to retail and service uses can be drawn from the stream of traffic already on streets that are adjoining (pass-by trips) or near the site (i.e., diverted trips). Additionally, some traffic can be drawn from within a site (internally captured trips) where multiple uses exist that may be complementary, resulting in a single trip visiting the different uses within the site. After deducting these trips from the overall trip generation, the resulting trips made solely for the purpose of visiting a potential destination are considered 'net new' trips. In this case some of the project trips, i.e., car wash and QSR, may be drawn from traffic already on Colusa Highway and Olive Street. Internal trips would occur between the two uses and the adjacent coffee kiosk.

Typically, data drawn from the ITE *Trip Generation Handbook, 3rd Edition,* is used to categorize these trips. Fast-food restaurants with a drive through lane are shown to have pass-rates of 49%, 48% and 50% for daily, a.m. and p.m. trips. Due to the few studies that have been conducted for car washes there is no published data available. An on-line search for other car wash traffic impact analyses identified one study where a local trip generation assessment included interviews with customers[1]. That report indicated that pass-by trips comprised 25% of the peak hour trips attracted to an automated car wash. Compared to other convenience-oriented uses such as the fast-food rates this rate may be conservative. For internal trips Caltrans has indicated that when no other data is available internal trips can be assumed at 5% of the total trips. After applying these pass-by and internal capture rates the net new trips are projected to be 1,459 daily trips, 108 a.m. peak hour and 127 p.m. peak hour trips.

TABLE 2
PROJECT TRIP GENERATION

Land Use	Quantity / Unit	Trips Per Unit						
		Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Project								
Fast Food with Drive-Thru (LU 934)	2.87 KSF	467.48	44.61	51%	49%	33.03	52%	48%
Tunnel Car Wash	1 EA	8.73	0.48	43%	57%	0.88	57%	43%
Fast Food with Drive-Thru (LU 934)		1342	128	65	63	95	49	46
Tunnel Car Wash		1135	62	27	35	115	66	49
Subtotal		**2477**	**190**	92	98	**210**	115	95

[1] Traffic Impact Analysis for Anaheim Express Wash Linscott Law & Greenspan, 4/2016

TABLE 2 (Con't)
PROJECT TRIP GENERATION

Land Use	Trips Per Unit						
	Daily	AM Peak Hour			PM Peak Hour		
		Total	In	Total	In	Total	In
Internal Trips							
Fast Food with Drive-Thru *(5% Daily, AM, PM)*	(67)	(6)	(3)	(3)	(5)	(2)	(2)
Tunnel Car Wash *(5% Daily, AM, PM)*	(57)	(3)	(1)	(2)	(6)	(3)	(2)
Subtotal	**(124)**	**(9)**	(5)	(5)	**(10)**	(6)	(5)
Pass-By Trips							
Fast Food with Drive-Thru *(49% Daily, 48% AM, 50%PM)*	(625)	(58)	(30)	(29)	(45)	(23)	(22)
Tunnel Car Wash *(25% Daily, AM, PM)*	(270)	(15)	(6)	(8)	(27)	(16)	(12)
Subtotal	**(894)**	**(73)**	(36)	(37)	**(72)**	(39)	(33)
Total Adjusted Trips							
Net New Trips	**1459**	**108**	**52**	**56**	**127**	**70**	**57**

ksf – thousand square feet
numbers may not equal due to rounding

Comparison of Previous Site. A study was completed by KD Anderson & Associates in March 2022 for the Town Center site. As noted earlier, that project consisted of a 6,750 square foot C-store with 10 gasoline fueling positions, a QSR with drive-through lane and an automated car wash. Table 3 compares the projected and net new trips generated by each site plan. The proposed project is expected to generate fewer trips overall and fewer new trips when compared to the previous project.

Evaluation / Findings

The City of Yuba City requested that a trip generation assessment be completed for the proposed Town Center project to determine whether there will be a net change in traffic generated when compared to the previously prepared March 2022 traffic impact analysis. The previous project consisted of a C-store store / gas station that included 6,750 square feet of retail space and 10 vehicle fueling positions along with a QSR with drive-through lane and an automated car wash; the QSR was located on the back side of the C-store.

TABLE 3 PROJECT TRIP GENERATION COMPARISON							
Project	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
		Total	**In**	**Out**	**Total**	**In**	**Out**
Project Trip Total							
Town Center **March 2022**	5,681	435	218	217	446	223	223
Town Center **November 2023**	2477	190	92	98	210	115	95
Net Difference	**-3204**	**-245**	**-126**	**-125**	**-236**	**-108**	**-128**
Net New Trip Total							
Town Center **March 2022**	2582	180	90	90	182	91	91
Town Center **November 2023**	1459	108	52	56	127	70	57
Net Difference	**-1123**	**-72**	**-38**	**-34**	**-55**	**-21**	**-34**

The currently proposed project includes a 2,870 stand-alone QSR with drive-through lane and a 130-foot-long tunnel car wash.

The trip generation analysis comparison indicates that the proposed project will generate fewer total trips generated on a daily, a.m. peak hour and p.m. peak hour basis when compared to the previous site plan. This also includes the the net new trips generated after deducting existing trips due to pass-by and internal trip traffic.

Should you have any questions please free to contact me at (916) 501-7513 or you may reach me via e-mail at jonathan@fa-transportation.com.

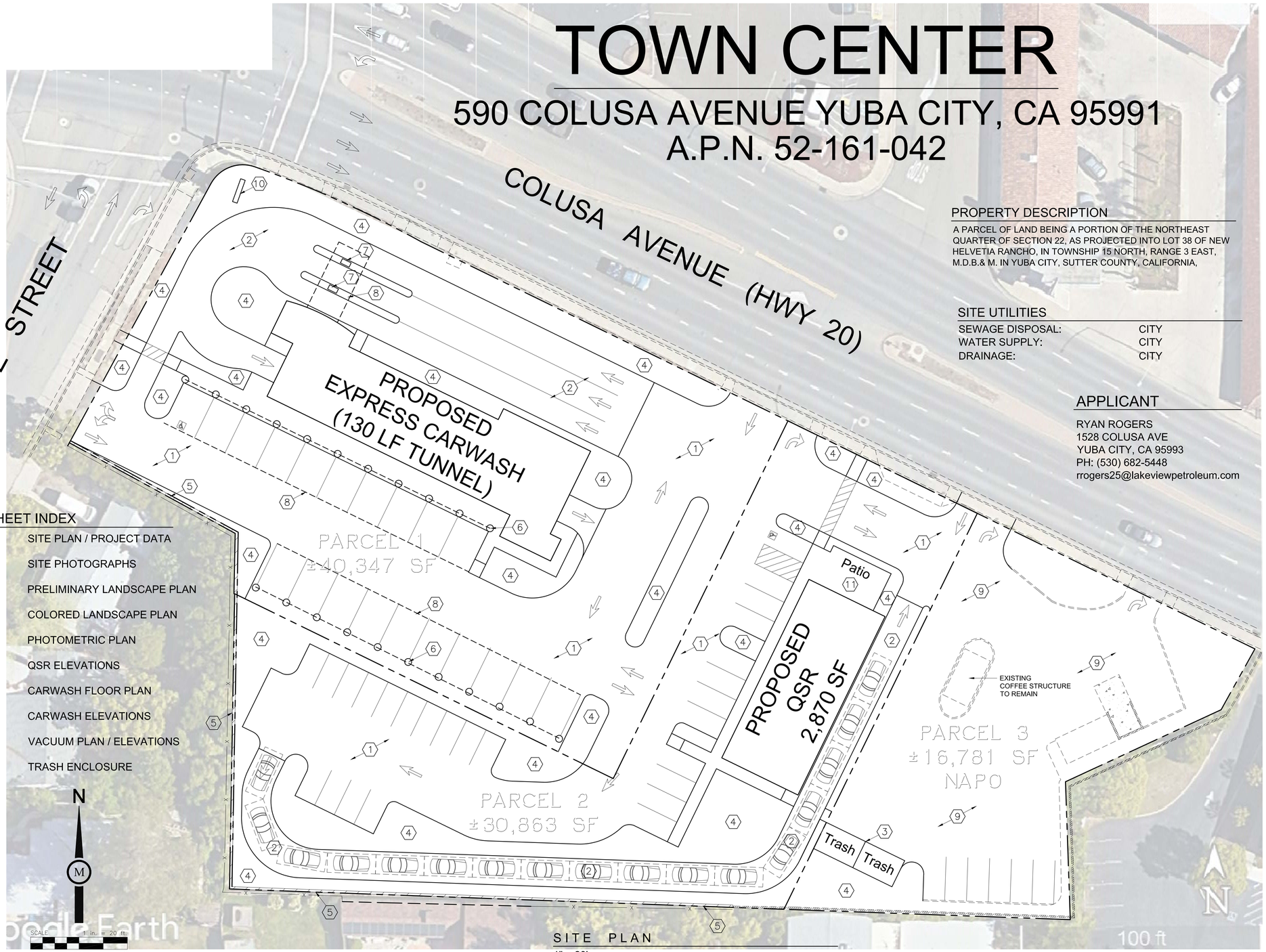
Flecker Associates.

Jonathan D. Flecker, P.E., T.E.
President

Attachments

TOWN CENTER

590 COLUSA AVENUE YUBA CITY, CA 95991
A.P.N. 52-161-042



SITE PLAN
1" = 20'

PROPERTY DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 22, AS PROJECTED INTO LOT 38 OF NEW HELVETIA RANCHO, IN TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.B.& M. IN YUBA CITY, SUTTER COUNTY, CALIFORNIA,

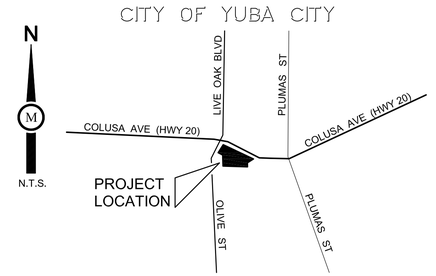
SITE UTILITIES

SEWAGE DISPOSAL:	CITY
WATER SUPPLY:	CITY
DRAINAGE:	CITY

APPLICANT

RYAN ROGERS
1528 COLUSA AVE
YUBA CITY, CA 95993
PH: (530) 682-5448
rrogers25@lakeviewpetroleum.com

SHEET INDEX



VICINITY MAP

NOT TO SCALE

LOT DATA:

A.P.N.:	52-161-042
TOTAL ACREAGE:	87,991 SF (2.02 AC)
EXISTING PARCELS:	1
PROPOSED PARCELS:	3
EXISTING ZONE:	C-3 GENERAL COMMERCIAL
PROPOSED ZONE:	SAME
EXISTING USE:	COFFEE DRIVE THROUGH
PROPOSED USE:	QSR, EXPRESS CARWASH WITH VACUUM STATIONS, EXISTING COFFEE USE TO REMAIN (NAPO)

SITE COVERAGE

QSR:	2,870 SF (3.3%)
CARWASH STRUCTURE:	5,053 SF (5.7%)
EXIST. COFFEE BLDGS:	515 SF (0.6%)
CANOPIES:	5,680 SF (6.5%)
LANDSCAPE AREA:	19,336 SF (22.0%)
PAVED SURFACE AREA:	54,537 SF (61.9%)

PARKING DATA:

CARWASH STRUCTURE (5,053 SF):	2 SPACES
QSR (2,870 / 250 SF):	12 SPACES
EXIST. COFFEE USE (515 SF / 300 SF):	2 SPACES
REQUIRED:	16 SPACES
STANDARD SPACE (9'x18'):	30 SPACES
ACCESSIBLE SPACE (9'x18'):	2 SPACES
COVERED VACUUM SPACE (14'x18'):	20 SPACES
PROVIDED:	52 SPACES

CONSTRUCTION NOTES

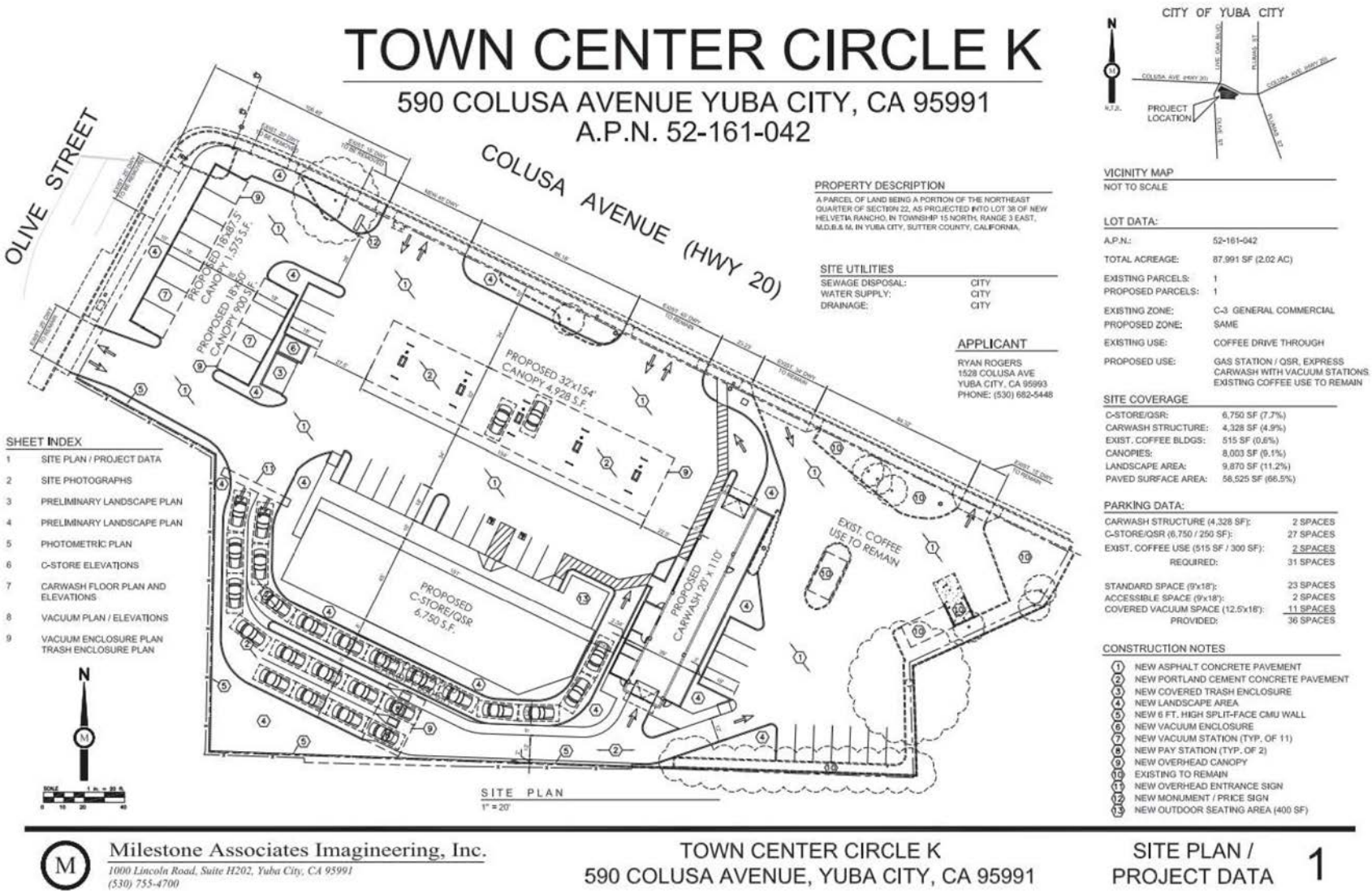
1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT
3. NEW COVERED TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. NEW 6 FT. HIGH SPLIT-FACE CMU WALL
6. NEW VACUUM STATION (TYP. OF 20)
7. NEW PAY STATION (TYP. OF 2)
8. NEW OVERHEAD CANOPY
9. EXISTING TO REMAIN
10. NEW MULTI-TENANT MONUMENT SIGN
11. NEW OUTDOOR SEATING AREA (400 SF)

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

TOWN CENTER
590 COLUSA AVENUE, YUBA CITY, CA 95991

SITE PLAN / PROJECT DATA

10-9-23



SITE PLAN

KD Anderson & Associates, Inc.
Transportation Engineers

0000-00 RA 3/22/2022

figure 2

FLECKER ASSOCIATES
3650-01

SITE PLAN - PREVIOUS PROJECT

FIGURE 2