AMADOR COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT

PHONE: (209) 223-6380
FAX: (209) 257-6254
WEBSITE: www.amadorgov.org
E-MAIL: planning@amadorgov.org

COUNTY ADMINISTRATION CENTER • 810 COURT STREET • JACKSON, CA 95642-2132

EARLY CONSULTATION

TO:

Amador Air District
Building Department
County Counsel
Environmental Health Department
Surveying Department
Transportation and Public Works Department
Waste Management
Sheriff's Office
AFPD
ACTC
Amador Transit
Amador Water Agency
Cal Fire
CHP
Caltrans, District 10
CDFW, Region 2
Amador LAFCO
Shingle Springs Band of Miwok Indians**
Calaveras Band of Mi-Wuk Indians**
Chicken Ranch Rancheria of Me-Wuk Indians**
Jackson Rancheria Band of Miwuk Indians**
United Auburn Indian Community of the Auburn Rancheria**
Nashville Enterprise Miwok
Maidu-Nishinam Tribe**
Washoe Tribe of Nevada and California**
Ione Band of Miwok Indians**
Buena Vista Band of Me-Wuk Indians**

DATE: May 11, 2023

FROM: Ruslan Bratan, Planning Department

PROJECT: Tentative Subdivision Map SM 186 and General Plan Amendment GPA-22;7-1 Putnam Ranch, proposing the division of a combined 423 acres into 53 residential lots ranging from ±5 to ±9.9 acres with ±118.7 acres of open-space lots, in conjunction with a General Plan Amendment to AT, Agricultural Transition (APNs: 008-090-015 & 008-100-29).

Owner/Applicant: 16825 Hwy 48, LLC (Representative: Toma and Associates)
Supervisorial District: 5
Location: The project site is located directly north of Highway 16 at the intersections of Highway 16 with Highways 124 and 49, directly south of the city limits of Plymouth.

REVIEW: As part of the early consultation process, this project is being referred to State, Tribal, and local agencies for their review and comment. The Amador County Technical Advisory Committee (TAC) will review the application for completeness during its regular meeting on **Thursday, June 1, 2023 at 1:00 p.m.** in the Board Chambers at the County Administration Building, 810 Court Street, Jackson, California as well as via teleconference.

APPLICATION

APPLICATION FORM AND CHECKLIST FOR
TENTATIVE PARCEL MAP AND SUBDIVISION MAP

The following information shall be included with this application:

1. Parcel Map Number:
   Subdivision Name/Number: **186**
2. Subdivider and/or Land Owner: **16825 Hwy 49, LLC**
   Name: **16825 Hwy 49, LLC, Attn: Lisa Putnam**
   Address: **141 Stonegate Road, Portola Valley, CA 94028**
   Phone: **(650) 454-6143**
   Email: **lisaputnam65@gmail.com**
3. Surveyor: **Toma and Associates, 41 Summit St., Jackson, CA 95642**
4. Assessor Plat Number: **008-090-015 and 008-100-029**
5. Existing Zoning District: **"R1-A"**
6. General Plan Classification: **AG (008-090-015); AG & RR (008-100-029)**
7. Date Application Submitted:
8. Proposed Use of Parcels: **Residential**
9. Special Use Districts (if applicable): **AFPD, ACUSD**
10. Source of Water Supply: **Individual Wells (49 proposed)**
11. Sewage Disposal System: **Individual Septic Systems (49 proposed)**
12. Signature of Landowner/Applicant: Lisa Putnam
13. Signature of Surveyor:

The following shall be included with this application:

√ Thirty-five (35) copies of tentative map
   Option for 35 copies:
   15 copies 18" x 26" in size (folded to 6" x 9-1/2" in size)
   20 copies 11" x 17" in size

√ One (1) copy of Assessor's Plat Map

√ Two (2) copies of deed(s)

√ Two (2) copies of completed environmental information form (Sections 19, 30 and 31 require description and photos)

√ Two (2) copies of preliminary map report

√ One (1) reduced 8-1/2" x 11" copy of tentative map

√ Application fee (see Fee Schedule)

√ Copy of receipt of Environmental Health Dept. and Public Works Dept.

√ Completed and signed Indemnification Agreement

√ If your project access off a State highway, provide encroachment permit or other pertinent information (e.g., a road maintenance agreement if your project access from a road directly connected to a State highway)

√ Oak Woodlands Study prepared by a Registered Professional Forester

√ Cultural Analysis

ENVIRONMENTAL INFORMATION FORM

(To be completed by applicant; use additional sheets as necessary)
Attach plans, diagrams, etc. as appropriate

GENERAL INFORMATION

Project: **Tentative Subdivision Map No. 186**
Date Filed:

Applicant: **16825 Hwy 49, LLC**
Attn: Lisa Putnam
141 Stonegate Road
Portola Valley, CA 94028
(650) 454-6143

Record Owner: **Same**

APN: **008-090-015 and 008-100-029**
Zoning: **"R1-A"**
Gen. Plan: **Existing: AG (008-090-015); AG and RR (008-100-029)**
Proposed: AT (5 Ac Min)

List and describe any other related permits and other public approvals required for this project, including those required by city, regional, state and federal agencies:

WRITTEN PROJECT DESCRIPTION

Include the following information where applicable, as well as any other pertinent information to describe the proposed project:

1. Site Size
2. Square Footage of Existing/Proposed Structures
3. Number of Floors of Construction
4. Amount of Off-Street Parking Provided (provide accurate detailed parking plan)
5. Source of Water
6. Method of Sewage Disposal
7. Attach Plans
8. Proposed Scheduling of Project Construction
9. If project is to be developed in phases, describe anticipated incremental development.
10. Associated Projects
11. Subdivision/Land Division Projects: Tentative map will be sufficient unless you feel additional information is needed or the County requests further details.
12. Residential Projects: Include the number of units, schedule of unit sizes, range of sale prices/ rents and type of household size expected.
13. Commercial Projects: Indicate the type of business, number of employees, whether neighborhood, city or regionally oriented, square footage of sales area, loading facilities.
14. Industrial Projects: Indicate the major function, estimated employment per shift, estimated occupancy, loading facilities and community benefits to be derived/project.
15. Institutional Projects: Indicate the major function, estimated employment per shift, estimated occupancy, loading facilities and community benefits to be derived/project.
16. If the project involves a variance, conditional use permit or rezoning application, state this and indicate clearly why the application is required.

Are the following items applicable to the project or its effects? Discuss below all items checked "yes". Attach additional sheets as necessary.

YES	NO		
☐	☒	17.	Change in existing features, lakes, hills, or substantial alteration of ground contours
☐	☒	18.	Change in scenic views or vistas from existing residential areas, public lands or roads
☐	☒	19.	Change in pattern, scale or character of general area of project
☐	☒	20.	Significant amounts of solid waste or litter
☐	☒	21.	Change in dust, ash, smoke, fumes or odors in the vicinity
☐	☒	22.	Change in lake, stream, ground water quality/quantity, or alteration of existing drainage patterns
☐	☒	23.	Substantial change in existing noise or vibration levels in the vicinity
☐	☒	24.	Site on filled land or on slope of 10 percent or more
☐	☒	25.	Use or disposal of potentially hazardous materials, such as toxic substances, flammables or explosives
☐	☒	26.	Substantial change in demand for municipal services (police, fire, water, sewage, etc.)
☐	☒	27.	Substantial increase in fossil fuel consumption (electricity, oil, natural gas, etc.)
☐	☒	28.	Relationship to a larger project or series of projects

ENVIRONMENTAL SETTING

29. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical or scenic aspects. Describe any existing structures on the site and the use of the structures. Attach photographs of the site.

30. Describe the surrounding properties, including information on plants and animals, and any cultural, historical or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (single family, apartments, shops, department stores, etc.) and scale of development (height, frontage setbacks, etc.) Attach photographs of the vicinity.

31. Describe any known mine shafts, tunnels, air shafts, open hazardous excavations, etc. Attach photos of these known features.

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

Date: July 20, 2022 Signature: Lisa Putnam

16825 Hwy 49, LLC
by Lisa Putnam, owner/rep.
Title

ATTACHMENT TO
ENVIRONMENTAL INFORMATION FORM
PUTNAM RANCH TSM 186

ENVIRONMENTAL SETTINGS

29.

Project site is rolling hills with scattered oaks, pines, and buckeyes. Detailed environmental settings information is noted in "Phase I Archaeological Study of the Putnam Ranch" report dated July 2022 prepared by Historic Resources Associates and submitted with the tentative subdivision map application. No portion of it lies within the FEMA 100-year flood plain as shown on tentative parcel map. Current use of the property is vacant. Proposed use is residential 5 acre minimum. There are no residential structures or outbuildings on the property. A small section of the Arroyo Seco ditch crosses over the north property line. Project site cultural and historical aspects are noted in "Phase I Archaeological Study of the Putnam Ranch" report dated July 2022 prepared by Historic Resources Associates and submitted with the tentative subdivision map application. There are no visually sensitive areas/scenic aspects on this project. There are 6 open space parcels proposed on this project.

30.

Surrounding properties range from large agricultural parcels (west, east and south) to residential development Zinfandel Ridge (north). The north line directly borders the Plymouth City limits, however, no portion of this project is within the city limits.

31.

There are no known mine shafts, tunnels, air shafts, open hazardous excavations on the project site.

INDEMNIFICATION

Project: Tentative Subdivision Map No. 186

In consideration of the County's processing and consideration of the application for the discretionary land use approval identified above (the "Project") the Owner and Applicant, jointly and severally, agree to defend, indemnify and hold harmless the County of Amador from any claim, action or proceeding against the County to attack, set aside, void or annul the Project approval, or any action relating to the Project approvals as follows:

1. Owner and Applicant shall defend, indemnify and hold harmless the County and its agents, officers or employees from any claim, action or proceeding against the County or its agents, officers or employees (the "County") to attack, set aside, void or annul the Project approval, or any prior or subsequent determination regarding the Project, including but not limited to determinations related to the California Environmental Quality Act, or Project condition imposed by the County. The Indemnification includes, but is not limited to damages, fees and or costs, including attorneys' fees, awarded against County. The County in its sole discretion may hire outside counsel to handle its defense or may handle the matter internally. Indemnification also includes paying for the County's defense if it elects to hire outside counsel. Indemnification also includes compensating the County for staff time associated with the litigation. The obligations under this Indemnification shall apply regardless of whether any permits or entitlements are issued.

2. The County may, within its unlimited discretion, participate in the defense of any such claim, action or proceeding if the County defends the claim, action or proceeding in good faith.

3. The Owner and Applicant shall not be required to pay or perform any settlement by the County of such claim, action or proceeding unless the settlement is approved in writing by Owner and Applicant, which approval shall not be unreasonably withheld.

IN WITNESS WHEREOF, by their signature below, Owner and Applicant hereby acknowledge that they have read, understand and agree to perform the obligations under this Indemnification.

Applicant:

Signature

Owner (if different than Applicant):

Signature

Gina Waklee

From: Michelle Opalenik <mopalenik@amadorgov.org>
Sent: Tuesday, June 07, 2022 9:38 AM
To: Gina Waklee
Cc: Joselyn Dunklee
Subject: Putnam Ranch

Hi!

So here is the plan:

Putnam Ranch will pay the following non-refundable fees to EH:
$1000 subdivision fee deposit
$1000 EIR deposit fee

ACEHD does not object to delaying the collection of the per parcel septic application+investigation fees until the developer is ready to begin profiles. We will place a flag in the file to remind staff that these fees have not been collected.

Note: Soils are expected to be challenging in this area. The developer may wish to consider applying for and scheduling some profiles early in the process to investigate on-site wastewater feasibility.

Have a great day Gina!

Sincerely,
Michelle
--
Michelle Opalenik
Michelle Opalenik, Director
Amador County Environmental Health Department
810 Court Street
Jackson, CA 95642
(209) 223-6439
(209) 223-6536 (Direct)

AMADOR COUNTY PUBLIC WORKS REVIEW FEES

Per Ordinance No. 1646, County Code Chapter 3.58, Section 3.58.010

FILL IN COMPLETELY AND SUBMIT WITH PLANS
Incomplete submittals will not be accepted for review.

PROJECT NAME (Exactly as on plans): PUTNAM RANCH VESTING TENTATIVE SUBDIVISION MAP No. 186

DATE: 7.27.2022 **ENGINEER OF RECORD** CIRO L. TOMA

SUBMITTAL: (CHECK ONE) **FIRST** ✓ **RESUBMITTAL** #1___ 2___ 3___

PROJECT OWNER Name 16825 HWY 49 LLC, ATTN: LISA PUTNAM

ADDRESS 141 STONEGATE RD PORTOLA VALLEY **STATE** CA **ZIP** 94028 **PHONE** (650) 454-6143
(Project owners receive a copy of all plan review comments from Public Works)

SUBMITTED BY: GINA WAKLEE **COMPANY:** TOMA & ASSOCIATES
(Your name/Engineering/Architectural Company)

PHONE: office (209) 223-0156 **cell** _____ **fax** _____

EACH APPLICANT TO THE COUNTY SHALL PAY A FEE FOR REVIEW SERVICES PERFORMED BY THE COUNTY PUBLIC WORKS AGENCY FOR THE FOLLOWING:

			DEPOSIT REQUIRED
_____	A.	Request for Chapter 15.30 Deviations	$750.00
_____	B.	CEQA Evaluations (Traffic, EIR, etc.)	$ 1,500.00
✓	C.	Subdivision Maps	$2,000.00
_____	D.	Parcel Maps	$1,500.00
_____	E.	Conditional Use Permits	$500.00
_____	F.	Pre-application conferences	$77.00 per hour/1 hr. min.

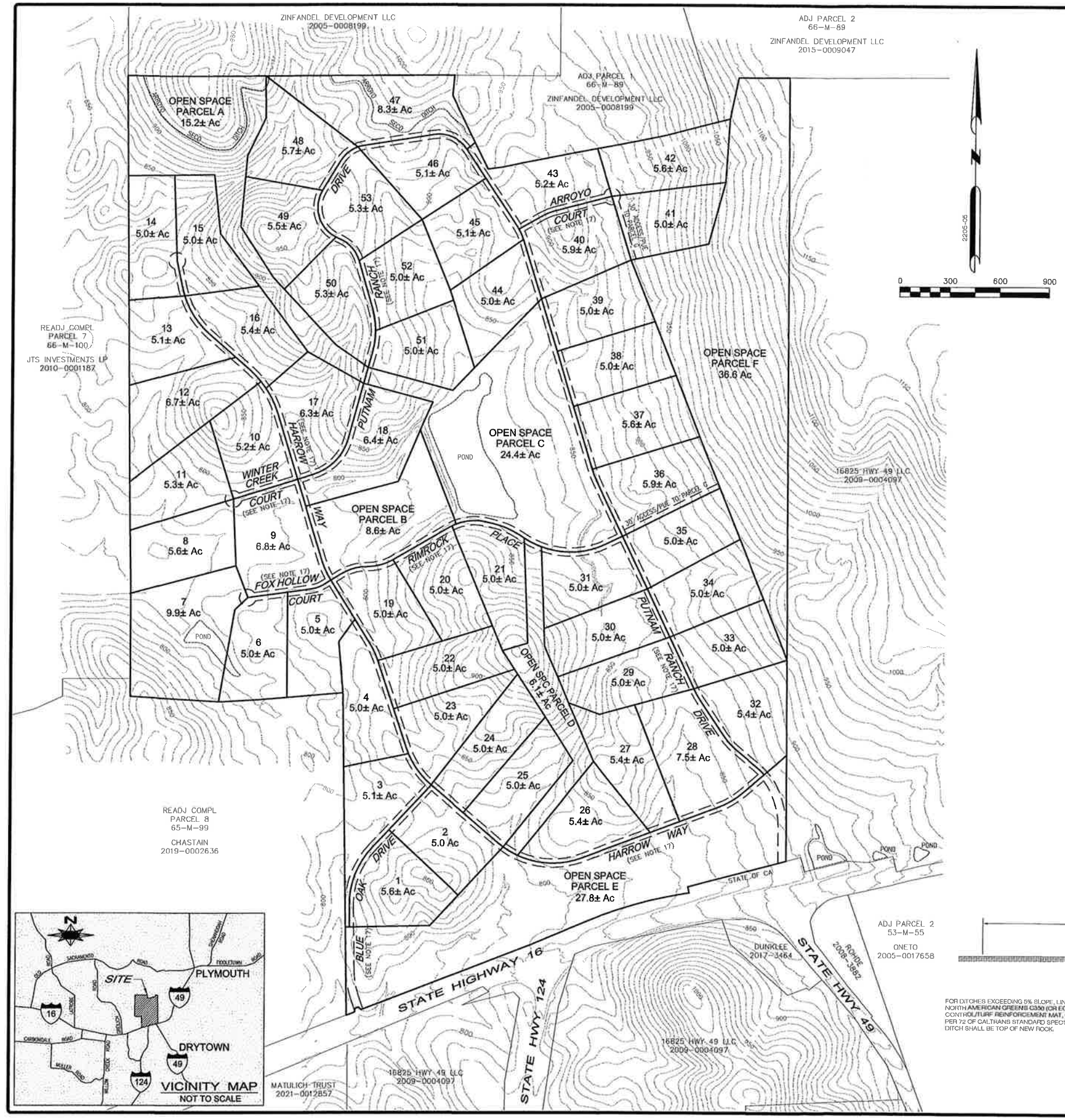
Amount Received $ _____
Receipt Issued # _____

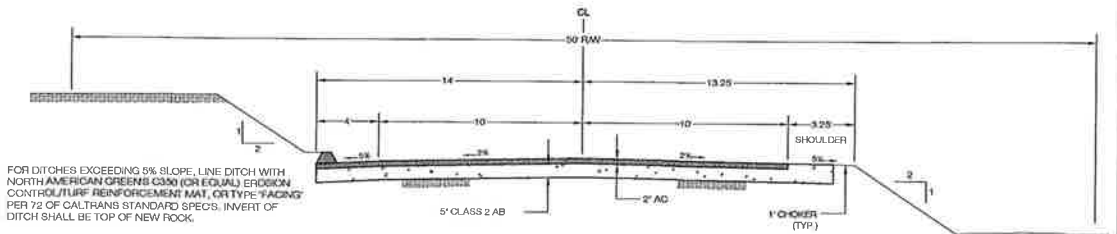
If the accrued charges exceed the above deposit, the County submits periodic billings to the applicants for costs incurred. Interest of one and one-half (1-1/2) percent per accounting period (28) day cycle compounded each accounting period shall be added to the unpaid balance due to any account which has not been paid within (28) days of the date it was billed. All fees to date must be paid current prior to consideration of the application at each stage of the review process (TAC meetings, Planning Commission, BOS, if applicable, department head, if applicable, and final approval of the documents by County Surveyor in case of subdivision maps and parcel maps). If the actual total charges are less than the minimum deposit amounts, the County shall reimburse the payer the difference between the minimum deposit and the actual total charges.

ACCEPTED FOR REVIEW BY PUBLIC WORKS AGENCY

NAME: _____ **PROJECT NO. ASSIGNED** _____

DATE: _____





FOR DITCHES EXCEEDING 5% SLOPE, LINE DITCH WITH NORTH AMERICAN GREEN'S C350 (OR EQUAL) EROSION CONTROL/TURF REINFORCEMENT MAT, OR TYPE 'LINING' PER 72 OF CALTRANS STANDARD SPECS. INVERT OF DITCH SHALL BE TOP OF NEW ROCK.

TYPICAL MINOR LOCAL ROAD SECTION
NOT TO SCALE

AGGREGATE BASE TO BE COMPACTED TO 95% RELATIVE COMPACTION PER 26-1.05 OF CALTRANS SPECIFICATIONS.

SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION FOR THE TOP 2.5 FEET AND 3 FEET BEYOND TRAVELED WAY PER 19-3.03 OF CALTRANS SPECIFICATIONS.

VESTING TENTATIVE SUBDIVISION MAP No. 186 for PUTNAM RANCH

BEING A PORTION OF THE NE AND SW 1/4 SECTION 16 AND THE NE 1/4 SECTION 21 AND THE NW AND SW 1/4 SECTION 15 AND THE NW 1/4 SECTION 22, T. 7 N., R. 10 E., M. D. M. COUNTY OF AMADOR, STATE OF CALIFORNIA

Scale: 1" = 300'
Contour Interval: 10'

TOMA & ASSOCIATES INC.
ENGINEERING - SURVEYING - PLANNING
41 Summit Street, Jackson, CA 95642
(209) 223-0156

July, 2022

GENERAL NOTES AND STATEMENTS

1.	RECORD OWNER:	**16825 HWY 49, LLC**, a California Limited Liability Company **ATTN: LISA PUTNAM** 141 STONEGATE ROAD PORTOLA VALLEY, CA 94028 (650) 454-6143
2.	SURVEYOR:	TOMA and ASSOCIATES LICENSED LAND SURVEYORS 41 SUMMIT STREET JACKSON, CA 95642 (209) 223-0156
3.	DEED REFERENCE:	2009-0004097
4.	A.P.N.:	008-090-015 and 008-100-029
5.	SIZE:	423± ACRES TOTAL (BASED ON CURRENT ASSESSOR INFO)
6.	MINIMUM LOT SIZE:	5.00 ACRES
7.	ZONING:	"R1-A" (EXISTING AND PROPOSED)
8.	**EXISTING GENERAL PLAN:**	APN 008-100-029: RR (RURAL RES) AND AG (AG GEN) APN 008-090-015: AG (AG GEN)
9.	PROPOSED GENERAL PLAN:	AT (AG TRANSITION)
10.	PROPOSED USE:	RESIDENTIAL
11.	WATER:	INDIVIDUAL WELLS
12.	SEWAGE DISPOSAL:	INDIVIDUAL SEPTIC SYSTEMS
13.	FIRE PROTECTION:	AMADOR FIRE PROTECTION DISTRICT (AFPD)
14.	SCHOOL:	AMADOR COUNTY UNIFIED SCHOOL DISTRICT (ACUSD)
15.	UTILITIES:	POWER WILL BE SERVED BY PG and E TELEPHONE WILL BE SERVED BY CURRENT SERVICE PROVIDER
16.	EASEMENTS:	PUBLIC UTILITY EASEMENTS WILL BE FIVE FEET ON EACH SIDE OF ALL INTERIOR LOT LINES AND TEN FEET ALONG THE EXTERIOR BOUNDARY OF THIS PROJECT.
17.	ROADS:	**THERE WILL BE** A 50' **ACCESS** AND PUBLIC **UTILITY EASEMENT** (25 FEET ON **EACH SIDE OF CENTERLINE) ALONG** ALL ROADWAYS. **ROAD SECTION** PER DETAIL BELOW.
18.	SETBACKS:	THERE WILL BE A TWENTY-FIVE FOOT BUILDING SETBACK FROM ALL ROAD RIGHT-OF-WAYS, AND A THIRTY FOOT BUILDING SETBACK FROM ALL SIDE AND REAR LOT LINES. DRAINAGE SETBACKS (IF NECESSARY) WILL BE TWENTY FEET ALONG ALL DRAINAGE COURSES.
19.	SPECIAL DISTRICTS:	AFPD, ACUSD
20.	PHASING:	FINAL MAPS MAY BE SUBMITTED IN MULTIPLE FILINGS.
21.	FLOOD ZONE:	THIS PROJECT IS NOT WITHIN ANY AREA SUBJECT TO FLOOD WATER INUNDATION AND IS WITHIN ZONE "X" AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD RATE INSURANCE MAPS FOR AMADOR COUNTY, CALIFORNIA DATED MAY 20, 2010. PANEL 325 OF 700 — MAP No. 06005C0325F PANEL 330 OF 700 — MAP No. 06005C0330F
22.	THERE ARE NO PUBLIC AREAS AND VISUALLY SENSITIVE AREAS (VSA) PROPOSED ON THIS PROJECT.	
23.	THE DEVELOPER PLANS TO CONSTRUCT ALL IMPROVEMENTS REQUIRED FOR THE CREATION OF LOTS AND FILING OF A FINAL MAP AS REQUIRED BY ALL APPLICABLE CITY CODES AND THE CONDITIONS OF APPROVAL OF THE TENTATIVE MAP.	
24.	THE DEVELOPER PROPOSES TO DEVELOP AND OFFER FOR SALE FINISHED LOTS.	
25.	THIS PROJECT DOES NOT LIE WITH 1000 FEET OF A MILITARY INSTALLATION OR BENEATH A FLIGHT PATH.	
26.	**THE FOLLOWING EASEMENTS ARE NOTED IN PRELIMINARY REPORTS ORDER No. P-533132 (APN 008-100-029) AND** ORDER No. **P533136 (APN 008-090-015) PREPARED BY PLACER TITLE COMPANY AND DATED DECEMBER 3, 2021 AND DECEMBER** 20, 2021 **AS AFFECTING THIS PROPERTY (SEE SAID PRELIMINARY REPORTS FOR COMPLETE LIST OF EXCEPTIONS):**	

31-OR-389	ROAD AND INCIDENTALS
103-OR-384	HIGHWAY CONSTRUCTION AND INCIDENTALS
127-OR-6	PGE
284-OR-92	PACIFIC TELEPHONE AND TELEGRAPH CO
304-OR-679	PACIFIC TELEPHONE AND TELEGRAPH CO
325-OR-397	PACIFIC TELEPHONE AND TELEGRAPH CO
NO DOCUMENT REFERENCE	STATE OF CALIFORNIA
2007-0009695	BOUNDARY LINE AGREEMENT WITH ZINFANDEL DEVELOPMENT LLC

REVISIONS	BY

TOMA & ASSOCIATES INC.
ENGINEERING - SURVEYING - PLANNING
41 Summit Street, Jackson, CA 95642
(209) 223-0156

VESTING TENTATIVE SUBDIVISION MAP No. 186
PUTNAM RANCH
AMADOR COUNTY, CALIFORNIA

SITE INFORMATION:
NO SITE ADDRESS ASSIGNED
PLYMOUTH, CA 95669

PREPARED FOR:
16825 HWY 49, LLC
ATTN: LISA PUTNAM
141 STONEGATE ROAD
PORTOLA VALLEY, CA 94028
(650) 454-6143

DATE: 7.27.2022
SCALE: 1"= 300'
DRAWN BY: GMW
JOB NO.: 2205-05

SHEET
1
OF 1 SHEET

POR. SEC'S 15, 21 & 22, T. 7N., R. 10E., M.D.B. & M.

8-10

800'

11/27/2007

(6)

(16) 5Ac. | (3) 5Ac. | (27) 1.57Ac. | (26) 2Ac. | (6) 1.719Ac.

Dohmans Ln | Randolph Ct. | Randolph Dr

9|10 16|15 S88°43'E 1523' — 4280.3' from NE Cor. — BLAG 07-0009695

NORTH 546' | 256' | 1491.5' S80°W | BLAG 07-0009695

(31) 13.58± Ac.

(18) 11.27Ac. | (7) 1.138Ac. | STATE – .308Ac. 99-008516

(25) 25Ac. | (19) 9.692Ac. | P.B. 10

3-B | 3-A | B.L.A. 317 or 564

(9) 1.0042Ac. | (10) .9822Ac.

(24) 30.13Ac. | (23) 15Ac.

675.8' | D.L.A. 317 or 569

(29) 140 Ac. | (30) 145±Ac.

(9) | 2 | 3 | 4

(11)

(28) 50.66Ac.

Cont# 276

49

STATE HWY.

16|15 21|22 | (35) | 15|14 22|23

(13) | STATE HWY 16 | STATE HWY 49 | (13)

IMPORTANT NOTE: This map was prepared for property tax assessment purposes only. It is assumed that the property, as described in it's deed, is the property being assessed. No liability is assumed for the accuracy of the data delineated hereon.

Map changes become effective with the 2005–2006 roll year. Parcel numbers are subject to change prior to adoption of roll on each July 1.

1- R.M. Bk. 6, Pg. 76
R.M. Bk. 8, Pg. 2
R.M. Bk. 8, Pg. 28
R.M. Bk. 8, Pg. 67
R.M. Bk. 24, Pg. 70
2- R.M. Bk. 25, Pg. 94
R.M. Bk. 30, Pg. 66
3- P.M. Bk. 31, Pg. 50
R.M. Bk. 33, Pg. 98 B.L.Adj.
4- R.M. Bk. 36, Pg. 33 B.L.Adj.
5- P.M. Bk. 36, Pg. 46
6- R.M. Bk. 43, Pg. 58 B.L.Adj. (4/18/89)
7- R.M.Bk. 50, Pg. 10 (8/8/96)

(31)

Assessor's Map Bk. 8, Pg. 10
County of Amador, Calif.

SEC'S 16 & 17, T.7N., R.10E., M.D.B.&M.

8-09

IMPORTANT NOTE: This map was prepared for property tax assessment purposes only. It is assumed that the property, as described in it's deed, is the property being assessed. No liability is assumed for the accuracy of the data delineated hereon.

800'

03/30/2018

5

6

7 | 8
18 | 17

8 | 9
17 | 16

(27) 258.64Ac
Re-Adj Comp Par 6
Cont.#74

BLA 07-0000399

GREILICH

(1) 113Ac

(23) 30.31Ac

(22) 143.89±Ac
Adj Comp Par 2

Adj Comp Par 3

(25) 42.71Ac

Adj Comp Par 4

(28) 121.72Ac
Re-Adj Comp Par 7
Cont.#74

BLAG 07-0009695

(15) 283Ac

10

8

17

16

S0°37'E 1315.7'
N0°28'E 1913.9'
N1°31'E 1308'
S0°35'W 1903.3'

377.17' 349.83'
B.L.A. 429/314-6-83
569.76'
547.39'
859.96'
N33°44'06"E 1277.93'
570' EAST

(13) 42.9Ac

Springs

BLA 07-0000318

(29) 75.94Ac
Re-Adj Comp Par 8
Cont.#438

Cr.

Willow

(19) 123.6±Ac
Comp Par 1

(12) 10Ac. | (11) 10Ac.
(9) 10Ac. | (10) 10Ac.

17 | 16
20 | 21

De Martini Rd.

12

13

29

1- P.M. Bk. 39, Pg. 25
2- R.M. Bk. 63. Pg. 90 (12/27/13)
3- R.M. Bk. 65. Pg. 09 (03/29/17)
4- R.M. Bk. 65. Pg. 45 (12/21/17)

Map changes become effective with the 2018-2019 roll year. Parcel numbers are subject to change prior to adoption of roll on each July 1.

Assessor's Map Bk.8 , Pg. 09
County of Amador, Calif.

PLANNING DEPARTMENT
LAND USE AGENCY
COUNTY ADMINISTRATION CENTER

810 Court Street • Jackson, CA 95642-2132
Telephone: (209) 223-6380

website: www.co.amador.ca.us
e-mail: planning@co.amador.ca.us

PRE-APPLICATION INFORMATION AND CHECKLIST FOR GENERAL PLAN AMENDMENT

General Plan amendments can be processed four (4) times a year. Public hearings will be scheduled approximately on a quarterly basis throughout the year after applications are accepted or the County initiates such action.

Application for General Plan amendment shall include the following:

✓ 1. Letter of application explaining purpose of request, description of proposed uses, and other pertinent information. NOTE: In the past, the Board of Supervisors has rejected General Plan amendment requests not accompanied by a specific project application (e.g. tentative subdivision map, master plan, use permit, etc.).

✓ 2. Letter of authorization if landowner is being represented by another party.

✓ 3. Submit Assessor Plat Map(s) with subject project area outlined neatly with red pencil. NOTE: Assessor Plat Maps can be obtained from the Surveying and Engineering Department (500 Argonaut Lane, Jackson, CA) for putting the project map together.

✓ 4. Copy of deed(s) and legal description of all property within subject project area.

✓ 5. Completed Environmental Information Form and Indemnification Agreement.

✓ 6. Statement as to whether the project area is within 1000' of a military installation, beneath a low-level flight path or within special use airspace as defined in Section 21098 of the Public Resource Code and within an urbanized area as defined in Section 65944 (maps available in Planning Dept or on-line at http://atlas.resources.ca.gov/). (SEE TSM 186)

✓ 7. Filing fee of $4398.- (see attached schedule of fees).

___ 8. Application Form to be signed at the time of project presentation in the Planning Department.

NOTE: IT IS TO YOUR BENEFIT TO BE AS SPECIFIC AS POSSIBLE WITH YOUR APPLICATION INFORMATION.

NOTE: ALL GENERAL PLAN AMENDMENTS ARE SUBJECT TO SB 18 (TRIBAL CONSULTATION GUIDELINES).

TOMA & ASSOCIATES, INC.
ENGINEERING- SURVEYING- PLANNING

July 18, 2022

Amador County Planning Department
Attn: Chuck Beatty
810 Court Street
Jackson, CA 95642

Re: Application for General Plan Amendment to accompany TSM 186
Putnam Ranch
APNs 008-100-029 and 008-090-015

Dear Chuck,

Attached is an application for a general plan amendment to accompany Tentative Subdivision Map (TSM) 186. Please see TSM 186 for project information and proposed use.

Putnam Ranch owners "16825 Hwy 49 LLC" are proposing to amend the existing general plan designations on the abovementioned APNs. Existing general plan designation on APN 008-100-029 is RR (Rural Residential) and AG (Agricultural General). Existing general plan designation on APN 008-090-015 is AG (Agricultural General).

Proposed general plan designation for both APNs is AT (Agricultural Transition).

Please let me know if you need any additional information.

Best Regards,

Gina Waklee
Toma and Associates
gina@tomasurvey.com

TOMA & ASSOCIATES, INC.
ENGINEERING- SURVEYING- PLANNING

Project Authorization

July 18, 2022

Amador County Land Use Agency
Attn: Planning Department
810 Court Street
Jackson, CA 95642

Re: General Plan Amendment Application
Putnam Ranch TSM 186 / 16825 Hwy 49, LLC
APNs 008-090-015 and 008-100-029

The undersigned, being the person(s) owning record title to the abovementioned land within Amador County, do(es) hereby consent to the preparation and submittal of this zone/general plan change application.

I/We authorize Matthew Toma of Toma and Associates to serve as representative and applicant for this project.

16825 Hwy 49, LLC,
a California Limited Liability Company
by Lisa Putnam, owner/applicant
(title)

41 Summit Street • Jackson, CA 95642 • (209) 223-0156 Office • (209) 223-5653 Fax

INDEMNIFICATION

Project: Tentative Subdivision Map No. 186

In consideration of the County's processing and consideration of the application for the discretionary land use approval identified above (the "Project") the Owner and Applicant, jointly and severally, agree to defend, indemnify and hold harmless the County of Amador from any claim, action or proceeding against the County to attack, set aside, void or annul the Project approval, or any action relating to the Project approvals as follows:

1. Owner and Applicant shall defend, indemnify and hold harmless the County and its agents, officers or employees from any claim, action or proceeding against the County or its agents, officers or employees (the "County") to attack, set aside, void or annul the Project approval, or any prior or subsequent determination regarding the Project, including but not limited to determinations related to the California Environmental Quality Act, or Project condition imposed by the County. The Indemnification includes, but is not limited to damages, fees and or costs, including attorneys' fees, awarded against County. The County in its sole discretion may hire outside counsel to handle its defense or may handle the matter internally. Indemnification also includes paying for the County's defense if it elects to hire outside counsel. Indemnification also includes compensating the County for staff time associated with the litigation. The obligations under this Indemnification shall apply regardless of whether any permits or entitlements are issued.

2. The County may, within its unlimited discretion, participate in the defense of any such claim, action or proceeding if the County defends the claim, action or proceeding in good faith.

3. The Owner and Applicant shall not be required to pay or perform any settlement by the County of such claim, action or proceeding unless the settlement is approved in writing by Owner and Applicant, which approval shall not be unreasonably withheld.

IN WITNESS WHEREOF, by their signature below, Owner and Applicant hereby acknowledge that they have read, understand and agree to perform the obligations under this Indemnification.

Applicant:

Signature

Owner (if different than Applicant):

Signature

ENVIRONMENTAL INFORMATION FORM

(To be completed by applicant; use additional sheets as necessary)
Attach plans, diagrams, etc. as appropriate

GENERAL INFORMATION

Project: **Tentative Subdivision Map No. 186**
Date Filed:

Applicant: **16825 Hwy 49, LLC**
Attn: Lisa Putnam
141 Stonegate Road
Portola Valley, CA 94028
(650) 454-6143

Record Owner: **Same**

APN: **008-090-015 and 008-100-029**
Zoning: **"R1-A"**
Gen. Plan: **Existing: AG (008-090-015); AG and RR (008-100-029)**
Proposed: AT (5 Ac Min)

List and describe any other related permits and other public approvals required for this project, including those required by city, regional, state and federal agencies:

WRITTEN PROJECT DESCRIPTION

Include the following information where applicable, as well as any other pertinent information to describe the proposed project:

1. Site Size
2. Square Footage of Existing/Proposed Structures
3. Number of Floors of Construction
4. Amount of Off-Street Parking Provided (provide accurate detailed parking plan)
5. Source of Water
6. Method of Sewage Disposal
7. Attach Plans
8. Proposed Scheduling of Project Construction
9. If project is to be developed in phases, describe anticipated incremental development.
10. Associated Projects
11. Subdivision/Land Division Projects: Tentative map will be sufficient unless you feel additional information is needed or the County requests further details.
12. Residential Projects: Include the number of units, schedule of unit sizes, range of sale prices/ rents and type of household size expected.
13. Commercial Projects: Indicate the type of business, number of employees, whether neighborhood, city or regionally oriented, square footage of sales area, loading facilities.
14. Industrial Projects: Indicate the major function, estimated employment per shift, estimated occupancy, loading facilities and community benefits to be derived/project.
15. Institutional Projects: Indicate the major function, estimated employment per shift, estimated occupancy, loading facilities and community benefits to be derived/project.
16. If the project involves a variance, conditional use permit or rezoning application, state this and indicate clearly why the application is required.

Are the following items applicable to the project or its effects? Discuss below all items checked "yes". Attach additional sheets as necessary.

YES	NO		
☐	☒	17.	Change in existing features, lakes, hills, or substantial alteration of ground contours
☐	☒	18.	Change in scenic views or vistas from existing residential areas, public lands or roads
☐	☒	19.	Change in pattern, scale or character of general area of project
☐	☒	20.	Significant amounts of solid waste or litter
☐	☒	21.	Change in dust, ash, smoke, fumes or odors in the vicinity
☐	☒	22.	Change in lake, stream, ground water quality/quantity, or alteration of existing drainage patterns
☐	☒	23.	Substantial change in existing noise or vibration levels in the vicinity
☐	☒	24.	Site on filled land or on slope of 10 percent or more
☐	☒	25.	Use or disposal of potentially hazardous materials, such as toxic substances, flammables or explosives
☐	☒	26.	Substantial change in demand for municipal services (police, fire, water, sewage, etc.)
☐	☒	27.	Substantial increase in fossil fuel consumption (electricity, oil, natural gas, etc.)
☐	☒	28.	Relationship to a larger project or series of projects

ENVIRONMENTAL SETTING

29. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical or scenic aspects. Describe any existing structures on the site and the use of the structures. Attach photographs of the site.

30. Describe the surrounding properties, including information on plants and animals, and any cultural, historical or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (single family, apartments, shops, department stores, etc.) and scale of development (height, frontage setbacks, etc.) Attach photographs of the vicinity.

31. Describe any known mine shafts, tunnels, air shafts, open hazardous excavations, etc. Attach photos of these known features.

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

Date: July 20, 2022 Signature: Lisa Putnam

16825 Hwy 49, LLC
by Lisa Putnam, owner/rep.
Title

ATTACHMENT TO
ENVIRONMENTAL INFORMATION FORM
PUTNAM RANCH TSM 186

ENVIRONMENTAL SETTINGS

29.

Project site is rolling hills with scattered oaks, pines, and buckeyes. Detailed environmental settings information is noted in "Phase I Archaeological Study of the Putnam Ranch" report dated July 2022 prepared by Historic Resources Associates and submitted with the tentative subdivision map application. No portion of it lies within the FEMA 100-year flood plain as shown on tentative parcel map. Current use of the property is vacant. Proposed use is residential 5 acre minimum. There are no residential structures or outbuildings on the property. A small section of the Arroyo Seco ditch crosses over the north property line. Project site cultural and historical aspects are noted in "Phase I Archaeological Study of the Putnam Ranch" report dated July 2022 prepared by Historic Resources Associates and submitted with the tentative subdivision map application. There are no visually sensitive areas/scenic aspects on this project. There are 6 open space parcels proposed on this project.

30.

Surrounding properties range from large agricultural parcels (west, east and south) to residential development Zinfandel Ridge (north). The north line directly borders the Plymouth City limits, however, no portion of this project is within the city limits.

31.

There are no known mine shafts, tunnels, air shafts, open hazardous excavations on the project site.

1. Introduction and Purpose of this Document

The purpose of this document is to describe the vision and concept for the proposed Putnam Ranch Tentative Subdivision Map and to summarize the environmental conditions and preliminary analysis of impacts, and the design features of the proposed project that mitigate those impacts.

2. Putnam Ranch Site Overview

The proposed Putnam Ranch Tentative Subdivision Map (TSM) is a portion of the land ownership that comprises the entire Putnam Ranch. The proposal seeks entitlement to develop the western portion of the ranch in a combination of permanent agricultural parcels, permanent open space for active and passive recreation use, and five-acre residential lots. The balance of the existing Putnam Ranch will remain in the current configuration with its current use, a cattle ranch with a single-family residence, a ranch manager's residence, a maintenance building/barn, a covered horse arena and stables. Existing land improvements include a gravel road with entry from SR 49, agricultural ponds, wells, irrigation system on a portion of the ranch, and cross fencing. There is no plan to seek development of the retained portion of the ranch

The entire existing Putnam Ranch encompasses 705 acres on 6 parcels aggregated in a rough square approximately one mile each side. Parcel 008-100-028 is under a Williamson Act contract that has not filed for nor is proposed for non-renewal.

Table 1: Parcel List for the Entire Putnam Ranch

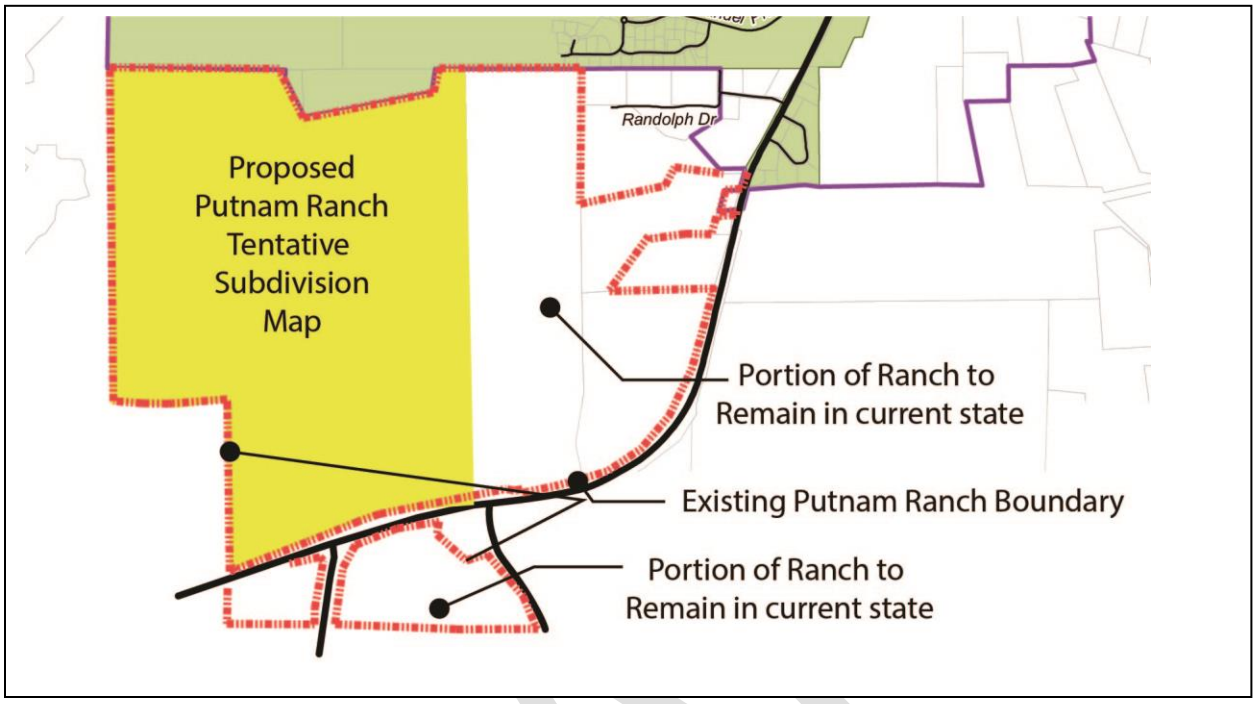
Assessor's Parcel No.	Acres
008-100-024	30.13
008-100-028	50.88
008-100-029	140.00
008-100-030	145.00
008-090-015	283.00
008-130-047	56.64
TOTAL	705.65

The proposed Putnam Ranch Tentative Subdivision Map encompasses 423 acres on 2 parcels. (out of the 706 acre ranch)

Table 2: Parcel List for the Portion of Putnam Ranch in Proposed Development

Assessor's Parcel No.	Acres
008-100-029	140.00
008-090-015	283.00
TOTAL	423.00

EXHIBIT 1: Putnam Ranch Boundary and Portion Proposed for Tentative Subdivision Map



Adjacent Land Use

The most significant land use in terms of potential development is the Zinfandel Ridge residential project along the north boundary of entire Putnam Ranch, distance of approximately one mile. Although not fully developed, much of the Zinfandel Ridge project adjacent to Putnam Ranch will consist of the rear yard of single-family residences on approximately one acre lots or retained open space.

To the east of the existing Putnam Ranch the prominent land use is a few small ranchettes and commercial properties that front along this stretch of Highway 49. Highway 49 extends along the most southerly east boundary and all the south boundary of the property. Ranchland is typical along the opposite side of Highway 49 except for the commercial uses scattered along the highway as it approaches the center of town.

To the west along approximately .75 mile of common boundary with the ranch is the Rancho Victoria Vineyard. Further to the west and south the dominant uses are open range and agriculture.

Land Use Policies Affecting the Development Potential

The proposed project is in the unincorporated area of Amador County and the current zoning allows the five acre lots as proposed. The proposed development will require a General Plan Amendment to designate the property as AT Agricultural Transition. This designation seems consistent with the location of the site as a transition from the urban character of Plymouth to the surrounding countryside as discussed below.

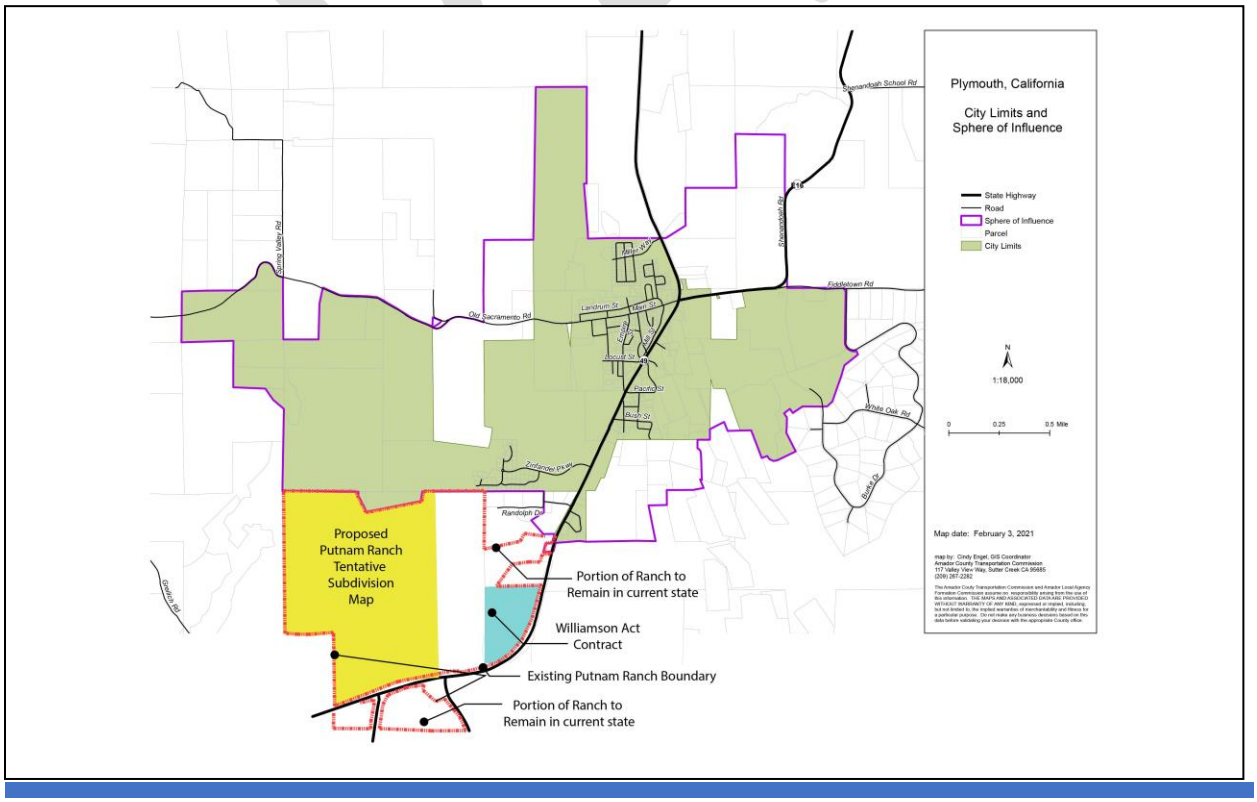
Table 3: Existing and Proposed Zoning and GP Designation

		Existing	Proposed
Amador County Zoning		R1-A	R1-A
Amador County General Plan	APN 008-100-029	RR (RURAL RES) AND AG (AG GEN)	AT (AG Transition)
	APN 008-090-015	AG (AG GEN)	AT (AG Transition)

The project abuts the city of Plymouth and the Zinfandel Ridge subdivision along the north boundary. The Plymouth General Plan emphasizes the vision of a compact city with neighborhoods abutting the existing "downtown" and preservation of the surrounding agricultural activities.

The proposed development site (423 acres) is in a location clearly addressed by policies in both the Amador County General Plan and the City of Plymouth General Plan. These policies identify a desire to transition from the more compact, relatively urban community pattern of the city of Plymouth to the existing agricultural landscape in a manner that retains the character of both without conflict. One means of achieving this transition is to provide a "step down" in development density from urban type lots to open agricultural use. The city of Plymouth and Amador County have established a transitional pattern from the urban lots in the core of the city to larger single family lots at the periphery. Examples are the Zinfandel Ridge project with one acre lots immediately north of the proposed Putnam Ranch TSM, and Bourke Ranch and other the five-acre subdivisions immediately east of the city south of Fiddletown Road.

EXHIBIT 2: Surrounding Land Use



All these uses are consistent with the concept of an urban/rural agricultural transition from the urbanized city to the surrounding countryside.

The proposed Putnam Ranch TSM would develop five-acre residential parcels as the primary means of achieving transition from urban to agricultural uses. Parcels of this size are appropriate for small agricultural and open space use by a single family. The location of a single home and outbuildings will allow the land to remain in an open character which enables protection of the existing native oak woodlands. Removal of the cattle grazing alone will enhance the potential for survival of young oaks more than has occurred under the historic use of the land.

EXHIBIT 3: Proposed Development Plan Concept

the north and more homes will be visible, but they will be more distant from the highway and the entire hillside extending north is designated as permanent open space.

EXHIBIT 4: Existing and Proposed Developed View from the Highway

Project Vision

The primary vision of the proposed project is to blend low density residential and active agricultural use by integrating five-acre residential lots of which some will accommodate small agricultural activities with active agriculture production on larger parcels. The portions of the site retained for agriculture are suited to crop and orchard production or to vineyards. These portions of the site are selected in part

because they are highly visible from the highway and thus present an agriculture face to the larger community. In this manner the project will provide a distinct transition from the more urban character of Plymouth on the north to the traditional agriculture on the west and south.

This development form will provide an aesthetic mix of the two uses while maintaining the oak woodlands and natural resources that characterize the site. The two uses are integrated through careful design of the interior road network and the design and management of the internal storm water management system that will protect residential areas while reserve the precious water in natural drainages and retention basins that work with the existing agricultural ponds and basins on the property.

The blend of residential and agricultural uses will create an unusual living environment for the residents who will experience the open space and the agricultural activities up close in their daily lives. This will be augmented by a community facility that encourages community interaction through social events, recreation, and informal gatherings. The facility is envisioned as a barn or other agricultural themed structure adjacent with a terrace adjacent to a play field. Suitable locations for this facility include the meadow on the east side of the large agricultural pond or adjacent to the 27-acre parcel allocated to agricultural use along the highway frontage.

The agricultural uses may be augmented by companion structures including a working barn, a farmhouse, and a farm produce stand open to the public.

The blend of residential and agricultural uses set in the oak woodland is intended to encourage an active outdoor lifestyle. Open space activities will be available to the project residents at the large agricultural pond and meadow area, and through a network of walking paths that connect all parts of the project. The trail network includes separate open space parcels that extend behind the residential parcels to connect from the internal roads to open space destinations at the edge of the project.

Access

With direct access to two regional highway intersections (Highway 16/Highway 49 and Highway 16/Highway 124) the project site has excellent access potential on the entire south and east boundary of the ranch. Moreover, the view into the ranch from this stretch of highway provides excellent opportunities for marketing windows at the primary entry(ies).

As illustrated in Exhibit 3 the primary entry should be at the intersection of Highway 16 and Highway 49. The positive aspects of this location include:

1. The intersection is already signalized.
2. The Plymouth General Plan identifies this location as the south terminus of a major collector street that extends north to connect to Zinfandel Parkway and Old Sacramento Road.
3. This provides an attractive view into the project site which will be flanked by open space features at the point of entry.
4. This provides a view to the slope that will remain in open space directly to the north.

The road entry at the western edge of the project is considered secondary and may be limited to emergency vehicle access only subject to approval by Caltrans.

Development Principles

The following key principles that will apply.

- High quality of development is essential to create the market reputation as a desirable place to live and conduct business in competition with other housing opportunities in the area.
- Integration of agricultural elements (such as edible landscaping, small row crop farm areas, vineyards, and community gardens) provides a theme that should be appealing to the households interested in moving to this subdivision. In addition, protection of the agriculturally based economy is clearly emphasized.
- Sustainable design is a core design concept that is mandated in several state statutes (Title 24 for energy, Title 22 for water quality, and Water Efficient Landscape Ordinances) that will require a high level of sustainability for all California development. The property is very well oriented to enable use of solar energy in a community level solar farm or individual roof top arrays. Composting household waste on site can enhance the soils. Landscaping plans can incorporate diversity of native plant species to sustain endangered birds and insects. A strong emphasis on protection of the natural environment (trees, soils, surface water quality, wildlife) can be a major theme of the project that exceeds the state mandates. This will establish an identity for the project that serves the natural environment but also appeals to many households.
- Native plant selections will be identified in the project Covenants Conditions and Restrictions to encourage and educate new homeowners on the best practices for reinstating the native plant environment. The purpose is to enhance the aesthetics of the new neighborhood, and to enhance the native wildlife habitat.

Anticipated New Project Residents

Retirees and Near Retirees

Retirees will be attracted by visiting the wine country and gold country and other outdoor leisure activities. The project would offer age-appropriate recreational amenities, low maintenance residences, an enhanced level of security, access to natural amenities, and opportunities for socialization.

Self Employed and Employees Working Fully or Partially at Home

Each of these household types will seek similar amenities. The project should include a high level of telecommunications capability, a high level of access to recreational amenities, low maintenance residences, opportunities for socializing, and facilities that support their business life such a meeting rooms, printing and shipping services, and a place to take a break.

Daily Commuters

For some workers it will be necessary and acceptable to drive daily 30 minutes west to a job in Rancho Cordova. Indeed, this is less than many have commuted in the Sacramento region for decades. For these households the project needs to consider the ease of access to Highway 16.

Others Already in the Local Economy

Not all new home buyers will come from outside the existing community. A new development that enables household members to stay in the community and "age in place" with a high level of amenities and a variety of housing types might attract existing households.

3. Review of Initial Environmental Considerations

I. AESTHETICS.

The project is designed to maintain the scenic vista from SR 49 and SR16 in a manner that retains existing visual character or quality of public views of the site and its surroundings. This is accomplished with the following design features:

- The entire frontage along SR16 and SR 49 will remain in permanent agricultural use. Parcel F on the Tentative Subdivision Map encompasses 27.8 acres of soil most suited on the site for active agriculture. This may include a variety of row crops or orchards.
- A small area of approximately 1 acre included in Parcel F will be available for a farmers market stand, barn, or similar agriculture structure.
- On the hills immediately north of Parcel F the residential lots are designed such that home sites will be hidden from the highway as much as possible.
- The hillside along the east side of the project most exposed to view from the highway will remain in agricultural use, most likely vineyards.
- No damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway will occur. SR16 is eligible but is not designated as a state scenic highway.
- Asa low density residential/agricultural use the project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

II. AGRICULTURE AND FORESTRY RESOURCES.

The project is designed to maintain the native oak woodland and grassland that comprise the natural setting. This is accomplished by careful road alignments that minimize grading and direct conflict with the native oaks.

The project will enhance the agricultural productivity of the site by converting acres from low productivity grazing to active crop, orchard, and vineyard production.

III. AIR QUALITY.

As a low density residential and agricultural use the project does not benefit from trip reduction measures such as access to public transit that will reduce the number and length of vehicle trips. A traffic analysis will be prepared to assess the vehicle miles traveled as a result of this project in comparison to the existing community average.

IV. BIOLOGICAL RESOURCES.

The project is a low density residential and agricultural use the project where the road improvements and home site design are careful to minimize change to the existing conditions, a substantial adverse effect.

Vegetation and Tree Cover

The primary vegetation types on the site are annual grassland and oak woodland/savanna. These vegetation types are endemic to the foothill region and a signature characteristic that contributes to the identity of the site. Future development will retain this character by avoiding mass tree removal, retaining significant open space, and integrating the existing woodland with the urban uses.

Annual Grassland.

Non-native grassland including Mediterranean grasses and herbs is the dominant plant community on the property.

Oak Woodland/Savanna

These wooded habitats are also dominant and occur scattered throughout the site. Blue oaks (Quercus douglasii) and interor live oaks (Q. wislizenii) comprise the overstory of these habitats along with an occasional grey pine (Pinus sabiniana). On portions of the site, woodland components are dominated by dense, even-aged stands of interior live oaks that form a closed canopy. In other areas, the woodland is composed of mixed stands of blue and live oaks with a more open canopy; tree-size California buckeyes (Aesculus californica) are frequently encountered in these areas. Valley oaks (Q. lobata) are present in lesser numbers, and usually occur at the edge of the woodland along intermittent drainages. Shrubs are usually absent from the understory which is generally an extension of the annual grassland.

Wetland Features

Wetland Types and Acreage.

Four potential jurisdictional wetland categories were mapped for the site including seasonal wetland, stock pond/lake, riparian woodland, and vernal pool.

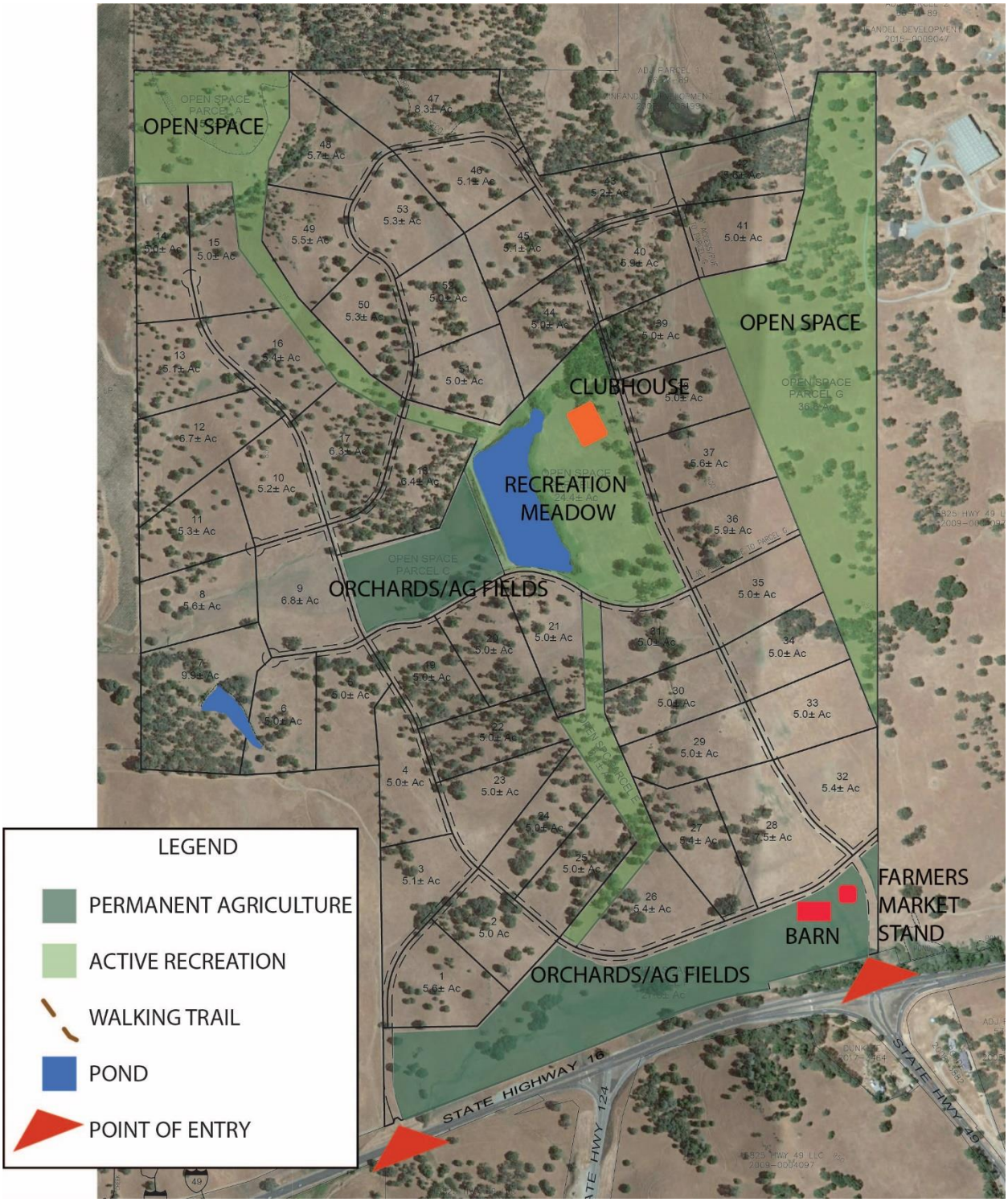
Wetland habitat including seasonal wetlands, seeps, intermittent drainages, and one vernal pool occur interspersed within the grassland and woodland mosaic. A limited amount of riparian habitat occurs along intermittent drainages.

Riparian woodland.

A limited amount of riparian habitat occurs in narrow bands along four intermittent drainages. One area is in the northwestern corner of the site; one occurs along the drainage that feeds into the large stock pond located in the center of the site; another occurs in the north-central portion of the site above a small stock pond; and the other occurs in association with three stock ponds and an intermittent drainage just north of Highway 16. The best developed riparian area occurs in the habitat patch adjacent to Highway 16 where very dense stands of blackberries mix with sandbar willows that grow to 30 feet tall; an open canopy overstory of valley oaks occurs here. The other three riparian areas are more open and less continuous and not as well developed; however, they grade into the adjacent oak woodlands which makes up for their lack of continuous riparian character.

The design of open space that will retain these riparian corridors and may enhance them.

EXHIBIT 5: Aerial Photograph Illustrating Tree Cover and the Preserved Open Space



Sensitive Species

A California Natural Diversity Data Base (CNDDB) species report indicates known plant and animal species which are likely to occur in the plan area. There are no sightings of sensitive plant and animal species during field investigations. However, the plan area contains habitat of sensitive plant species and sensitive animal species.

There are no known sightings of special status wildlife species in the plan area. All the plan area woodland habitat represents suitable nesting for Cooper's hawk as well as for the long-eared owl, both Department of Fish and Game (DFG) Species of Special Concern. Plan area savanna habitat is suitable nesting and foraging habitat for the black-shouldered kit and loggerhead shrike.

Stock ponds.

Two stock ponds have been constructed within drainage corridors, creating seasonal and perennial aquatic habitats. These range in size from less than 0.1 acres to approximately 5.5 acres. The smaller ponds dry by the end of summer while the larger ones may retain water year around.

- Sensitive wetland features are limited in size and location. Flexible site design can avoid much of the resources, although a fill permit is likely unavoidable in any case so a modest amount of grading in minor drainage areas would be permitted.
- The oak tree cover is generally sparse with small groves clustered in certain hillside areas. Flexible site design will enable preservation of most of the trees. These add a high level of amenity and value to the potential development.

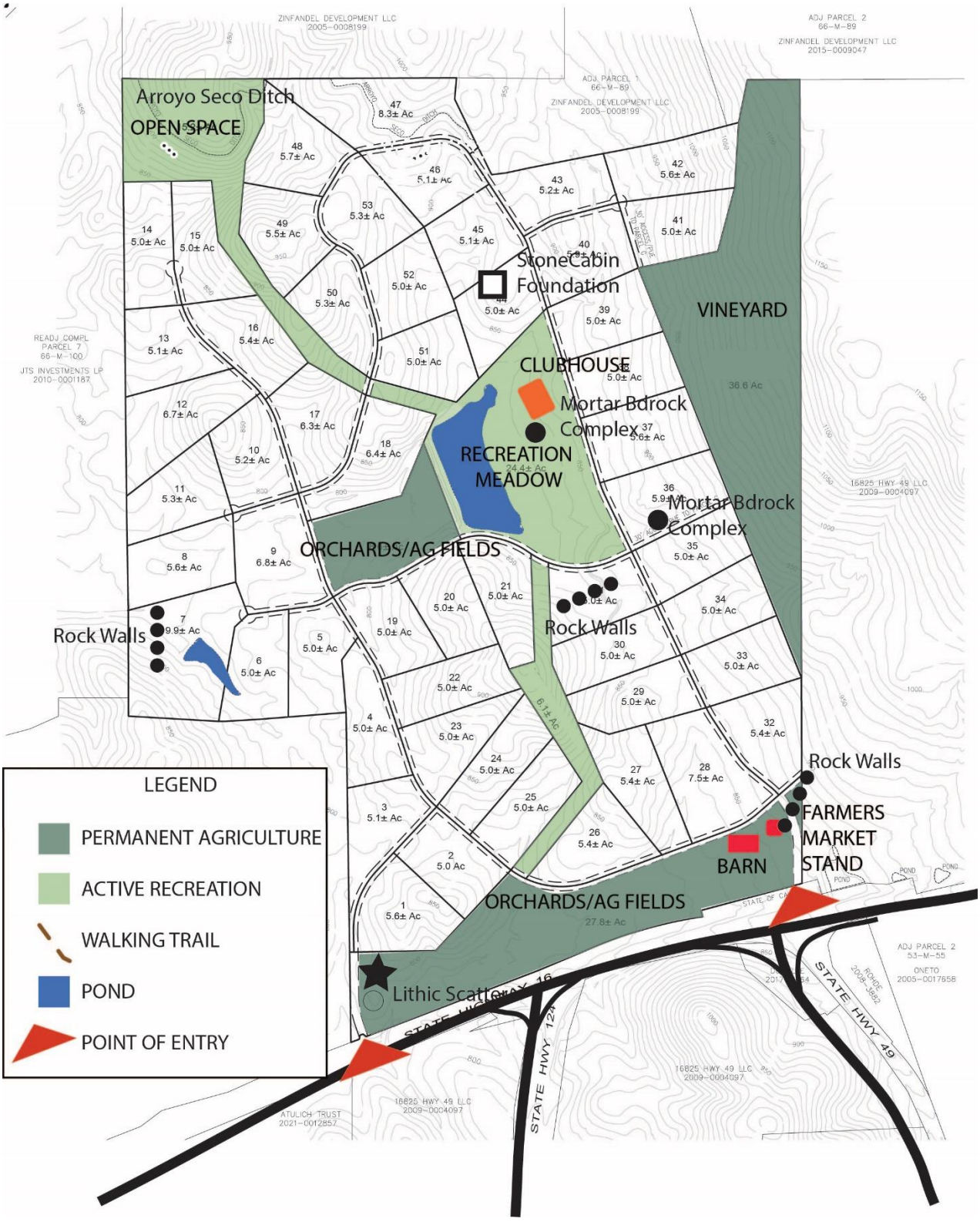
V. CULTURAL RESOURCES.

Archeological sites have been identified in the Putnam Ranch including prehistoric sites and historic sites. Within the proposed Putnam Ranch Tentative Map Area prehistoric sites consist of two (2) bedrock mortar sites and one lithic scatter. The historic sites consist of a stone foundation possibly associated with mining activities; the Arroyo Seco ditch segment that occurs throughout the project area; and short segments of discontinuous rock wall fence line, which originally marked the property boundaries.

These resources were mapped and considered in the design of the Tentative Subdivision Map to avoid them where feasible. Individual resources are located within open space or agricultural parcels where they can be avoided, or within proposed five-acre lots where the individual home sites avoid these resources and easements encompassing the resources will preclude any direct development impact.

Consequently, the project would not cause a substantial adverse change in the significance of a historical resource, cause a substantial adverse change in the significance of an archaeological resource, or knowingly disturb any human remains.

EXHIBIT 6: Approximate Locations of Cultural Resources



VI. ENERGY.

The small scale of the project will minimize potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. The five-acre lots create opportunities for solar renewable energy.

VII. GEOLOGY AND SOILS.

The low-density character of the project would minimize the effect of potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, seismic ground shaking or seismic-related ground failure.

Agricultural practices and site grading standards will avoid substantial soil erosion or the loss of topsoil.

Individual septic systems will be used on residential lots where soils are incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

VIII. GREENHOUSE GAS EMISSIONS.

The project will contribute to cumulative effects of greenhouse gas emissions primarily through internal combustion vehicle trips. Such effects will be reduced over time through use of electric vehicles and other alternative energy vehicles (hydrogen), by aggregation of trips, by ride sharing to minimize single occupant vehicle trips, and by increased use of telecommunications for a variety of needs (work, shopping, socializing, tele-medicine). A traffic analysis will be prepared to assess the trip generation and trip length characteristics of the project inhabitants.

IX. HAZARDS AND HAZARDOUS MATERIALS.

The project will be limited to low density residential and small-scale agricultural activities. Neither of these inherently involve use of hazardous materials on a significant scale.

The project will implement an internal road network that will contribute to implementation of an adopted emergency response plan or emergency evacuation plan.

Development of residential use in an area of oak woodlands and grassland is less hazardous than a forested area, but does expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

X. HYDROLOGY AND WATER QUALITY.

The proposed development plan will minimize grading and impervious surfaces for roads and building pads. Small rain gardens and naturalized water quality detention basins will enhance groundwater recharge and maintain surface water quality throughout the site.

XI. LAND USE AND PLANNING.

The project is consistent with and does not propose to change the Amador County current land use zone. The project seeks to amend the Amador County General Plan land use designation to AT Agricultural Transition. This is appropriate given the location between active agriculture to the west and south of the project and the developing residential subdivision (Zinfandel Ridge) to the north.

XII. MINERAL RESOURCES.

The project would not result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state. The project would not 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.

XIII. NOISE.

The low-density residential component would not result in 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 nor would it generate excessive ground borne vibration or ground borne noise levels

The agriculture component of the project has the potential to generate noise during night or early morning hours.

XIV. POPULATION AND HOUSING.

The project is consistent with the current land use zone and would not induce substantial unplanned population growth in an area.

XV. PUBLIC SERVICES.

The ultimate build out of the project will add approximately up to 54 households to the community in and around Plymouth. The demographic composition of these households, and the demand they would place on the community recreation resources is unknown. Given the relatively small size of the project it is unlikely that the project would increase the use of existing schools

K-12 Schools

Plymouth is served by the Amador County School District which offers a variety of quality schools including two comprehensive high schools, one alternative high school, two junior high schools, six elementary schools, and an independent study program.

This unified P-12 school district serves about 4,000 P-12 and adult students and offers a variety of programs including a STEM magnet school, a VAPA magnet school, county state preschool, career technical education, adult education, a variety of special education services, as well as traditional

programs. Amador High School, located in Sutter Creek serves about 800 students in grades 9-12, and is accredited by the Western Association of Schools and Colleges.

Hospitals and Medical Centers

Access to medical care is a critical factor for all households but is particularly concerning to senior households. Senior and retired households are likely to be a primary market target for this development and the lack of nearby medical facilities is a concern that cannot be easily addressed due to the cost and complexity of providing health care facilities. Although there is a health center nearby in Plymouth operated by the Sutter system it is essentially a clinic offering primary care, family medicine and internal medicine. The nearest full-service hospital is in Jackson about 10 miles from the ranch. Other health facilities including dialysis facility and nursing homes are about 10 to 15 miles away.

Life Support and Emergency Medical Services

American Legion Ambulance Service, a non-profit organization, provides advanced life support and ambulance service to all of Amador County. For calls involving emergency medical services, the fire provider provides basic life support (BLS) response until American Legion Ambulance Service arrives.

CALSTAR is a public nonprofit helicopter ambulance supported by corporations and hospitals throughout the nation. The organization provides emergency helicopter transport to hospitals from its Auburn station in Placer County. CALSTAR has applied to operate a helicopter out of Westover Field in Amador County. Helicopter transport is also provided in Amador County by the California Highway Patrol and several other private vendors.

XVI. RECREATION.

The ultimate build out of the project will add approximately up to 54 households to the community in and around Plymouth. The demographic composition of these households, and the demand they would place on the community recreation resources is unknown. Given the relatively small size of the project it is unlikely that the project would 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.

The project will include passive and active recreational facilities in the form of walking trails, and an informal play field adjacent to the existing agricultural pond but these facilities will not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

XVII. TRANSPORTATION.

The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The design of the internal roads and connections to SR 16 and SR49 will meet local and Caltrans standards and will not increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The project internal roads will enhance emergency access.

XVIII. TRIBAL CULTURAL RESOURCES.

The project encompasses four known sites of interest to local Native American tribal representatives. Prehistoric sites consist of three (3) bedrock mortar sites and one midden (an accumulation of cultural materials). Amador County initiated a formal process of consultation with local Native American tribal representatives. The consultation is required prior to preparation of the CEQA document and the recommendations from the tribal consultation typically become mitigation measures.

With the guidance of the tribal representatives the project would not cause a substantial adverse change in the significance of a tribal cultural resource 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.

XIX. UTILITIES AND SERVICE SYSTEMS.

The project will provide an improved, paved road network to access all development areas. Individual wells and individual sanitation waste treatment systems on a minimum five-acre lot would not require or result in the relocation or construction of new or expanded water, or wastewater treatment and all other infrastructure the construction or relocation of which could cause significant environmental effects.

Storm water drainage will be controlled with on-site drainage and retention basins as required such that there is no off-site drainage impact, particularly with consideration of existing and future improvements on SR16, SR 49, and SR 124.

Electric power and telecommunications facilities will be distributed underground in the interior streets. No natural gas system is planned. To ensure that internet services can be provided in the development, and thereby attract buyers who would rely on high speed, reliable internet, a backbone network should be included in the basic infrastructure for the project.

Water: Well tests suggest that sufficient groundwater is available to serve the project in the reasonably foreseeable future development during normal, dry, and multiple dry years. Well tests for individual residential lots, or a single well to serve up to four lots will be required prior to issuance of a building permit on any residential lot.

Water for agricultural purposes will be provided by on-site wells and the existing agricultural ponds on the project site.

The Amador Water Agency (AWA) operates and maintains the city's water treatment plant and distribution system through a contract with the City.

An agreement with AWA to supply water for an estimated additional 1,065 equivalent single-family residences (ESFR) through the Plymouth Pipeline.

Wastewater treatment will be provided by individual septic systems on each residential lot as approved by the County Health Department. The City of Plymouth provides wastewater collection, treatment and disposal services to over 400 connections, of which a handful are outside the city limits.

The proposed project is quasi-agricultural/residential, that is ranchette or estate lots served by simple septic tank and leach fields. The soils on this site are generally poor quality for this purpose, but mound filter disposal on an individual home site.

XX. WILDFIRE.

The Putnam Ranch TSM is in a state responsibility area classified as moderate fire hazard severity zone. The project would provide improved road access to the interior of the land area of low density development and would not substantially impair an adopted emergency response plan or emergency evacuation plan.

4. Conclusion

In summary, the proposed Tentative Subdivision Map is well suited to this location because it conforms to the policy direction of both Amador County and the City of Plymouth to provide a transition from the city urban form to the surrounding open agriculture by providing an intentional blend of these. The proposed plan is a good fit for the land in that the density of private improvements (dwellings, appurtenant structures such as barns and outbuildings, and small-scale landscaping and agriculture) will support retention of the native oak woodlands. Moreover, the design of the surface water management, and the guidelines established in the project Covenants, Conditions, and Restrictions will guide future homeowners to restore the native plants indigenous to the area. In this manner the project can serve as model for preserving and enhancing the natural environment.

OAK WOODLANDS ASSESSMENT

Foothill Resource Management
Steve Q. Cannon, RPF #2316
P.O. Box 818, Pine Grove, CA 95665
(209)419-1569

Mr. Chuck Beatty, Director
Planning Department, County of Amador
810 Court Street
Jackson, CA 95642

16 June 2022

Re: Putnam Ranch property, APN 008-090-015 and 008-100-029

Dear Mr. Beatty,

At the request of Toma & Associates, I conducted an inspection of the parcels referenced above that are owned by 16825 Highway 49 LLC. I was told that the Planning Department has required that an Oak Woodlands Assessment shall be done for the parcels. This letter is in response to that requirement.

Section 21083.4 of the California Public Resources Code requires that counties determine if there will be a significant effect on oak woodlands as a result of a project proposed to the county. The first question that must be answered is whether a project area does indeed qualify as an "Oak Woodland". The Fish and Game Code of the State of California defines "Oak Woodland" under Section 1361(h) as "...an oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10% canopy cover". Additional important information comes from PRC 21083(a), where it is stated that oaks included in the determination of oak woodland status cannot come from the Group A or Group B commercial species as defined by 14 CCR 895.1 (Forest Practice Rules). California Black Oak (Quercus kellogii), a species which is common at higher elevations in the county is a Group B species under the Forest Practice Rules, but not present on the Putnam Ranch property.

On the 9th of June, 2022, I visited the Putnam Ranch property and conducted an evaluation of the property. It seemed to be obvious from the air photos and a casual drive-by that this property would qualify as an "Oak Woodland", as defined by the Fish & Game Code. In spite of that observation, the scattered stocking of oak trees on some parts of the property required that I walk the parcel and take some measurements of tree density and crown coverage. I began my evaluation by walking through the area south of the agricultural pond in the center of the property. I measured 30 inventory plots that were located randomly within the area vegetated with oak trees. Those inventory plots collected data on: Species, diameter, spacing of trees, basal area and crown width. The data is then averaged for each of those criteria. I then walked the area to the north of the agricultural pond and took similar measurements, though I found that my data was not varying from the initial data that I collected. I used an application on my cellular phone (OnX Hunt) to both accurately locate myself on the property and also to decide where the concentrations of oak trees were. In the office, I mapped blocks of oak trees and I used a plenimeter to estimate the number of square inches of oak canopy coverage and converted the total square inches to acres using a conversion factor of 27.2 acres per square inch.

The results of my calculations and estimations are as follows:

Species encountered –, Blue oak (Quercus douglasiii), Valley oak (Quercus lobata) and Canyon live oak (Quercus chrysolepsis). Though not a hardwood specie, Gray pine (Pinus sabiniana) is also associated with the oak forest on the Putnam Ranch property.

Average oak diameter @ 4.5 ft. above ground – 14 inches (range of 10" to 22")

Average spacing between oak trees – 30 feet (range of 15 ft. to 50 ft.)

Average number of oak trees per acre – 50 trees/ac.

Average crown diameter – 28 feet (range of 25-50 ft.)

Estimated acreage of oak forest within areas mapped as groups = 122 acres

Estimated acreage of oak forest overall (including scattered oaks) = 228 acres

The total acreage of the Putnam Ranch property associated with this application is 423 acres. The area forested with oak is 228 acres, therefore the property is 54% oak woodland, therefore qualifying as an "Oak Woodland" under the Fish & Game Code.

The next question that is necessarily needing to be answered is: "Will the proposed subdivision of this property result in a significant impact to the Oak Woodland?"

The proposed subdivision would establish 48 parcels of approximately five (5) acres each. In a discussion that I had with Mr. David Wade, I was told that there are four (4) areas that would not be dedicated to residential development. One area (approx. 39 acres) is along Highway16/49 on the south side of the property. That area contains a pond and perhaps some land that would be dedicated to agricultural use. The central area that contains the larger agricultural pond (approx. 51 acres) would be maintained as wildlife habitat, though the downstream area of that block could also be dedicated to agricultural production. There are few to no oaks in this block (see photo 1). The approximate 14 acre area in the northwest corner of the property has few oaks in it, but the slope of the ground is steep enough that the planners decided to leave it undeveloped. This area, the central area with the agricultural pond and the proposed undeveloped area on the southern boundary are connected with corridors (approx. 9 ac.) intended to be hiking trails. Another area not proposed for development is along the eastern boundary of the property. Steepness of the slope was the reason for not adding parcels in that approximately 45 acre area, but it is also a potential agricultural area. There are scattered native oaks in that area. In total, my estimate of the area that would not be developed is 159 acres. As I said, some of that area does not qualify as oak woodland but I estimate that about 40% of it is forested with scattered oaks which meet the definition of oak woodland.

In my reconnaissance of the property I also took note of numerous locations within the areas planned for the establishment of 5 acre parcels where logical building sites exist. In these areas I conducted transects and stopped every 100 feet to look up and note if canopy coverage existed. My findings for these transects were consistent with my other measurements and I found that about 50% of the area planned for development qualifies as oak woodland. Many of those sites would not require the removal of many oak trees for construction of residences and outbuildings because of the spacing between trees (see photo 2). If covenants and restrictions on the removal of oak trees on individual parcels are established, I feel that the overall impact to oak woodlands would be insignificant.

In summary and to reiterate, the Putnam Ranch property definitely qualifies as an Oak Woodland under the California Fish & Game Code. The answer to the second question required under PRC 21083.4 is that in my professional opinion, the proposed Putnam Ranch property division, in combination with the proposed areas of no residential development will not result in a significant reduction of oak woodland area.

If you have any questions, please feel free to call.

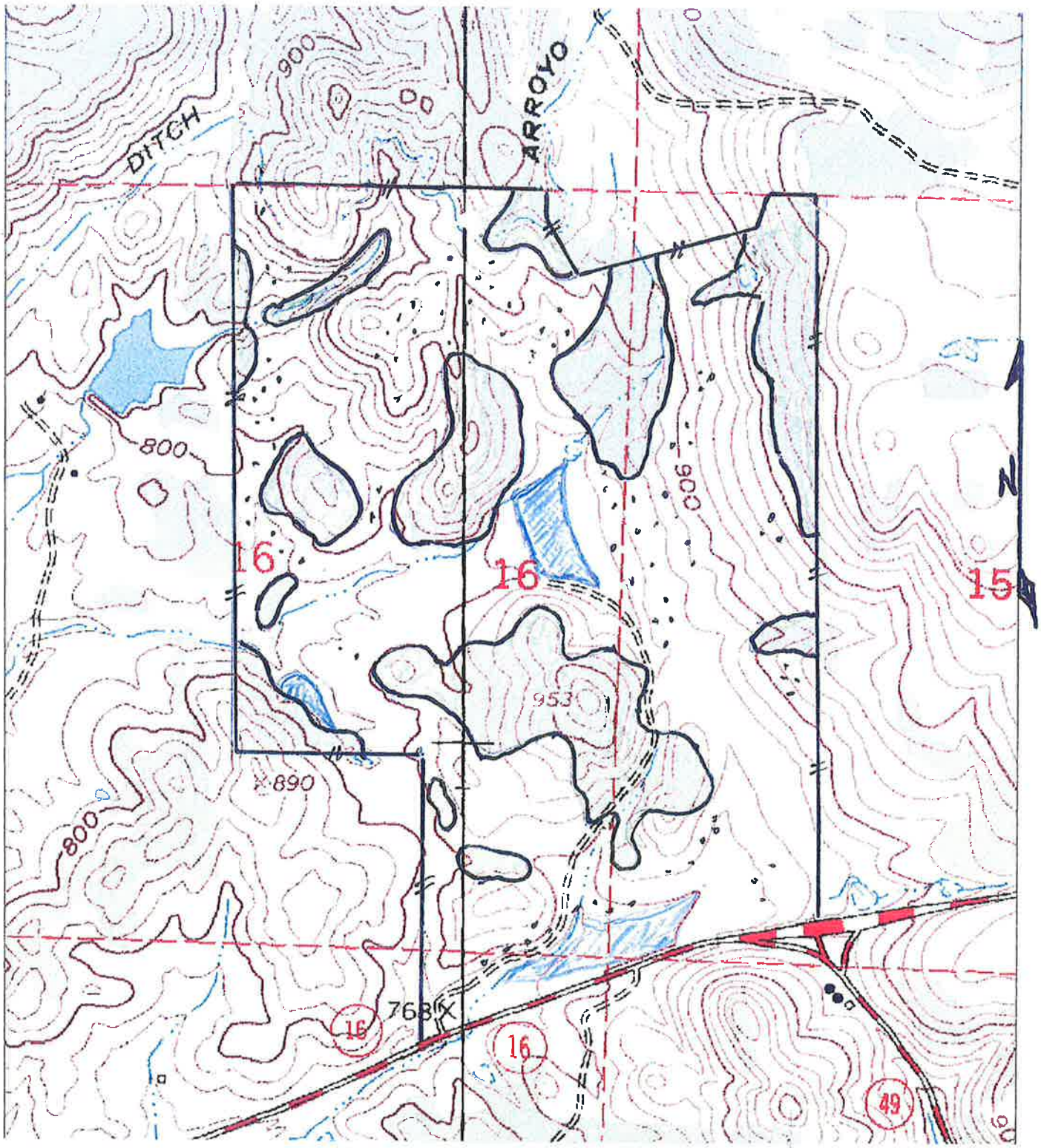
Sincerely,

Steve Q. Cannon
Registered Professional Forester #2316

attachments

Putnam Ranch Oak Woodlands Assessment

Township 7 North, Range 10 East, Sections 15, 16, 21 & 22, MDB&M
Irish Hill & Amador City 7.5' Quadrangles
Amador County



Approx. Property Boundary

Scattered Oak Trees

Areas of Oak Stands

Ponds

Approx. Scale

0 1000 ft.

Image 1

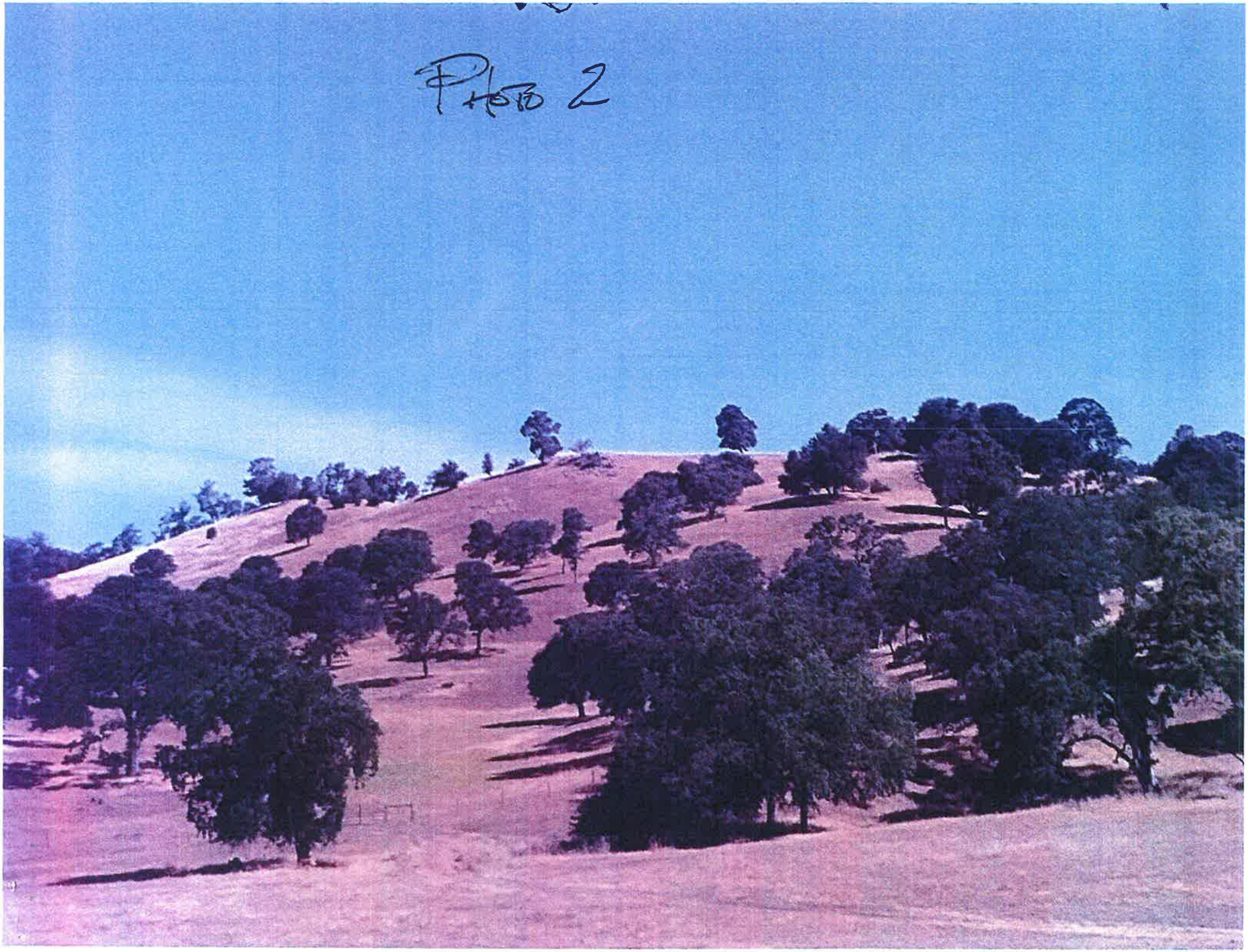


PHOTO 2

DRAFT
TRAFFIC
IMPACT STUDY

Putnam Ranch Development Project

Draft Transportation Analysis Report

Prepared for:
Lisa Putnam

May 11, 2023

RS23-4253

FEHR PEERS

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I. INTRODUCTION

PURPOSE

This study analyzes the transportation impacts associated with the proposed Putnam Ranch Development Project located in Amador County, CA. This report is separated into two analyses – one analysis intended to disclose any potential environmental impacts in compliance with CEQA and one analysis intended to identify any potential impacts to the local transportation network.

For this study, vehicle miles traveled (VMT) is the primary travel-related metric used to identify the project's significant transportation impacts under CEQA. Impacts to the bicycle, pedestrian, and transit network, as safety are also evaluated.

The local transportation network analysis includes a traffic operations analysis under existing and cumulative conditions. Level of service (LOS) and delay are provided to help evaluate the project's consistency with General Plan policies and to understand how project trips would affect intersection operations. Due to Senate Bill (SB) 743, which is described in greater detail under the "Policy Background" section of this report, this report does not identify significant intersection LOS impacts and mitigation measures. Instead, it identifies intersection performance targets and then determines whether the intersection meets the performance target for all analysis scenarios.

The proposed project's impact analysis is presented in Section III and the intersection operations analysis is presented in Section V. All figures can be found at the end of the report and technical calculations can be found in Appendix A.

OVERVIEW OF PROPOSED PROJECT

The proposed project includes subdividing two existing parcels, totaling 423-acres, into 53 approximately five-acre residential lots with approximately 119-acres of open space. The proposed project is in Unincorporated Amador County, southwest of the City of Plymouth and is bound by the Zinfandel Ridge development project to the north, open space/agricultural land to the east and west, and SR 16 to the south. Access is proposed by one entrance at the SR 16/SR 49 intersection. The project would add a north leg to the existing signalized intersection. An emergency vehicle only access is proposed on SR 16, approximately 900 feet west of the SR 16/SR 124 intersection. **Figure 1** shows the location of the proposed project.

POLICY BACKGROUND

SENATE BILL 743

Senate Bill (SB) 743 was signed into law in 2013 and resulted in substantial changes in the way transportation impact analyses are prepared. Notably, it precludes the use of LOS to identify significant transportation impacts in CEQA documents for land use projects, recommending instead that VMT be used as the preferred metric. On December 28, 2018, the CEQA Guidelines were amended to add Section 15064.3, Determining the Significance of Transportation Impacts, which states that generally, vehicle miles traveled is the most appropriate measure of transportation impacts. According to 15064.3(a), "*Except as provided in subdivision (b)(2) (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact*." The provisions of 15064.3 have applied statewide since July 1, 2020.

For this report, both VMT and LOS are reported. VMT is used to identify the project's potentially significant transportation impacts under CEQA. LOS results are reported to provide decision-makers and the public a better understanding of the effects the proposed project may have on the surrounding roadway network and the types of operational enhancements that could be considered to improve operations and safety. Presentation of LOS information also helps evaluate the project's consistency with the County's level of service performance targets.

VMT THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines Section 15064(b)(1) allows lead agencies the discretion to select their own thresholds and allow for differences in thresholds based on context, such as urban versus rural areas. The recognition that rural areas are different is consistent with the flexibility provided by CEQA Guidelines Section 15064(b)(1) and the OPR Technical Advisory, which states that: in rural areas of non-MPO counties (i.e., areas not near

established or incorporated cities or towns), fewer options may be available for reducing VMT, and significance thresholds may be best determined on a case-by-case basis. Amador County has not adopted thresholds for VMT impacts and this analysis applies an ad hoc threshold based on direction provided by the county. Amador County has determined that significant impact would occur if the proposed project's home-based VMT per capita would exceed the existing Amador Countywide average home-based VMT per capita.

COVID-19

Transportation and mobility are being transformed through several forces ranging from new technologies, different personal preferences, and the unique effects of the coronavirus disease 2019 (COVID-19) pandemic, the combination of which could alter traditional travel demand relationships in the near- and long-term future.

Furthermore, the COVID-19 pandemic and subsequent actions by federal, state, and local governments to curtail mobility and encourage physical distancing (i.e., limit in-person economic and social interactions) temporarily but profoundly changed travel conditions. While travel activity is returning to more normal (i.e., pre-pandemic) conditions, it is possible that some of these temporary changes will influence people's travel choices into the future, including either accelerating or diminishing some of the emerging trends in transportation that were already underway prior to the pandemic.

The traffic counts used for the transportation analysis were collected in November 2022, post the COVID-19 pandemic. However, the travel demand forecasts developed for the cumulative year analysis do not account for the potential short-term or long-term behavioral changes that may occur because of COVID-19. Although such measures (e.g., shifting to more telecommuting and virtual meetings) would tend to result in fewer average daily trips for most land uses, the degree that the changes would be implemented and their resilience over time is not known and cannot be predicted with a high degree of confidence.

REGULATORY SETTING

Although the proposed project is located in Amador County, the two main roadways near the project site are SR 49 and SR 16, both of which are owned and operated by Caltrans. Caltrans prepares a Transportation Concept Report (TCR) for all Caltrans roadways. A TCR is a long-term planning document intended to determine how a highway will be developed and managed. TCRs identify LOS standards and identify improvements aimed at ensuring the roadway can meet those standards. The TCR for SR 49 and SR 16 indicate the concept LOS on both roadways is LOS C in rural areas and LOS D in urban areas. The project site is in a rural area; therefore, the LOS target is C.

STUDY AREA AND PERIODS

The study area includes two intersections, SR 16/SR 49 and SR 16/SR 124. Intersections were analyzed for weekday AM and PM peak hour conditions under the following scenarios:

- Existing Conditions
- Existing Plus Project Conditions
- Existing Plus Project Plus Approved/Pending Projects Conditions
- Cumulative No Project Conditions
- Cumulative Plus Project Conditions

II. EXISTING TRANSPORTATION SYSTEM

This section describes the existing transportation network, including roadways, and bicycle, pedestrian, and transit facilities, within the study area.

EXISTING ROADWAY SYSTEM

The primary roadways in the study area include two state highways, which are described below.

- State Route 49 (SR 49) is a north-south California state highway connecting the City to Placerville in El Dorado County to Amador County, Calaveras County, Tuolumne County, and Mariposa County. In the study area, SR 49 is a two-lane minor arterial with a posted speed limit between 50 mph and 55 mph.
- State Route 16 (SR 16) is an east-west California state highway connecting Folsom Boulevard in the City of Sacramento and SR 49 in Amador County. In the study area, SR 16 is a two-lane minor arterial with a posted speed limit of 55 mph.

EXISTING BICYCLE AND PEDESTRIAN SYSTEM

Given the rural location of the proposed project site, and fact that most of the land in the study area is undeveloped, minimal bicycle and pedestrian facilities exist. The only bicycle facility in the study area is SR 16, which is classified as a Class III bike route. The Amador Countywide Pedestrian and Bicycle Plan describes a Class III bike route as follows:

- Class III – Provides for a signed shared roadway that provides for shared use among pedestrians, bicyclists, and motor vehicle traffic, typically on lower volume roadways. The roadway has signs posted identifying it as a bike route. These include paved shoulders with designated bike route signs or rural roadways with designated bike route signage.

There are no designated pedestrian facilities, sidewalks, or crosswalks within the study area; however, wide shoulders are present on both SR 49 and SR 16.

EXISTING TRANSIT SYSTEM

Amador Transit provides bus service in Amador County. Route 1 provides a connection between the Sutter Hill Transit Center and City of Sacramento. Route 3 provides a connection between the Sutter Hill Transit Center and City of Plymouth. Both routes operate Monday-Friday, except for major holidays, and provide round trip service for one morning and one afternoon/evening ride.

III. CEQA COMPLIANCE

This section evaluates the proposed project's transportation system (VMT), bicycle, pedestrian, transit, and safety impacts.

EVALUATION OF TRANSPORTATION SYSTEM IMPACTS (VMT)

Based on Appendix G of the CEQA Guidelines, the project would result in a significant transportation impact if it would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)(1), which states for land use projects, "Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact." As previously noted, the proposed project would result in a significant transportation impact if the home-based VMT per capita exceeds the existing Amador Countywide average home-based VMT per capita.

The Amador County Transportation Commission (ACTC) travel demand model (TDM) that was recently updated for the City of Jackson SB 743 Implementation Guidelines was used to analyze VMT for the proposed project. Several updates were made to the model in and around Jackson for the SB 743 Implementation Guidelines. The following model updates and clarifications regarding how VMT is calculated is applicable to the proposed project:

- Gateway Trip Length Adjustment – The ACTC model has 16 external gateways that represent vehicular travel into, out of, and through Amador and Alpine Counties. Consistent with guidance from the Technical Advisory, it was necessary to reflect the full length of trips that have one end of the trip within Amador County and have the other trip end at an external location. To accomplish this, external gateway trip lengths were appended to the model's internal trip length. This was accomplished using Census OnTheMap data based on the likely destinations of these internal-external (IX) or external-internal (XI) trips.
- Model Improvements – The "off-the-shelf" ACTC model did not define trip purposes (i.e., home-based-work, home-based-other, non-home-based) for IX and XI trips. The model also did not enable preservation of trip purposes by land use type (i.e., home-based-work trips by single family versus multi-family units). To more accurately quantify the VMT associated with different residential building types, Fehr & Peers upgraded the model to add this functionality.
- Residential VMT represents "home-based trip productions" only – As the ACTC model is a trip based model, it is not possible to associate non-home-based (NHB) trips back to an individual

household (though NHB trips are included in the model). Thus, all residential VMT is associated with trip productions at the home (e.g., to work, to shop, to school, to recreate, etc.).

- VMT estimates reflect travel by all vehicle types – The Technical Advisory frequently cites "automobile travel" versus trips made by all vehicle types. The automobile travel reference applies primarily to activity-based travel demand models, which can track trips by all members of a household or office employees (i.e., allowing for deliveries and heavy vehicle trucks to be excluded). This is not possible with trip-based models. Therefore, the VMT estimates shown here include all types of trips ranging from private vehicles, deliveries, and heavy vehicles.
- VMT per capita metric – The TDM provides home-based VMT per dwelling unit. This study relies on a home-based VMT per capita metric. Therefore, dwelling units were converted to residents using an average household size of 2.18, which was derived from the model.

The ACTC TDM has a base year of 2014 and a cumulative year of 2030. However, based on the amount of land use growth contained within the cumulative year model, the model is representative of conditions well beyond 2030. Because the TDM has a base year of 2014, Fehr & Peers VMT+ tool was used to compare the model base year VMT estimates to 2022 Location Based Data (LBS) VMT estimates. VMT+ utilizes a custom data set from StreetLight Data, which is based on anonymized locational records, passively collected from smart phones, and it provides home-based VMT per capita and home-based VMT per worker in California, down to the census block group. **Table 1** compares the ACTC base year Amador Countywide average home-based VMT per capita to the 2022 VMT+ Amador Countywide average home-based VMT per capita.

TABLE 1: AMADOR COUNTYWIDE HOME-BASED VMT PER CAPITA

ACTC Base Year Model	VMT+ - 2022 Data
32.0	33.0

Notes: VMT is rounded to the nearest tenth.
Source: Fehr & Peers, 2023

As displayed, the ACTC base year model (i.e., with the refinements presented above) and the VMT+ 2022 data estimate similar home-based VMT per capita. Therefore, although the base year model reflects 2014 conditions, it appears as though average trip lengths in the County have not significantly changed and it was determined that the ACTC travel demand model was the most appropriate available tool for estimating VMT for the proposed project.

The base year and cumulative year TDMs were updated to reflect the proposed project. It is noted that although the proposed project is in Unincorporated Amador County, it was included in the City of Plymouth

subarea as trip patterns associated with the proposed project are likely to resemble trips for residents in the City of Plymouth, given the project's proximity to the city. **Table 2** provides the base year and cumulative year home-based VMT per capita for both Amador County and the proposed project.

TABLE 2: HOME-BASED VMT PER CAPITA COMPARISON

Location	Base Year	Cumulative Year
Amador Countywide Average	32.0	33.3
Proposed Project	28.2	30.0
% Difference	-12%	-10%

Notes: VMT is rounded to the nearest tenth.
Source: Fehr & Peers, 2023

As displayed, the proposed project would generate approximately 12% less VMT than the base year Amador Countywide average and approximately 10% less than the cumulative year Amador Countywide average. Because the proposed project does not exceed the existing Amador Countywide average home-based VMT per capita, this impact is **less-than-significant.**

EVALUATION OF BICYCLE, PEDESTRIAN, AND TRANSIT IMPACTS

BICYCLE AND PEDESTRIAN FACILITIES

The proposed project includes a walking trail, which will be designed to provide a loop path throughout the open space areas of the project site. The project developer would coordinate with Amador County and the City of Plymouth to provide a future connection through Open Space Area A to a future phase of the Zinfandel Ridge Development. Said connection would not only be a recreational benefit to residents of both developments, but it would provide residents of the proposed project with an alternative pedestrian route to the City of Plymouth that would significantly reduce walk time compared to using SR 49. If the connection to Zinfandel Ridge is implemented, it should be designed to accommodate bicycles as well.

Roadways internal to the proposed project site will be designated as Class III bike routes and will be signed and striped accordingly. Roadways will be privately owned and maintained but will be designed to comply with Amador County standards.

The Amador Countywide Pedestrian and Bicycle Plan identifies SR 16 and SR 49 as an "Interregional Connector". More specifically, the Plan designates the following improvements near the project site:

- SR 16, west of the SR 16/SR 49 intersection to the county line – widen paved shoulders.

- SR 49, from Drytown to the SR 16/SR 49 intersection and continuing on SR 49 east to Plymouth - widen paved shoulders with priority on the section between SR 16 to Plymouth and add safety signage. From the SR 16/SR 49 intersection to Plymouth, add bike lanes.

The proposed project site does not extend east of the SR 16/SR 49 intersection. However, it does encompass part of the SR 16 frontage west of the SR 16/SR 49 intersection. If additional right-of-way is necessary to accommodate shoulder widening, the proposed project would dedicate right-of-way and/or construct the improvements if required by Caltrans. Note, the Caltrans District 10 Active Transportation Plan does not identify Tier 1 or Tier 2 priority improvements on SR 16. Therefore, it is unclear when or to what extent pedestrian and bicycle improvements may be constructed.

As discussed in greater detail under "Evaluation of Safety Impacts", intersections and roadways will be designed in coordination with Caltrans and in compliance with Caltrans standards and the Highway Design Manual. Careful consideration should be made regarding appropriate bicycle and pedestrian improvements at the study intersection of SR 16/SR 49. The Ione Band of Miwok Indians is required to add an additional northbound left turn lane in association with the Casino project in Plymouth, however, the timing of these improvements is unknown.

TRANSIT FACILITIES

As previously mentioned, two bus routes currently pass through the SR 16/SR 49 intersection: Route 1 which provides a connection between the Sutter Hill Transit Center and City of Sacramento and Route 3 which provides a connection between the Sutter Hill Transit Center and City of Plymouth. The Amador County Long Range Transit Development Plan (LSC Transportation Consultants, Inc., 2013) and Amador County Short Range Transit Development Plan (LSC Transportation Consultants, Inc., 2014) were reviewed and the proposed project would not disrupt any existing or interfere with any planned transit facilities. Although future stops are not explicitly called out in the plans, the project developer would coordinate with Amador Transit and Amador County to determine if a bus stop at the SR 16/SR 49 intersection is warranted. If a stop is warranted, the project developer has agreed to construct the bus stop and appropriate amenities.

Because the proposed project would not disrupt any existing, or interfere with any planned, bicycle, pedestrian, or transit facilities, and is not inconsistent with any policies contained in the Amador County General Plan, the proposed project would result in a **less-than-significant bicycle, pedestrian, and transit impact.**

EVALUATION OF SAFETY IMPACTS

The proposed project would add a north leg to the existing SR 16/SR 49 signalized intersection. Additional upgrades to the intersection would include an eastbound left turn lane, a westbound right turn lane, and modifications to convert the existing northbound left turn lane to a shared left/through lane. Based on the design speed of the roadway and anticipated storage needs, the Caltrans Highway Design Manual (HDM) requires a 580' deceleration lane for both the eastbound left and westbound right turn pockets. Intersection modifications would be done in compliance with the Highway Design Manual and subject to Caltrans review and approval.

The proposed project would also create new internal roadways which, although privately owned and maintained, would be designed to comply with Amador County standards. Amador County's Standard Plans (revised April 2021) include design criteria to ensure that residential subdivisions and non-subdivision public right-of-way and private street improvements are designed to meet or exceed uniform levels of sound engineering practice. The design criteria address speed, sight distance, minimum and maximum roadway grade, minimum curve radius, and lighting. As part of general engineering practice, all roadway facilities would also be designed to meet applicable industry standards from the HDM, the California Manual on Uniform Traffic Control Devices (CAMUTCD), and The American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets. Each development application would be subject to review and approval by the County, including the Fire Department, which would include a review of the Project's consistency with the County's design criteria to ensure safe vehicle access is provided, including for emergency vehicles. Therefore, implementation of the proposed project would not substantially increase hazards due to design features or incompatible uses and this impact is considered **less-than-significant**.

IV. ANALYSIS METHODOLOGY

This section describes the methodology and inputs used for the traffic operations analysis.

INTERSECTION OPERATIONS

The study intersections were analyzed using procedures and methodologies contained in the *Highway Capacity Manual – 7th Edition* (Transportation Research Board, 2022). These methodologies were applied using Synchro 11 software, which considers traffic volumes, lane configurations, signal timings, signal coordination and other pertinent parameters of intersection operations.

The following describes specific inputs, model parameters, and other aspects of the Synchro modeling, based on data collection efforts.

- Peak period traffic counts collected at the study intersections on November 9, 2022, provided by a previous consultant.
- Existing roadway geometrics and intersection lane configurations.
- The peak hour factor (PHF) observed at each intersection during the AM and PM peak hours was used. The PHF, which is a measure of peaking (lower values represent more peaking) during the busiest 15-minutes of the hour, ranges from 0.92 to 0.95 during the AM peak hour and 0.95 to 0.97 during the PM peak hour.
- The heavy vehicle percentage observed at each intersection during each peak hour was used.
- Pedestrian and bicycle volumes were not collected. Given the very rural nature of the study intersections, lack of bicycle and pedestrian facilities (including crosswalks at study intersections), and lack of development, no pedestrian or bicycle volumes were assumed.

LEVEL OF SERVICE DEFINITION

Each study intersection was analyzed using the concept of Level of Service (LOS). LOS is a quantitative measure of traffic operating conditions whereby a letter grade from A (the best) to F (the worst) is assigned. In general, LOS A represents free-flow conditions with no congestion and LOS F represents severe congestion and delay under stop-and-go conditions.

A LOS grade is assigned to each intersection based on the methodologies contained in the *Highway Capacity Manual 7th Edition (HCM)*, Transportation Research Board, 2022. The *HCM* methodology

determines the LOS at signalized intersections by comparing the weighted average control delay per vehicle at the intersection. At side-street stop-controlled intersections, LOS is calculated for each movement in addition to the intersection as a whole. **Table 3** presents delay ranges for each LOS for stop and signal-controlled intersections.

TABLE 3: LEVEL OF SERVICE DEFINITIONS FOR STUDY INTERSECTIONS

Level of Service	Average Control Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	≤ 10	≤ 10
B	> 10 to 15	> 10 to 20
C	> 15 to 25	> 20 to 35
D	> 25 to 35	> 35 to 55
E	> 35 to 50	> 55 to 80
F	> 50	> 80

Source: *Highway Capacity Manual*, Transportation Research Board, 2022

INTERSECTION PERFORMANCE TARGETS

As previously mentioned, intersections within the study area are operated and maintained by Caltrans. The TCR for SR 49 and SR 16 indicate the concept LOS on both roadways is LOS C in rural areas and LOS D in urban areas. The Amador County General Plan indicates the LOS target for roads in rural areas is LOS C. The project site is in a rural area; therefore, the intersection performance target is LOS C.

PROJECT TRIP GENERATION

Project trips were estimated using trip rates published in the *Trip Generation Manual 11th Edition* (Institute of Transportation Engineers, 2021). **Table 4** displays the estimated number of daily, AM peak hour, and PM peak hour vehicle trips for the proposed project.

TABLE 4: PROJECT TRIP GENERATION								
Land Use	**Quantity**	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
		Total	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Single-Family Detached Housing (ITE 210)	53 DU	563	42	11	31	55	35	20
Notes: Trip generation estimate is based on trip rates published in the *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021). The fitted curve equation was used. Source: Fehr & Peers, 2023								

As displayed, the proposed project is estimated to generate 563 daily, 42 AM peak hour, and 55 PM peak hour trips.

PROJECT TRIP DISTRIBUTION

Project trips were distributed based on existing travel patterns and output from the base year and cumulative year travel demand model. **Figure 2** displays the project trip distribution.

APPROVED/PENDING PROJECT TRIP GENERATION

Per Caltrans request, this traffic analysis includes an existing plus project plus approved/pending projects scenario. This scenario incorporates trips associated with the following developments, which either have not begun or have not completed construction.

- Zinfandel Ridge (full build out)
- The Ione Band of Miwok Indian Casino in Plymouth
- Greilich Ranch Subdivision and 49er RV Park Expansion

The traffic studies for the above referenced projects were reviewed and the trip generation and distribution estimated in the applicable traffic study for each development was incorporated in this scenario. **Table 5** displays the trip generation for the approved/pending projects.

TABLE 5: APPROVED/PENDING PROJECTS TRIP GENERATION								
Project	**Quantity**	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
		Total	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Zinfandel Ridge[1]	298 DU	1,891	192	20	172	156	123	33
Greilich Ranch[2]	234 DU	2,206	161	42	119	221	139	82
49er Village RV Resort[2]	214 RV Sites	888	43	18	25	71	41	30
Casino[3]	65 KSF / 250 Rooms	4,771	76	38	38	409	220	189
Total Vehicle Trips		**9,756**	**472**	**118**	**354**	**857**	**523**	**334**

Notes:
[1] Trip generation estimate is based on the trip generation estimate noted in the Shenandoah Ridge and Zinfandel Residential Development Draft EIR (LSA Associates, November 2010). For the Zinfandel Development, 350 units were analyzed; 52 units have been constructed so trips associated with those units were excluded from this estimate as they are already accounted for under existing conditions.
[2] Trip generation is based on the trip generation estimate noted in the Draft Greilich Ranch/49er Village RV Resort Transportation Analysis Report (Fehr & Peers, August 24, 2022).
[3] Daily and PM peak hour casino trip generation is based on the trip generation estimate noted in the Ione Band of Miwok Indians Casino/Hotel Proposal (Dowling Associated, Inc. November 7, 2008). The report did not include a trip generation estimate for AM peak hour conditions; therefore, the AM peak hour trip generation is based on data published in Gaming Casino Traffic (Box and Bunte, ITE Journal 1998).
Source: Fehr & Peers, 2023

FUTURE YEAR FORECASTS

Traffic volumes forecasts for cumulative year no project conditions were developed using the modified version of the Amador County TDM previously mentioned. It is important to note, aside from a thorough review of land use and roadway improvements in and around Jackson that was conducted for the City of Jackson SB 743 Implementation Guidelines, the travel demand model is essentially the "of-the-shelf" model provided by ACTC. An in-depth review of land use, roadway improvements, and an overall model validation was not completed for the proposed project. The only exception to this is confirmation (and updates where necessary) that the following projects were included in the cumulative year model:

- Zinfandel Ridge (full build out)
- The Ione Band of Miwok Indian Casino in Plymouth
- Greilich Ranch Subdivision and 49er RV Park Expansion

The cumulative no project traffic forecasts assume no development will occur at the proposed project site under cumulative year conditions. The traffic forecasting adjustment procedure known as the "difference method" was used to develop cumulative year AM and PM peak hour forecasts. For a given intersection, this forecasting procedure is calculated as follows for every movement at the study intersections.

Cumulative Year Forecast = Existing Volume + (Cumulative Year TDF Model – Base Year TDF Model)

Note, in some cases, the trip generation in the cumulative year TDM for the "approved/pending projects" previously discussed, was less than the trip generation estimated in the traffic studies. When this occurred, the greater trip generation estimate was used (e.g. decreases from the existing plus project plus approved/pending projects scenario to the cumulative no project scenario were not allowed).

V. INTERSECTION OPERATIONS ANALYSIS

This section presents the results of the peak hour intersection operations analysis under the following scenarios:

- Existing
- Existing Plus Project
- Existing Plus Project Plus Approved/Pending Projects
- Cumulative No Project
- Cumulative Plus Project

Technical information for all scenarios is provided in **Appendix A**.

INTERSECTION OPERATIONS

EXISTING, EXISTING PLUS PROJECT, AND EXISTING PLUS APPROVED/PENDING PROJECTS CONDITIONS

Intersection operations were analyzed following the analysis methodologies presented in Section IV. For existing plus project conditions, project trips were added to existing traffic counts based on the trip generation and distribution previously described. For existing plus project plus approved/pending projects conditions, trips displayed in Table 5 were added to existing plus project volumes. **Table 6** displays the AM and PM peak hour operations at the study intersections under these three scenarios.

TABLE 6: INTERSECTION OPERATIONS ANALYSIS – EXISTING CONDITIONS

Intersection	Control Type	Peak Hour	Existing		Existing Plus Project		Existing Plus Project Plus Approved/ Pending Projects	
			Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
1. SR 16/SR 49[2]	Signal	AM PM	14 13	B B	18 18	B B	24 20	C C
2. SR 16/SR 124	SSSC	AM PM	2 (17) 2 (19)	A (C) A (C)	2 (17) 2 (20)	A (C) A (C)	2 (20) **4 (39)**	A (C) **A (E)**

Notes:
Bold indicates intersection exceeds performance target LOS.

SSSC = Side-Street Stop Control; LOS = Level of Service
[1] For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, intersection delay is reported seconds per vehicle for the overall intersection and (worst-case) movement. Intersection delay is calculated based on the procedures and methodology contained in the Highway Capacity Manual 6th Edition (Transportation Research, 2016).
[2] A north leg was added for the existing plus project and existing plus project plus approved/pending projects scenarios.
Source: Fehr & Peers, 2023

As displayed, both intersections would operate acceptably during the AM and PM peak hours under existing and existing plus project conditions. Under existing plus project plus approved/pending projects conditions, Intersection 1 would operate acceptably during the AM and PM peak hours and Intersection 2 would operate acceptably during the AM peak hour. However, during the PM peak hour, Intersection 2 would operate at LOS E with 39 seconds of delay, which exceeds the performance target of LOS C.

This increase in delay is largely attributed to vehicle trips associated with the proposed casino project in Plymouth, which is required to install a traffic signal at Intersection 2, and an additional northbound left turn lane at Intersection 1. As displayed in Table 5, the casino is estimated to generate over 400 trips during the PM peak hour with most of the trips passing through the study intersections. The worst-case movement at Intersection 2 is the northbound left turn, indicating motorists would likely have a difficult time turning onto SR 16 given the heavy through traffic and conflicting turning movements. Because the proposed project would not cause the intersection to degrade to an unacceptable level of service, requiring intersection improvements with the proposed project is not recommended. However, the proposed project would be required to pay traffic impact fees which would fund their fair share towards future roadway improvements.

CUMULATIVE CONDITIONS

Cumulative no project forecasts were developed using the methodologies presented in Section IV. Project trips were added to cumulative no project volumes to develop cumulative plus project volumes. The mitigation measures required by the casino, including an additional northbound left turn lane at Intersection 1 and installation of a traffic signal at Intersection 2 were assumed in place under cumulative conditions, as directed by Amador County. Traffic signal timings were optimized for cumulative no project conditions.
Table 7 presents the results of the intersection operations analysis for both scenarios.

TABLE 7: INTERSECTION OPERATIONS ANALYSIS – CUMULATIVE CONDITIONS						
Intersection	**Control Type**	**Peak Hour**	**Cumulative No Project**		**Cumulative Plus Project**	
			Delay[1]	**LOS**	**Delay[1]**	**LOS**
1. SR 16/SR 49[2]	Signal	AM PM	15 13	B B	19 17	B B
2. SR 16/SR 124	Signal	AM PM	8 12	A B	9 12	A B

Notes:
Bold indicates intersection exceeds performance target LOS.
SSSC = Side-Street Stop Control; LOS = Level of Service
[1] For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, intersection delay is reported seconds per vehicle for the overall intersection and (worst-case) movement. Intersection delay is calculated based on the procedures and methodology contained in the Highway Capacity Manual 6th Edition (Transportation Research, 2016).
[2] A north leg was added for the cumulative plus project scenario. Signal timings were optimized.
Source: Fehr & Peers, 2023

As displayed, both study intersections operate acceptably during the AM and PM peak hours under both cumulative scenarios. Additional intersection improvements are not recommended.

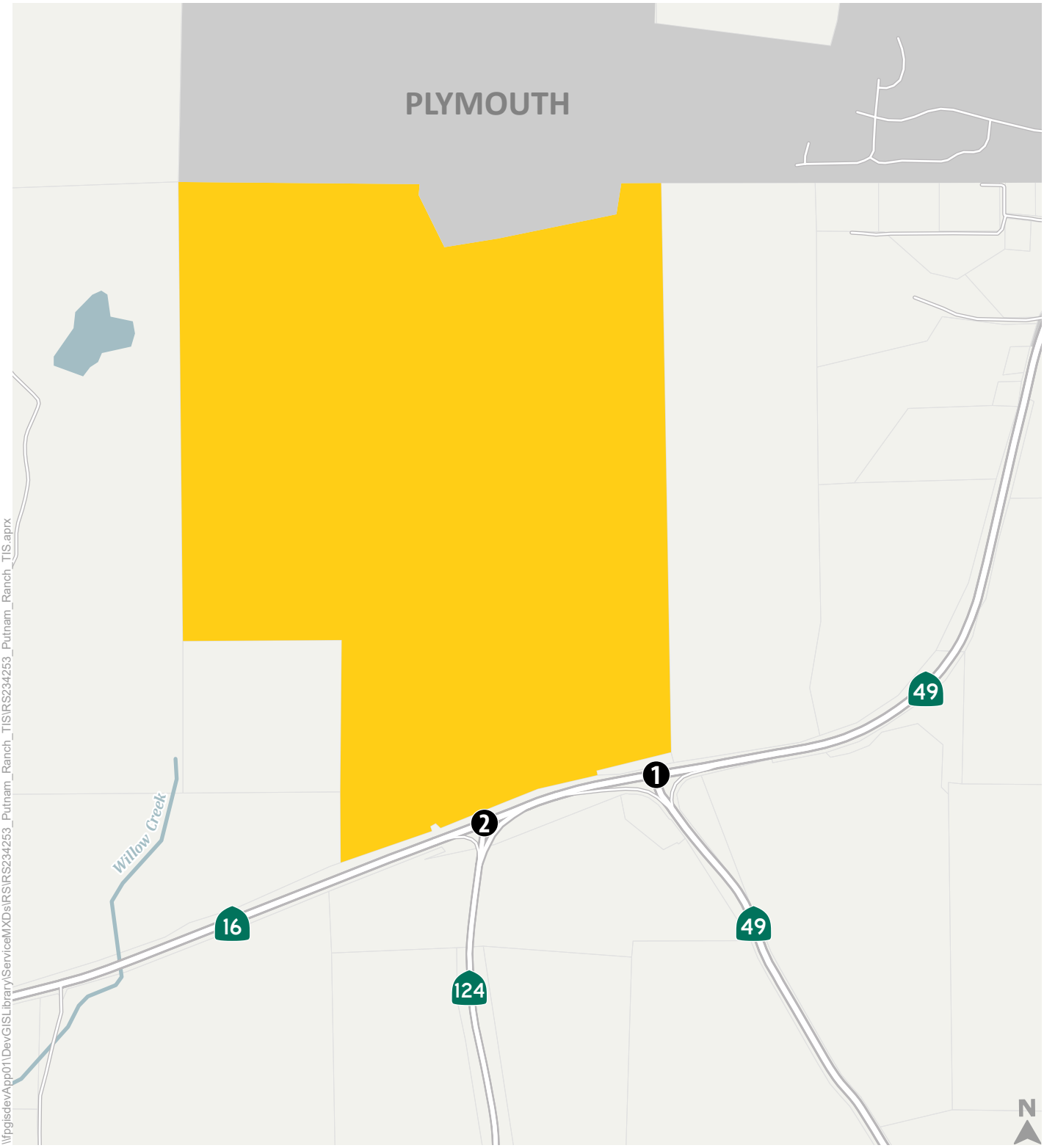
Figure 1: Project Location

Figure 2: Project Trip Distribution

Figure 3: Existing, Existing Plus Project, and Existing Plus Project Plus Approved/Pending Projects Peak Hour Turning Movement Volumes

Figure 4: Cumulative No Project and Cumulative Plus Project Peak Hour Turning Movement Volumes

APPENDIX A: INPUTS AND TECHNICAL CALCULATIONS



1 Study Intersection

Project Site

Figure 1

Project Location

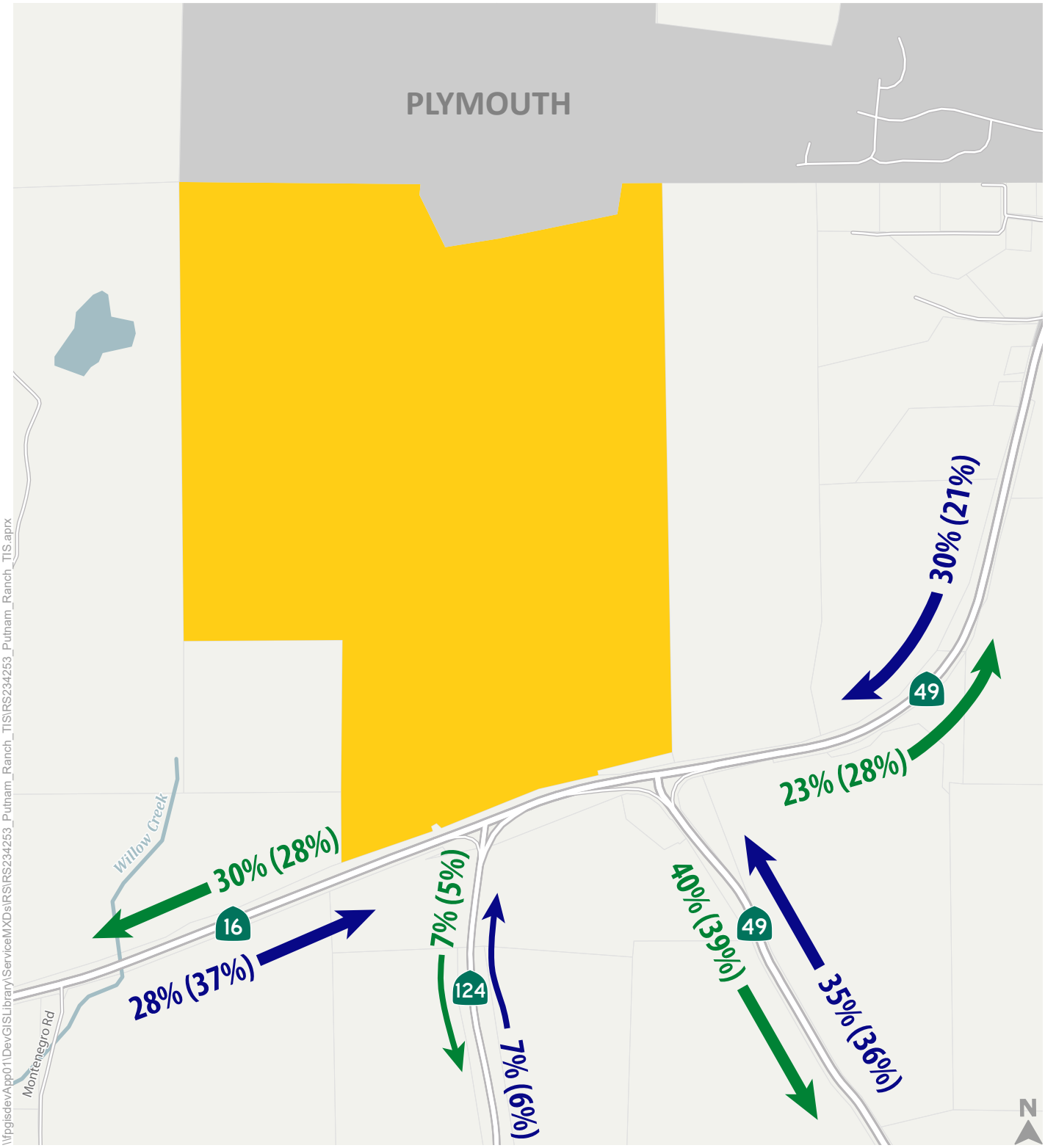
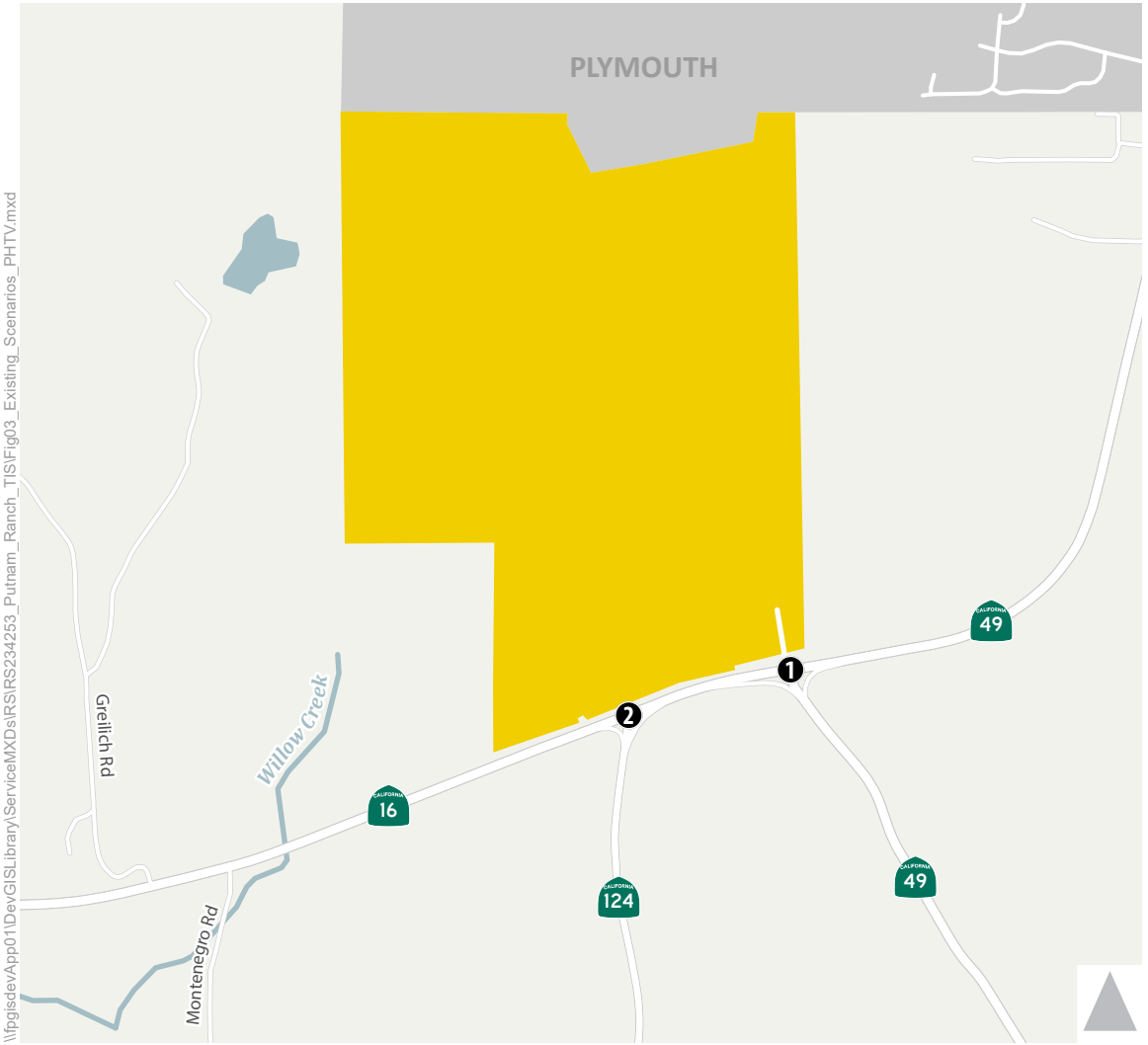


Figure 2

Project Trip Distribution



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1 Study Intersection

Project Site

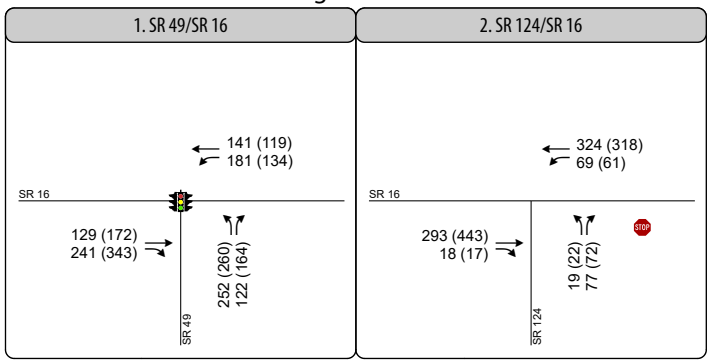
Turn Lane

AM (PM) Peak Hour Traffic Volume

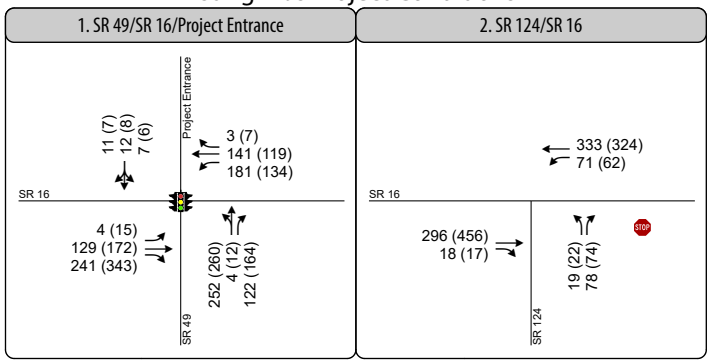
Traffic Signal

Stop Sign

Existing Conditions



Existing Plus Project Conditions



Existing Plus Approved Plus Project

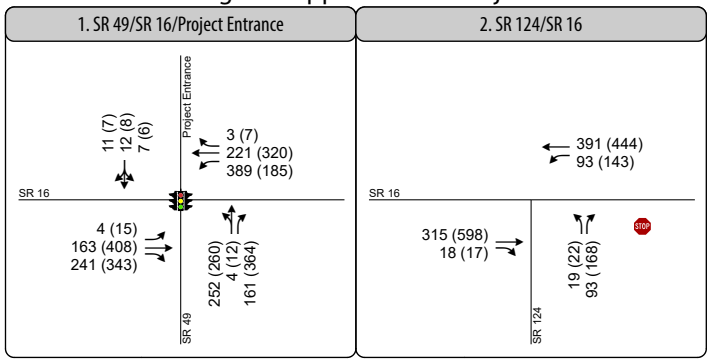
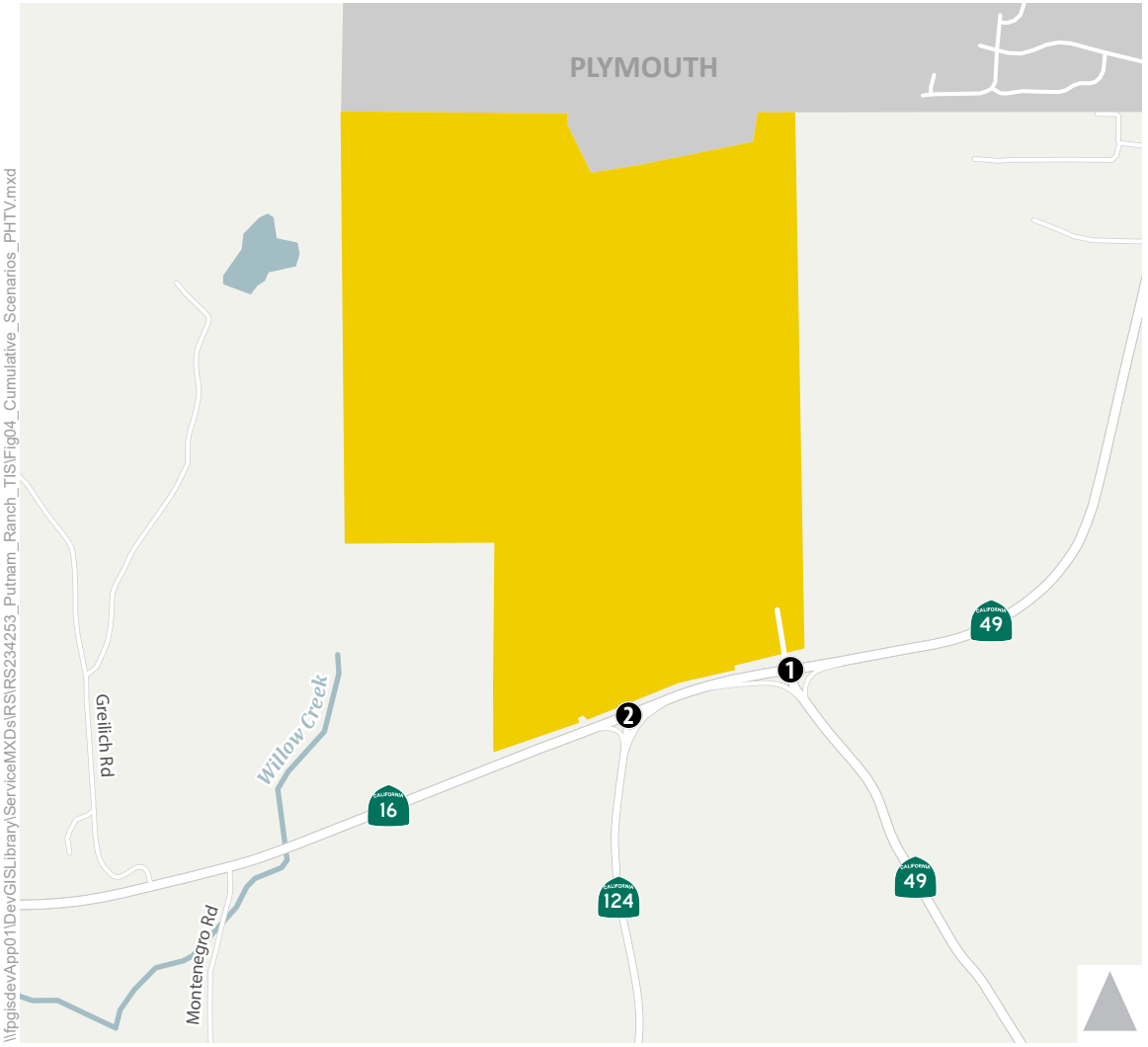


Figure 3

Peak Hour Traffic Volumes and Lane Configurations - Existing Scenarios



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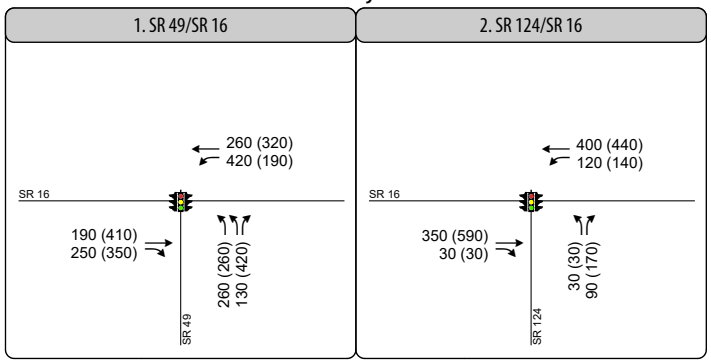
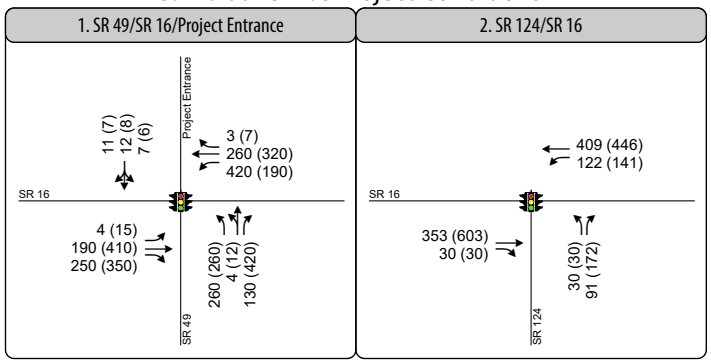
1 Study Intersection

Project Site

Cumulative No Project Conditions



Cumulative Plus Project Conditions



Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 4

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Scenarios

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	129	241	181	141	252	122
Future Volume (veh/h)	129	241	181	141	252	122
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	136	0	191	148	265	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	314		255	801	334	
Arrive On Green	0.17	0.00	0.15	0.44	0.19	0.00
Sat Flow, veh/h	1826	1547	1739	1826	1739	1547
Grp Volume(v), veh/h	136	0	191	148	265	0
Grp Sat Flow(s),veh/h/ln	1826	1547	1739	1826	1739	1547
Q Serve(g_s), s	2.3	0.0	3.7	1.7	5.1	0.0
Cycle Q Clear(g_c), s	2.3	0.0	3.7	1.7	5.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	314		255	801	334	
V/C Ratio(X)	0.43		0.75	0.18	0.79	
Avail Cap(c_a), veh/h	1882		996	1882	1991	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.9	0.0	14.3	6.0	13.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	4.4	0.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.2	0.2	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	0.0	18.7	6.0	15.1	0.0
LnGrp LOS	B		B	A	B	
Approach Vol, veh/h	136	A		339	265	A
Approach Delay, s/veh	13.3			13.2	15.1	
Approach LOS	B			B	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	9.3	12.4				21.7	13.2
Change Period (Y+Rc), s	* 4.2	6.4				6.4	6.5
Max Green Setting (Gmax), s	* 20	36.0				36.0	40.0
Max Q Clear Time (g_c+I1), s	5.7	4.3				3.7	7.1
Green Ext Time (p_c), s	0.4	0.1				0.1	0.2

Intersection Summary		
HCM 6th Ctrl Delay		13.9
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	293	18	69	324	19	77
Future Vol, veh/h	293	18	69	324	19	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	200	265	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	318	20	75	352	21	84

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	318	0	820	318
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	502	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	0	1225	-	341	716
Stage 1	-	0	-	-	731	-
Stage 2	-	0	-	-	602	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1225	-	320	716
Mov Cap-2 Maneuver	-	-	-	-	320	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	565	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	320	716	-	1225	-
HCM Lane V/C Ratio	0.065	0.117	-	0.061	-
HCM Control Delay (s)	17	10.7	-	8.1	-
HCM Lane LOS	C	B	-	A	-
HCM 95th %tile Q(veh)	0.2	0.4	-	0.2	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	172	343	134	119	260	164
Future Volume (veh/h)	172	343	134	119	260	164
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	177	0	138	123	268	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	337		192	774	340	
Arrive On Green	0.18	0.00	0.11	0.42	0.19	0.00
Sat Flow, veh/h	1856	1572	1767	1856	1767	1572
Grp Volume(v), veh/h	177	0	138	123	268	0
Grp Sat Flow(s),veh/h/ln	1856	1572	1767	1856	1767	1572
Q Serve(g_s), s	2.9	0.0	2.5	1.4	4.8	0.0
Cycle Q Clear(g_c), s	2.9	0.0	2.5	1.4	4.8	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	337		192	774	340	
V/C Ratio(X)	0.53		0.72	0.16	0.79	
Avail Cap(c_a), veh/h	2020		1069	2020	1871	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	14.2	6.0	12.7	0.0
Incr Delay (d2), s/veh	0.5	0.0	5.0	0.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.9	0.2	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.7	0.0	19.2	6.0	14.2	0.0
LnGrp LOS	B		B	A	B	
Approach Vol, veh/h	177	A		261	268	A
Approach Delay, s/veh	12.7			13.0	14.2	
Approach LOS	B			B	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	7.8	12.4				20.2	12.9
Change Period (Y+Rc), s	* 4.2	6.4				6.4	6.5
Max Green Setting (Gmax), s	* 20	36.0				36.0	35.0
Max Q Clear Time (g_c+I1), s	4.5	4.9				3.4	6.8
Green Ext Time (p_c), s	0.3	0.1				0.1	0.2

Intersection Summary		
HCM 6th Ctrl Delay		13.4
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

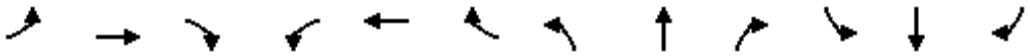
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	443	17	61	318	22	72
Future Vol, veh/h	443	17	61	318	22	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	200	265	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	466	18	64	335	23	76

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	466	0	929	466
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	463	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1085	-	295	592
Stage 1	-	0	-	-	627	-
Stage 2	-	0	-	-	629	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1085	-	278	592
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	592	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	278	592	-	1085	-
HCM Lane V/C Ratio	0.083	0.128	-	0.059	-
HCM Control Delay (s)	19.1	12	-	8.5	-
HCM Lane LOS	C	B	-	A	-
HCM 95th %tile Q(veh)	0.3	0.4	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	129	241	181	141	3	252	4	122	7	12	11
Future Volume (veh/h)	4	129	241	181	141	3	252	4	122	7	12	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1826	1826	1826	1870	1826	1870	1826	1870	1870	1870
Adj Flow Rate, veh/h	4	136	0	191	148	3	265	4	0	8	13	12
Peak Hour Factor	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	5	5	5	2	5	2	5	2	2	2
Cap, veh/h	330	247		251	684	594	342	5		16	26	24
Arrive On Green	0.14	0.14	0.00	0.14	0.37	0.37	0.19	0.19	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1236	1826	1547	1739	1826	1585	1756	27	1547	421	684	631
Grp Volume(v), veh/h	4	136	0	191	148	3	269	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1236	1826	1547	1739	1826	1585	1783	0	1547	1736	0	0
Q Serve(g_s), s	0.1	3.1	0.0	4.7	2.4	0.1	6.3	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.1	0.0	4.7	2.4	0.1	6.3	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.99		1.00	0.24		0.36
Lane Grp Cap(c), veh/h	330	247		251	684	594	347	0		65	0	0
V/C Ratio(X)	0.01	0.55		0.76	0.22	0.01	0.77	0.00		0.50	0.00	0.00
Avail Cap(c_a), veh/h	1168	1484		785	1484	1289	1610	0		706	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.6	17.9	0.0	18.2	9.4	8.7	16.9	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	4.7	0.1	0.0	1.4	0.0	0.0	5.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	0.0	1.7	0.6	0.0	2.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	18.6	0.0	23.0	9.5	8.7	18.3	0.0	0.0	26.8	0.0	0.0
LnGrp LOS	B	B		C	A	A	B	A		C	A	A
Approach Vol, veh/h		140	A		342			269	A		33	
Approach Delay, s/veh		18.5			17.0			18.3			26.8	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.6	12.4		6.2		23.0		15.1				
Change Period (Y+Rc), s	* 4.2	6.4		4.5		6.4		6.5				
Max Green Setting (Gmax), s	* 20	36.0		18.0		36.0		40.0				
Max Q Clear Time (g_c+I1), s	6.7	5.1		2.8		4.4		8.3				
Green Ext Time (p_c), s	0.4	0.1		0.1		0.1		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		18.1	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

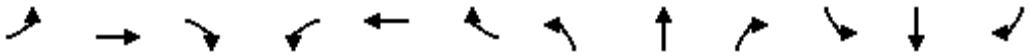
Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	296	18	71	333	19	78
Future Vol, veh/h	296	18	71	333	19	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	200	265	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	322	20	77	362	21	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	322	0	838	322
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	0	1221	-	332	712
Stage 1	-	0	-	-	728	-
Stage 2	-	0	-	-	593	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1221	-	311	712
Mov Cap-2 Maneuver	-	-	-	-	311	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	556	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	311	712	-	1221	-
HCM Lane V/C Ratio	0.066	0.119	-	0.063	-
HCM Control Delay (s)	17.4	10.7	-	8.1	-
HCM Lane LOS	C	B	-	A	-
HCM 95th %tile Q(veh)	0.2	0.4	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	172	343	134	119	7	260	12	164	6	8	7
Future Volume (veh/h)	15	172	343	134	119	7	260	12	164	6	8	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1856	1856	1870	1856	1870	1856	1870	1870	1870
Adj Flow Rate, veh/h	16	177	0	138	123	8	268	13	0	7	9	8
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	3	3	2	3	2	3	2	2	2
Cap, veh/h	356	267		184	647	553	347	17		15	19	17
Arrive On Green	0.14	0.14	0.00	0.10	0.35	0.35	0.20	0.20	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1268	1856	1572	1767	1856	1585	1703	83	1572	508	653	580
Grp Volume(v), veh/h	16	177	0	138	123	8	281	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	1268	1856	1572	1767	1856	1585	1785	0	1572	1741	0	0
Q Serve(g_s), s	0.5	3.8	0.0	3.2	1.9	0.1	6.2	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.8	0.0	3.2	1.9	0.1	6.2	0.0	0.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.95		1.00	0.29		0.33
Lane Grp Cap(c), veh/h	356	267		184	647	553	364	0		51	0	0
V/C Ratio(X)	0.04	0.66		0.75	0.19	0.01	0.77	0.00		0.47	0.00	0.00
Avail Cap(c_a), veh/h	1270	1605		849	1605	1371	1501	0		753	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.4	16.8	0.0	18.1	9.4	8.9	15.7	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	6.1	0.1	0.0	1.3	0.0	0.0	6.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.2	0.0	1.3	0.5	0.0	1.9	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	17.9	0.0	24.2	9.5	8.9	17.0	0.0	0.0	26.6	0.0	0.0
LnGrp LOS	B	B		C	A	A	B	A		C	A	A
Approach Vol, veh/h		193	A		269			281	A		24	
Approach Delay, s/veh		17.7			17.0			17.0			26.6	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.5	12.4		5.7		20.9		15.0				
Change Period (Y+Rc), s	* 4.2	6.4		4.5		6.4		6.5				
Max Green Setting (Gmax), s	* 20	36.0		18.0		36.0		35.0				
Max Q Clear Time (g_c+I1), s	5.2	5.8		2.6		3.9		8.2				
Green Ext Time (p_c), s	0.3	0.1		0.0		0.1		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		17.5	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

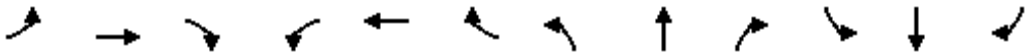
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	456	17	62	324	22	74
Future Vol, veh/h	456	17	62	324	22	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	200	265	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	480	18	65	341	23	78

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	480	0	951	480
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	471	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	1072	-	286	582
Stage 1	-	0	-	-	618	-
Stage 2	-	0	-	-	624	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1072	-	269	582
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	586	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	269	582	-	1072	-
HCM Lane V/C Ratio	0.086	0.134	-	0.061	-
HCM Control Delay (s)	19.6	12.1	-	8.6	-
HCM Lane LOS	C	B	-	A	-
HCM 95th %tile Q(veh)	0.3	0.5	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	163	241	389	221	3	252	4	161	7	12	11
Future Volume (veh/h)	4	163	241	389	221	3	252	4	161	7	12	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1826	1826	1826	1870	1826	1870	1826	1870	1870	1870
Adj Flow Rate, veh/h	4	172	0	409	233	3	265	4	0	8	13	12
Peak Hour Factor	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	5	5	5	2	5	2	5	2	2	2
Cap, veh/h	273	234		469	861	747	329	5		15	24	23
Arrive On Green	0.13	0.13	0.00	0.27	0.47	0.47	0.19	0.19	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1144	1826	1547	1739	1826	1585	1756	27	1547	421	684	631
Grp Volume(v), veh/h	4	172	0	409	233	3	269	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1144	1826	1547	1739	1826	1585	1783	0	1547	1736	0	0
Q Serve(g_s), s	0.2	5.2	0.0	12.8	4.4	0.1	8.2	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	5.2	0.0	12.8	4.4	0.1	8.2	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.99		1.00	0.24		0.36
Lane Grp Cap(c), veh/h	273	234		469	861	747	334	0		62	0	0
V/C Ratio(X)	0.01	0.74		0.87	0.27	0.00	0.80	0.00		0.53	0.00	0.00
Avail Cap(c_a), veh/h	849	1153		610	1153	1001	1251	0		548	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.8	23.9	0.0	19.9	9.1	8.0	22.2	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	10.6	0.1	0.0	1.7	0.0	0.0	6.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.0	5.4	1.2	0.0	3.0	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	25.6	0.0	30.5	9.2	8.0	23.9	0.0	0.0	33.9	0.0	0.0
LnGrp LOS	C	C		C	A	A	C	A		C	A	A
Approach Vol, veh/h		176	A		645			269	A		33	
Approach Delay, s/veh		25.5			22.7			23.9			33.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.6	13.7		6.5		33.3		17.2				
Change Period (Y+Rc), s	* 4.2	6.4		4.5		6.4		6.5				
Max Green Setting (Gmax), s	* 20	36.0		18.0		36.0		40.0				
Max Q Clear Time (g_c+I1), s	14.8	7.2		3.1		6.4		10.2				
Green Ext Time (p_c), s	0.6	0.1		0.1		0.2		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		23.8	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

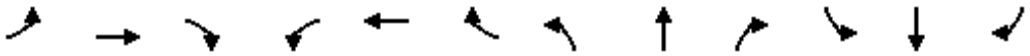
Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	315	18	93	391	19	93
Future Vol, veh/h	315	18	93	391	19	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	200	265	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	342	20	101	425	21	101

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	342	0	969	342
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	627	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	0	1200	-	278	694
Stage 1	-	0	-	-	713	-
Stage 2	-	0	-	-	527	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1200	-	255	694
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	483	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	255	694	-	1200	-
HCM Lane V/C Ratio	0.081	0.146	-	0.084	-
HCM Control Delay (s)	20.4	11.1	-	8.3	-
HCM Lane LOS	C	B	-	A	-
HCM 95th %tile Q(veh)	0.3	0.5	-	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	408	343	185	320	7	260	12	364	6	8	7
Future Volume (veh/h)	15	408	343	185	320	7	260	12	364	6	8	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1856	1856	1870	1856	1870	1856	1870	1870	1870
Adj Flow Rate, veh/h	16	421	0	191	330	8	268	13	0	7	9	8
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	3	3	2	3	2	3	2	2	2
Cap, veh/h	398	480		245	875	747	331	16		14	18	16
Arrive On Green	0.26	0.26	0.00	0.14	0.47	0.47	0.19	0.19	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1050	1856	1572	1767	1856	1585	1703	83	1572	508	653	580
Grp Volume(v), veh/h	16	421	0	191	330	8	281	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	1050	1856	1572	1767	1856	1585	1785	0	1572	1741	0	0
Q Serve(g_s), s	0.7	12.4	0.0	5.9	6.5	0.2	8.5	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	12.4	0.0	5.9	6.5	0.2	8.5	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.95		1.00	0.29		0.33
Lane Grp Cap(c), veh/h	398	480		245	875	747	347	0		48	0	0
V/C Ratio(X)	0.04	0.88		0.78	0.38	0.01	0.81	0.00		0.50	0.00	0.00
Avail Cap(c_a), veh/h	792	1176		622	1176	1004	1100	0		551	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	20.2	0.0	23.6	9.6	8.0	21.9	0.0	0.0	27.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.1	0.0	5.3	0.1	0.0	1.7	0.0	0.0	7.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.5	0.0	2.4	1.8	0.0	3.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	22.2	0.0	28.9	9.7	8.0	23.6	0.0	0.0	34.9	0.0	0.0
LnGrp LOS	B	C		C	A	A	C	A		C	A	A
Approach Vol, veh/h		437	A		529			281	A		24	
Approach Delay, s/veh		22.0			16.6			23.6			34.9	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.1	21.1		6.1		33.2		17.5				
Change Period (Y+Rc), s	* 4.2	6.4		4.5		6.4		6.5				
Max Green Setting (Gmax), s	* 20	36.0		18.0		36.0		35.0				
Max Q Clear Time (g_c+I1), s	7.9	14.4		2.8		8.5		10.5				
Green Ext Time (p_c), s	0.4	0.3		0.0		0.3		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		20.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	598	17	143	444	22	168
Future Vol, veh/h	598	17	143	444	22	168
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	200	265	-	0	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	629	18	151	467	23	177

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	629	0	1398	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	769	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	0	944	-	154	479
Stage 1	-	0	-	-	528	-
Stage 2	-	0	-	-	454	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	944	-	129	479
Mov Cap-2 Maneuver	-	-	-	-	129	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	381	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	19.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	129	479	-	944	-
HCM Lane V/C Ratio	0.18	0.369	-	0.159	-
HCM Control Delay (s)	38.9	16.8	-	9.5	-
HCM Lane LOS	E	C	-	A	-
HCM 95th %tile Q(veh)	0.6	1.7	-	0.6	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	190	250	420	260	260	130
Future Volume (veh/h)	190	250	420	260	260	130
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	200	0	442	274	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	284		530	1026	428	
Arrive On Green	0.16	0.00	0.30	0.56	0.13	0.00
Sat Flow, veh/h	1826	1547	1739	1826	3374	1547
Grp Volume(v), veh/h	200	0	442	274	274	0
Grp Sat Flow(s),veh/h/ln	1826	1547	1739	1826	1687	1547
Q Serve(g_s), s	4.3	0.0	9.8	3.2	3.2	0.0
Cycle Q Clear(g_c), s	4.3	0.0	9.8	3.2	3.2	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	284		530	1026	428	
V/C Ratio(X)	0.70		0.83	0.27	0.64	
Avail Cap(c_a), veh/h	1586		839	1586	3256	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.6	0.0	13.4	4.7	17.2	0.0
Incr Delay (d2), s/veh	1.2	0.0	4.2	0.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	3.0	0.3	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.8	0.0	17.6	4.7	17.8	0.0
LnGrp LOS	B		B	A	B	
Approach Vol, veh/h	200	A		716	274	A
Approach Delay, s/veh	17.8			12.7	17.8	
Approach LOS	B			B	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	16.8	12.9				29.7	11.8
Change Period (Y+Rc), s	* 4.2	6.4				6.4	6.5
Max Green Setting (Gmax), s	* 20	36.0				36.0	40.0
Max Q Clear Time (g_c+I1), s	11.8	6.3				5.2	5.2
Green Ext Time (p_c), s	0.9	0.2				0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	350	30	120	400	30	90
Future Volume (veh/h)	350	30	120	400	30	90
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	380	0	130	435	33	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	536		224	1139	69	
Arrive On Green	0.29	0.00	0.13	0.62	0.04	0.00
Sat Flow, veh/h	1826	1547	1739	1826	1739	1547
Grp Volume(v), veh/h	380	0	130	435	33	0
Grp Sat Flow(s),veh/h/ln	1826	1547	1739	1826	1739	1547
Q Serve(g_s), s	5.9	0.0	2.2	3.7	0.6	0.0
Cycle Q Clear(g_c), s	5.9	0.0	2.2	3.7	0.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	536		224	1139	69	
V/C Ratio(X)	0.71		0.58	0.38	0.48	
Avail Cap(c_a), veh/h	1092		328	1741	1040	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.0	0.0	13.0	3.0	14.9	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.9	0.1	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.6	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.0	13.9	3.0	20.0	0.0
LnGrp LOS	B		B	A	B	
Approach Vol, veh/h	380	A		565	33	A
Approach Delay, s/veh	11.8			5.5	20.0	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	10.5	15.8				26.3	5.5
Change Period (Y+Rc), s	6.4	* 6.5				6.5	4.2
Max Green Setting (Gmax), s	6.0	* 19				30.3	19.0
Max Q Clear Time (g_c+I1), s	4.2	7.9				5.7	2.6
Green Ext Time (p_c), s	0.0	1.4				0.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	410	350	190	320	260	420
Future Volume (veh/h)	410	350	190	320	260	420
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	423	0	196	330	268	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	510		253	983	430	
Arrive On Green	0.27	0.00	0.14	0.53	0.13	0.00
Sat Flow, veh/h	1856	1572	1767	1856	3428	1572
Grp Volume(v), veh/h	423	0	196	330	268	0
Grp Sat Flow(s),veh/h/ln	1856	1572	1767	1856	1714	1572
Q Serve(g_s), s	8.0	0.0	4.0	3.8	2.8	0.0
Cycle Q Clear(g_c), s	8.0	0.0	4.0	3.8	2.8	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	510		253	983	430	
V/C Ratio(X)	0.83		0.78	0.34	0.62	
Avail Cap(c_a), veh/h	897		439	1566	962	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.7	0.0	15.5	5.0	15.5	0.0
Incr Delay (d2), s/veh	1.3	0.0	5.1	0.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.4	0.4	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.1	0.0	20.5	5.1	16.1	0.0
LnGrp LOS	B		C	A	B	
Approach Vol, veh/h	423	A		526	268	A
Approach Delay, s/veh	14.1			10.9	16.1	
Approach LOS	B			B	B	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.6	16.7			26.2	11.2
Change Period (Y+Rc), s	* 4.2	6.4			6.4	6.5
Max Green Setting (Gmax), s	* 9.3	18.1			31.6	10.5
Max Q Clear Time (g_c+I1), s	6.0	10.0			5.8	4.8
Green Ext Time (p_c), s	0.2	0.3			0.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	590	30	140	440	30	170
Future Volume (veh/h)	590	30	140	440	30	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	621	0	147	463	32	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	749		194	1210	191	
Arrive On Green	0.41	0.00	0.11	0.66	0.11	0.00
Sat Flow, veh/h	1841	1560	1753	1841	1753	1560
Grp Volume(v), veh/h	621	0	147	463	32	0
Grp Sat Flow(s),veh/h/ln	1841	1560	1753	1841	1753	1560
Q Serve(g_s), s	13.8	0.0	3.7	5.3	0.8	0.0
Cycle Q Clear(g_c), s	13.8	0.0	3.7	5.3	0.8	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	749		194	1210	191	
V/C Ratio(X)	0.83		0.76	0.38	0.17	
Avail Cap(c_a), veh/h	1136		291	1606	738	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	19.8	3.6	18.5	0.0
Incr Delay (d2), s/veh	3.2	0.0	2.6	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	1.3	0.2	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.4	0.0	22.3	3.7	18.9	0.0
LnGrp LOS	B		C	A	B	
Approach Vol, veh/h	621	A		610	32	A
Approach Delay, s/veh	15.4			8.2	18.9	
Approach LOS	B			A	B	

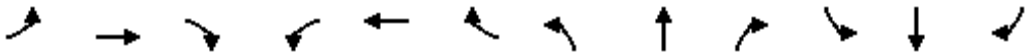
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	11.5	25.2				36.6	9.2
Change Period (Y+Rc), s	6.4	* 6.5				6.5	4.2
Max Green Setting (Gmax), s	7.6	* 28				40.0	19.3
Max Q Clear Time (g_c+I1), s	5.7	15.8				7.3	2.8
Green Ext Time (p_c), s	0.0	2.8				1.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay		12.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	190	250	420	260	3	260	4	130	7	12	11
Future Volume (veh/h)	4	190	250	420	260	3	260	4	130	7	12	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1826	1826	1826	1870	1826	1870	1826	1870	1870	1870
Adj Flow Rate, veh/h	4	200	0	442	274	3	277	0	0	8	13	12
Peak Hour Factor	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	5	5	5	2	5	2	5	2	2	2
Cap, veh/h	295	264		516	951	825	400	0		15	25	23
Arrive On Green	0.14	0.14	0.00	0.30	0.52	0.52	0.12	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1102	1826	1547	1739	1826	1585	3478	0	1547	421	684	631
Grp Volume(v), veh/h	4	200	0	442	274	3	277	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1102	1826	1547	1739	1826	1585	1739	0	1547	1736	0	0
Q Serve(g_s), s	0.2	5.6	0.0	12.7	4.5	0.0	4.1	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	5.6	0.0	12.7	4.5	0.0	4.1	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.24		0.36
Lane Grp Cap(c), veh/h	295	264		516	951	825	400	0		63	0	0
V/C Ratio(X)	0.01	0.76		0.86	0.29	0.00	0.69	0.00		0.52	0.00	0.00
Avail Cap(c_a), veh/h	408	451		878	1518	1318	688	0		589	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.5	21.8	0.0	17.6	7.2	6.1	22.6	0.0	0.0	25.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	4.3	0.1	0.0	0.8	0.0	0.0	6.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	0.0	4.4	1.0	0.0	1.4	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	23.5	0.0	21.9	7.2	6.1	23.4	0.0	0.0	31.7	0.0	0.0
LnGrp LOS	B	C		C	A	A	C	A		C	A	A
Approach Vol, veh/h		204	A		719			277	A		33	
Approach Delay, s/veh		23.4			16.2			23.4			31.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	20.0	14.1		6.4		34.0		12.6				
Change Period (Y+Rc), s	* 4.2	6.4		4.5		6.4		6.5				
Max Green Setting (Gmax), s	* 27	13.1		18.0		44.1		10.5				
Max Q Clear Time (g_c+I1), s	14.7	7.6		3.0		6.5		6.1				
Green Ext Time (p_c), s	1.1	0.1		0.1		0.2		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		19.4	
HCM 6th LOS		B	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	353	30	122	409	30	91
Future Volume (veh/h)	353	30	122	409	30	91
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	384	0	133	445	33	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	539		226	1142	69	
Arrive On Green	0.30	0.00	0.13	0.63	0.04	0.00
Sat Flow, veh/h	1826	1547	1739	1826	1739	1547
Grp Volume(v), veh/h	384	0	133	445	33	0
Grp Sat Flow(s),veh/h/ln	1826	1547	1739	1826	1739	1547
Q Serve(g_s), s	6.0	0.0	2.3	3.9	0.6	0.0
Cycle Q Clear(g_c), s	6.0	0.0	2.3	3.9	0.6	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	539		226	1142	69	
V/C Ratio(X)	0.71		0.59	0.39	0.48	
Avail Cap(c_a), veh/h	1085		326	1731	1034	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.1	0.0	13.1	3.0	15.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.9	0.1	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.6	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.0	14.0	3.0	20.1	0.0
LnGrp LOS	B		B	A	C	
Approach Vol, veh/h	384	A		578	33	A
Approach Delay, s/veh	11.8			5.6	20.1	
Approach LOS	B			A	C	

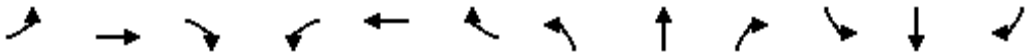
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	10.6	15.9				26.5	5.5
Change Period (Y+Rc), s	6.4	* 6.5				6.5	4.2
Max Green Setting (Gmax), s	6.0	* 19				30.3	19.0
Max Q Clear Time (g_c+I1), s	4.3	8.0				5.9	2.6
Green Ext Time (p_c), s	0.0	1.4				1.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	410	350	190	320	7	260	12	420	6	8	7
Future Volume (veh/h)	15	410	350	190	320	7	260	12	420	6	8	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1856	1856	1856	1870	1856	1870	1856	1870	1870	1870
Adj Flow Rate, veh/h	16	423	0	196	330	8	277	0	0	7	9	8
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	2	3	3	3	3	2	3	2	3	2	2	2
Cap, veh/h	428	492		250	916	783	414	0		14	19	17
Arrive On Green	0.27	0.27	0.00	0.14	0.49	0.49	0.12	0.00	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1050	1856	1572	1767	1856	1585	3534	0	1572	508	653	580
Grp Volume(v), veh/h	16	423	0	196	330	8	277	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	1050	1856	1572	1767	1856	1585	1767	0	1572	1741	0	0
Q Serve(g_s), s	0.5	10.5	0.0	5.2	5.3	0.1	3.6	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	10.5	0.0	5.2	5.3	0.1	3.6	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.29		0.33
Lane Grp Cap(c), veh/h	428	492		250	916	783	414	0		50	0	0
V/C Ratio(X)	0.04	0.86		0.78	0.36	0.01	0.67	0.00		0.48	0.00	0.00
Avail Cap(c_a), veh/h	739	1042		432	1657	1415	842	0		649	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.2	16.9	0.0	20.0	7.5	6.2	20.4	0.0	0.0	23.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	5.3	0.1	0.0	0.7	0.0	0.0	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.4	0.0	2.0	1.1	0.0	1.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	18.6	0.0	25.3	7.6	6.2	21.1	0.0	0.0	30.2	0.0	0.0
LnGrp LOS	B	B		C	A	A	C	A		C	A	A
Approach Vol, veh/h		439	A		534			277	A		24	
Approach Delay, s/veh		18.4			14.1			21.1			30.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.0	19.2		5.9		30.2		12.2				
Change Period (Y+Rc), s	* 4.2	6.4		4.5		6.4		6.5				
Max Green Setting (Gmax), s	* 12	27.1		18.0		43.1		11.5				
Max Q Clear Time (g_c+I1), s	7.2	12.5		2.7		7.3		5.6				
Green Ext Time (p_c), s	0.2	0.3		0.0		0.3		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			17.4									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	603	30	141	446	30	172
Future Volume (veh/h)	603	30	141	446	30	172
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	635	0	148	469	32	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	761		193	1218	189	
Arrive On Green	0.41	0.00	0.11	0.66	0.11	0.00
Sat Flow, veh/h	1841	1560	1753	1841	1753	1560
Grp Volume(v), veh/h	635	0	148	469	32	0
Grp Sat Flow(s),veh/h/ln	1841	1560	1753	1841	1753	1560
Q Serve(g_s), s	14.3	0.0	3.8	5.4	0.8	0.0
Cycle Q Clear(g_c), s	14.3	0.0	3.8	5.4	0.8	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	761		193	1218	189	
V/C Ratio(X)	0.83		0.77	0.39	0.17	
Avail Cap(c_a), veh/h	1123		287	1587	729	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	20.1	3.6	18.8	0.0
Incr Delay (d2), s/veh	3.6	0.0	3.2	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	1.4	0.3	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	0.0	23.3	3.6	19.2	0.0
LnGrp LOS	B		C	A	B	
Approach Vol, veh/h	635	A		617	32	A
Approach Delay, s/veh	15.8			8.3	19.2	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	11.5	25.7				37.2	9.2
Change Period (Y+Rc), s	6.4	* 6.5				6.5	4.2
Max Green Setting (Gmax), s	7.6	* 28				40.0	19.3
Max Q Clear Time (g_c+I1), s	5.8	16.3				7.4	2.8
Green Ext Time (p_c), s	0.0	2.9				1.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		12.3
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

SUPPLEMENTAL APPLICATION INFORMATION

Fire Management Plan
Prepared as a Supplement to the
Putnam Ranch Subdivision

Section 15.30.440 of the Amador County Code Chapter 15.30 FIRE AND LIFE SAFETY states that:

> a fire management plan may be required for any project if the project will have a significant effect on the provisions of fire protection services or when such a plan is necessary to achieve the same practical effect as the requirements of this chapter. The Putnam Ranch Subdivision is designed to comply with all requirements of this chapter and therefore this Fire Management Plan is not needed to describe deviations from the County Code but rather to explain the specific features of the subdivision.

Pursuant to the outline in Section 15.30.440 this Fire Management Plan shall address the following:

1. Impact on the pertinent fire protection agency's ability to provide service;

2. Availability of fire protection water to the site;

3. Ingress/egress and circulation, ability for vehicles to access two-lane roadways;

4. Fire hazards existing within the project, including a fuel modification plan prepared by a registered professional forester when deemed necessary by the director;

5. Requirements of this chapter that cannot be met due to project design or other constraints;

6. Fire protection measures that are consistent with the provisions of this chapter or recognized fire protection standards; and

7. Provisions for annual maintenance, which shall be included in development plans and road maintenance agreements, or as a condition

of the permit of map approval. (Ord. 1778 §2 (part), 2018).

To facilitate review and to highlight the special features of the proposed subdivision this document follows the structure of the Chapter 15. Each subsection or standard presents the code statement followed by a description of the subdivision compliance with that standard.

Impact on Amador Fire Protection District

There are two fire stations near Putnam Ranch. AFPD Station #121 is located at 16850 Demartini Road approximately two miles west of the secondary entry to Putnam Ranch along SR16. This station houses Water Tender 5216, a 2014 Kenworth Tactile Type 1 Water Tender and Engine 5214 2008 Ford F-450 Type 6. This apparatus is suited to open range firefighting.

AFPD Station #122 located at 18534 Sherwood Street in Plymouth. This station is approximately two miles from the primary access point to Putnam Ranch Subdivision at the intersection of SR49 and SR16. This station houses Engine 5221and 5228. Both engines are 2002 HME Type 1 suited to structural firefighting. (Source: https://amadorfire.org/apparatus/)

These two stations are well positioned and equipped to serve the Putnam Ranch Subdivision.

Defensible Space Requirements

15.30.110 Maintenance of defensible space measures.

To ensure continued maintenance of properties in conformance with these standards and measures and to assure continued availability, access, and utilization of the defensible space provided for in these standards during a wildfire, provisions for annual maintenance shall be included in the development plans and/or shall be provided as a condition of the permit, parcel or map approval. (Ord. 1778 §2 (part), 2018).

Project Response

The Putnam Ranch Subdivision will ensure continued maintenance of defensible space on common area open space through mandatory participation and funding of the Putnam Ranch Property Owners Association (POA) to be created concurrent with the Final Map. Maintenance of defensible space on private lands will be ensured by enforcement of Conditions, Conditions, and Restrictions (CCRs) by the POA to conform

to the defensible space standards in Section 15.30.430 Defensible Space.

Emergency Access

15.30.120 Emergency access--Intent.

When a building permit or grading permit for new construction is the only approval or permit sought for a parcel, improvements required by this section shall not be imposed on any existing driveway, road, right-of-way, easement, or real property other than on the parcel for which the building permit is sought.

However, off-site improvements may be required for subdivision maps, parcel maps, use permits, general plan changes and zone changes at the discretion of the director and in accordance with this chapter.

Road and street networks, whether public or private, unless exempted shall provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently and shall provide unobstructed traffic circulation during a wildfire emergency. (Ord. 1778 §2 (part), 2018).

Project Response

The Putnam Ranch Subdivision will provide two points of access from the external street system, specifically SR 16. The primary point of access will be a main road intersection with SR 16 at the existing intersection of SR16 and SR49. Whether this entry will be gated to provide a private community is not known but will be determined by market conditions at the time of development. If the entry is gated it shall comply with the standards of Section 15.30.230 Gate entrances and shall provide a vehicle turnaround as required in Section 15.30.170 Road Turnarounds. Such a gate will be located north of the small drainage adjacent to SR49, approximately 400 feet from the intersection of SR16 and SR49.

The second point of entry is on SR16 approximately 1100 feet west of the intersection of SR16 and SR124. Depending on requirements of Caltrans this may be a right in/right out entry. It may also be used only as an emergency access for emergency vehicles and civilian evacuation.

The looping internal street pattern will enable use of both points of access in emergency conditions.

Road Improvement Standards

All roads within the Putnam Ranch Subdivision shall be private roads improved to the

Amador County standards as specified in the following code sections:

15.30.130 Road width.
15.30.140 Roadway surface.
15.30.150 Roadway grades.
15.30.160 Roadway radius.
15.30.170 Roadway turnarounds.
15.30.180 Roadway turnouts.
15.30.190 Roadway structures.
15.30.200 One-way roads. (The project does not propose one-way roads)
15.30.210 Dead-end roads.

Compliance with these standards shall be confirmed in the Final Map review.

15.30.220 Driveways. Improvement Standards

The Putnam Ranch Subdivision will create individual residential lots of not less than 5 acres each in a variety of configurations. Even the deepest lots are less than 400 feet from the street front to the rear lot line so that individual driveways will not extend more than approximately 300 feet in length. Driveways greater than 150 feet in length shall provide a turnout near the midpoint of the driveway.

All driveways shall comply with standards set forth in Section 15.30.220 Driveways.

Compliance with these standards shall be confirmed in the Building Permit review for individual homes.

15.30.230 Gate entrances. Improvement Standards

All gates on private driveways shall comply with standards set forth in Section 15.30.230 Gate Entrances

Compliance with these standards shall be confirmed in the Building Permit review for individual homes.

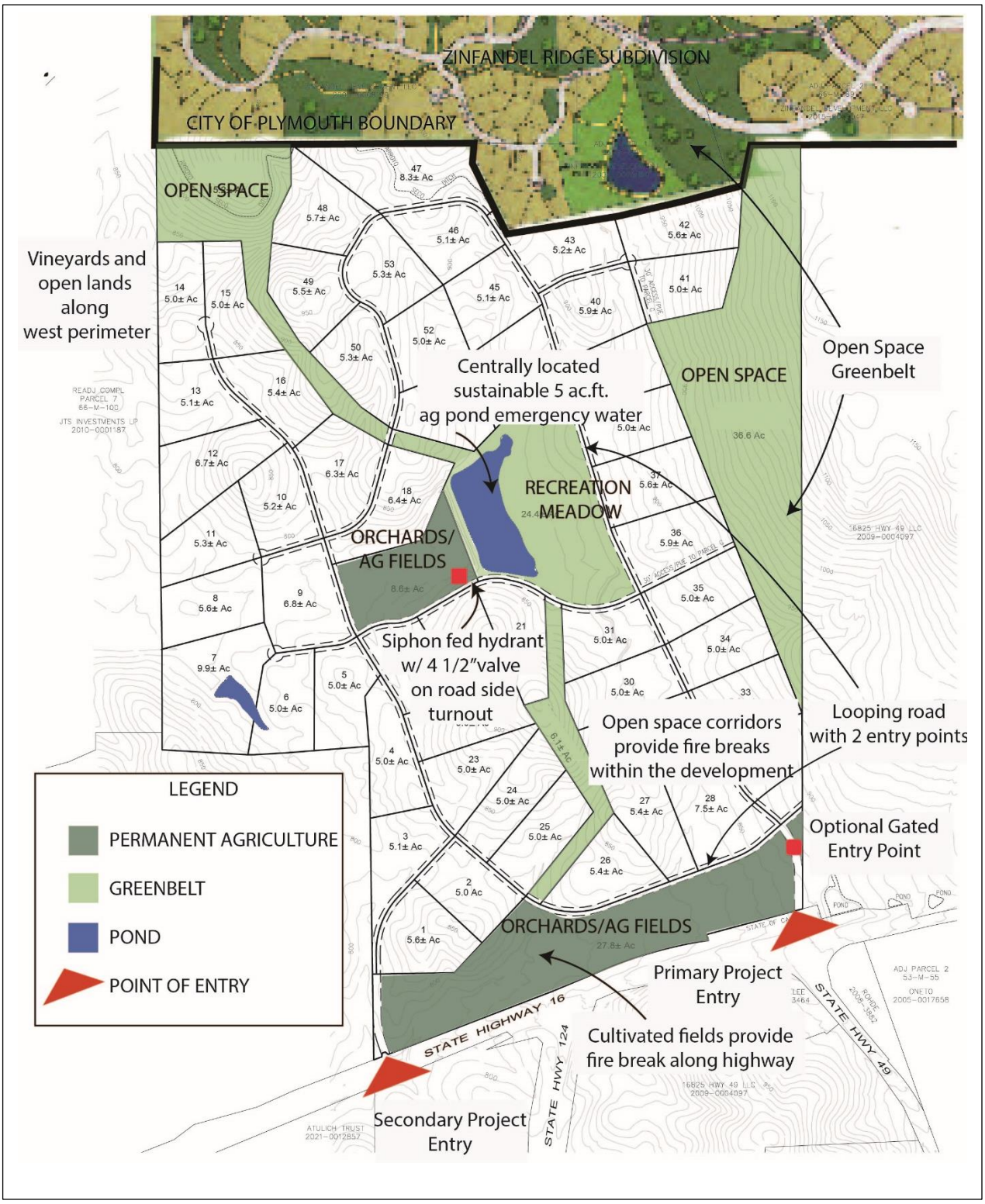


Figure 1 Fire Management Features of the Putnam Ranch Subdivision

15.30.240 Signing and building numbering--Intent.

To facilitate locating a fire and to avoid delays in response, all newly constructed or approved roads, streets, and buildings shall be designated by names or numbers, posted on signs clearly visible and legible from the roadway. This section shall not restrict the size of letters or numbers appearing on street signs for other purposes. (Ord. 1778 §2 (part), 2018).

Project Response

All signage for directional and identification purposes on roads and buildings shall comply with standards set forth in:

15.30.250 Size of letters, numbers and symbols for street and road signs.
15.30.260 Visibility and legibility of street and road signs.
15.30.270 Height of street and road signs.
15.30.280 Names and numbers on street and road signs.
15.30.290 Intersecting roads, streets and private lanes.
15.30.300 Signs identifying traffic access limitations.
15.30.310 Installation of road, street, and private lane signs.
15.30.320 Addresses for buildings.
15.30.330 Size of letters, numbers and symbols for addresses.
15.30.340 Installation, location and visibility of addresses.

Compliance with these standards shall be confirmed in the Final Map and/or the Building Permit review for individual homes.

Emergency Water

15.30.350 Emergency water standards--Intent.

Emergency water for wildfire protection shall be available and accessible in quantities and locations specified in Public Resources Code Section 4290 et seq. and this chapter, in order to attack a wildfire or defend property from a wildfire. Such emergency water may be provided in a fire agency mobile water tender, or naturally occurring or manmade containment structure, as long as the specified quantity is immediately available. Nothing in this section prohibits the combined storage of emergency wildfire and structural firefighting water supplies unless so prohibited by local ordinance or specified by the local fire district. (Ord. 1778 §2 (part), 2018).

Project Response

The project water supply will be provided by individual wells. Emergency supply will be

supplemented by an existing centrally located agricultural pond with approximately 5-acre feet of sustained capacity.

The Putnam Ranch shall comply with Section 15.30.360 General Standards regarding emergency water supply. The project will incorporate at least two thousand five hundred gallons for each dwelling and shall construct a siphon fed hydrant to access the agricultural pond water.

In addition, the project shall comply with standards set forth in:

15.30.370 Hydrant/fire valve
15.30.380 Signing of water sources.

The fire protection water system shall be installed and approved prior to completion of roadway construction where a community water system is provided, or before construction of any building where an individual system is provided.

Installation of emergency water storage tanks shall be directed to AFPD if property location is within their fire district authority. You may contact AFPD at 209-223-6391 for additional information. (Ord. 1799 §4, 2020; Ord. 1778 §2 (part), 2018).

Compliance with these standards shall be confirmed in the Final Map and/or the Building Permit review for individual homes.

Agricultural Pond Water Source

Putnam Ranch has a central agricultural pond of approximately five-acre surface area. The pond was created by an earth damp constructed decades ago and renovated with a lining over the dam in about 2010. The following photos illustrate the dam and pond in an optimum condition in the Spring. The current landowner has owned the property for over thirty years and has observed that the pond may rise and fall with the seasons but is fed by a spring and is never dry. Based on observation of the surrounding terrain and the height of the dam it is estimated that the pond average depth is approximately five feet. The pond typically holds an average of five-acre feet, or 1,629,250 gallons.

The Putnam Ranch Subdivision will place a two-lane road along the south edge of the pond and so pumping directly from the pond is feasible. However, to enhance the emergency use of the water the landowner will construct a siphon connecting to a permanent hydrant with a 4 ½" valve approximately 100 feet west of the southwest corner of the dam. The hydrant will be directly accessible from a turnout along the road that shall be a minimum of twelve feet wide and thirty feet long with a minimum twenty-five-foot taper on each end. (Ord. 1778 §2 (part), 2018).

View across the pond in Spring circa 2010. (Source: Lisa Putnam)

View of the agricultural pond and dam with new liner circa 2010. Source: Lisa Putnam

Fuel Modification

15.30.390 Fuel modification standards--Intent.

To reduce the intensity of a wildfire by reducing the volume and density of flammable vegetation, the strategic siting of fuel modification and greenbelts shall provide (A) increased safety for emergency fire equipment and evacuating civilians; and (B) a point of attack or defense from a wildfire. (Ord. 1778 §2 (part), 2018).

All fuel modification and defensible space practices shall comply with standards set forth in:

15.30.400 Setbacks for structure defensible space.
15.30.410 Disposal of flammable vegetation and fuels.
15.30.430 Defensible space.

Compliance with these standards shall be confirmed in the Final Map and/or the Building Permit review for individual homes. Ongoing maintenance of defensible space in common open space and private lots will be ensured through the operations of the

Property Owners Association. Grassland management within the open space and irrigated pasture or orchard/vineyard will reduce fire load.

15.30.420 Greenbelts.

Subdivisions and other developments which propose greenbelts as a part of the development plan shall locate said greenbelts strategically, as a separation between wildland fuels and structures. The locations shall be approved by the inspection authority. (Ord. 1778 §2 (part), 2018).

The Putnam Ranch Subdivision is designed to incorporate open space and agricultural lands as greenbelts to separate residential areas into subareas readily reached by county standard private roads. As illustrated in Figure 1 the subdivision is separated from SR16 by an agricultural buffer extending the length of the project frontage. Open space is located along most of the project east boundary and much of the north boundary that interfaces with the approved Zinfandel Ridge Subdivision in the City of Plymouth. The west project boundary interfaces with irrigated vineyard and open grassland.

A greenbelt open corridor is designed running north to south in the center of the subdivision to provide a connection to the centralized agricultural pond and separate subareas of residential lots from one another.

COMMENTS

AMADOR COUNTY COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION & PUBLIC WORKS

PHONE: (209) 223-6429
FAX: (209) 223-6395
WEBSITE: www.amadorgov.org
EMAIL: PublicWorks@amadorgov.org

COUNTY ADMINISTRATION CENTER • 810 COURT STREET • JACKSON, CA 95642-2132

MEMORANDUM

TO: Chuck Beatty, Planning Director

FROM: Richard Vela, Director of Transportation and Public Works

DATE: August 9, 2022

SUBJECT: Vesting Tentative Subdivision Map No. 186 – Initial Comments

DEDICATIONS:

- Note 17 states: "There will be a 50' access and public utility easement (25 feet on each side of centerline) along all roadways." There is no statement whether or not these roads are to be public. If the intention of the developer is to have these roads public, then the following are to be followed:
    - Road design is to follow Standard Plan PW-7, Typical Section for Streets and Roads. The section for the Major/Minor Local Road is to be used, with 60' right of way and 22' pavement width.
    - Standard Plan PW-12, Table of Standard Road Design, is to be followed, using the desirable figures/dimensions (not minimum values) for minor local roads.
    - Will need to determine if roads are to be County maintained or maintenance arranged through the establishment of a County Service Area (CSA).

ENCROACHMENT:

- Requirements for access to SR 16 to be determined by Caltrans.
    - Proposed access at the SR 16/49 intersection will most likely require integration with the existing intersection signalization.
    - Proposed westernmost intersection may be required to align with the SR 16/124 intersection. Another possibility may be a right turn in/right turn out requirement. Caltrans to comment and require.

MISCELLANEOUS:

- Note 23 references to City codes; this should change to reference County codes.
- The 30' access/PUE located on Lots 36 and 41 should be labeled to Parcel F, not Parcel G.
- The final map(s) need to include curve and grade tables for all proposed roads to verify compliance to minimum County standards.
- Conditions of Approval (COAs) for Final Map acceptance to be determined in future map reviews.

Planning Department <planning@amadorgov.org>

TAC Project Referral - Tentative Subdivision Map 186 - Putnam Ranch - Completeness

AFPD Headquarters <afpdhdq@amadorgov.org> Wed, Aug 17, 2022 at 11:52 AM
To: Amador County Planning Department <planning@amadorgov.org>

CFD applies unless protected under the Williamson Act. Again, I apologize for the late reply.

Nicole Cook
Amador Fire Protection District
810 Court Street
Jackson, CA 95642
209-223-6391-phone
209-223-6646-fax

[Quoted text hidden]

California Department of Transportation

OFFICE OF THE DISTRICT 10 PLANNING
P.O. BOX 2048 | STOCKTON, CA 95201
(209) 948-7325 | FAX (209) 948-7164 TTY 711
www.dot.ca.gov

August 16, 2022

Ruslan Bratan
Planner
Amador County Planning Department
810 Court Street
Jackson, CA 95642-2132

AMA-16-PM 9.02
Subdivision
Putnam Ranch Early Consultation

Mr. Bratan,

Caltrans appreciates the opportunity to review and respond to the Putnam Ranch Early Consultation Tentative Subdivision Map No 186. The project proposes dividing a combined 423 acres into 53 residential lots ranging in size from ±5 to ±9.9 acres and six (6) open space lots totaling ±118.7 acres. The project site is directly north of State Route (SR) 16 at the intersections of SR 16 with SR 124 and SR 48, directly south of the city limits of Plymouth on Assessor Parcel Numbers (APN) 008-090-015 and 008-100-29.

The following information where applicable, as well as any other pertinent information to describe the proposed project will be needed:

1. Site Size(s)
2. Square Footage of Existing/Proposed Structures
3. Number of Floors of Construction
4. Amount of Off-Street Parking Provided (provide accurate detailed parking plan)
5. Source of Water
6. Method of Sewage Disposal
7. Attach Plans
8. Proposed Scheduling of Project Construction
9. If project is to be developed in phases, describe anticipated incremental development.
10. Associated Projects
11. Subdivision/Land Division Projects: Tentative map will be sufficient unless you feel additional information is needed or the County requests further details.
12. Residential Projects: Include the number of units, schedule of unit sizes, range of sale prices/rents and type of household size expected.

13. Commercial Projects: Indicate the type of business, number of employees, whether neighborhood, city or regionally oriented, square footage of sales area, loading facilities.
14. Industrial Projects: Indicate the major function, estimated employment per shift, estimated occupancy, loading facilities and community benefits to be derived/project.
15. Institutional Projects: Indicate the major function, estimated employment per shift, estimated occupancy, loading facilities and community benefits to be derived/project.
16. If the project involves a variance, conditional use permit or rezoning application, state this and indicate clearly why the application is required.

Caltrans has the following comments:

Environmental

If any construction-related activities encroach into Caltrans Right of Way (ROW), the project proponent must apply for an Encroachment Permit to the Caltrans Encroachment Permit Office. All California Environmental Quality Act (CEQA) documentation, with supporting technical studies, must be submitted with the Encroachment Permit Application. These studies will analyze potential impacts on cultural sites, biological resources, hazardous waste locations, scenic highways, and/or other environmental resources within Caltrans ROW at the project site(s). Evidence of consultation with local Native American tribes and interested parties will need to be presented within the technical documents to approve encroachment in the Caltrans ROW. Mature trees within and/or near Caltrans ROW could provide suitable nesting habitats. If work occurs between February 1 and September 30 of any year, a pre-construction bird survey must be conducted by a qualified biologist before any construction-related activities in Caltrans ROW. A protective buffer must be established around the nest if an active nest is observed per California Department of Fish and Wildlife (CDFW) guidelines. No work is allowed within the protective buffer limits until the young have fledged and until authorized by the Caltrans District 10 Environmental Office.

Hydrology

The site is adjacent to SR 16. The developer needs to ensure that the existing State drainage facilities will not be significantly impacted by any future developments. If historical undeveloped topography shows drainage from this site flowed into the State Right-of-Way, it may continue to do so with the conditions that peak flows may not be increased from the pre-construction quantity and the site runoff be treated to meet present storm water quality standards. We request to review runoff calculations and drainage plans for future developments to understand flow patterns.

If necessary, the additional review will be done once drainage plans and calculations are submitted.

There are two state-owned culverts located near the project site. The applicant needs to ensure there is no damage to the existing culverts. The culvert outlets are located near the property on SR 16 at PM 9.08 and 9.14.

- PM 9.08 Outlet Coordinates: 38.45384, -120.87312
- PM 9.14 Outlet Coordinates: 38.45416, -120.87204

Traffic Operations Encroachment Permits
Once this area is developed, where traffic on the highway is impacted, an Encroachment Permit application package must be submitted for review and approval.

Outdoor Advertising
It is important to note that any advertising structure visible to the National Highway System (NHS) is subject to the provisions of the California Outdoor Advertising Act outlined in Business and Professions Code Section 5200 et seq. Any advertising structure that displays off-premises commercial copy visible from the NHS will require a permit from the Office of Outdoor Advertising (ODA). Any advertising structure that only advertises goods and services available on-premises will not require a permit from ODA, provided it adheres to the provisions of Business and Professions Code Section 5272 and 5274 and California Code of Regulations 2243 and 2246. Each of the proposed advertising structures should refrain from operating in any of the conditions outlined in Business and Professions Code Section 5403. For questions related to the ODA permit application process please visit our website at: http://www.dot.ca.gov/trafficops/oda/.

Encroachment Permits
If any future project activities encroach into Caltrans Right-of-Way (ROW), the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. These studies will include an analysis of potential impacts to any cultural sites, biological resources, hazardous waste locations, and/or other resources within Caltrans ROW at the project site(s). For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

Caltrans suggest Amador County continue to coordinate and consult with Caltrans to identify and address potential cumulative transportation impacts that may occur from this project and other developments near this location. This will assist Caltrans in ensuring that traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities.

Please contact Paul Bauldry at (209) 670-9488 or by email: paul.bauldry@dot.ca.gov, or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov) if you have any questions or concerns.

Sincerely,

Gregoria Ponce'

Gregoria Ponce', Chief
Office of Rural Planning

Ruslan Bratan <rbratan@amadorgov.org>

Tentative Subdivision Map No. 186 & GPA-22;7-1 AG&RR to AT

Patrick Chew <pchew@amadorgov.org> Fri, Aug 26, 2022 at 3:19 PM
To: Ruslan Bratan <rbratan@amadorgov.org>

Ruslan, here's my comments for your project:

1. Fire flow shall be met in accordance with the adopted fire code at the time permits are pulled.
2. The fire department is looking into an agreement between the builders and AFPD for an annual fire service agreement due to the added population within the fire district.
3. County Standard 15.30 shall apply since this is a new project.

On Fri, Aug 26, 2022 at 12:21 PM Ruslan Bratan <rbratan@amadorgov.org> wrote:
[Quoted text hidden]

[Quoted text hidden]

City of Plymouth
CALIFORNIA

Ruslan Bratan
Amador County Planning Department
810 Court Street
Jackson, CA 95642

December 1, 2022

RE: Tentative Subdivision Map No. 186 & GPA-22;7-1

Dear Mr. Bratan:

In May 2022, the applicant met with the City to review the above mentioned project. At the time the City indicated the project was outside of the City's Sphere on Influence and we would not wish to annex the project into the City. Currently the City does not have the infrastructure in place to serve the project.

If you have additional questions please feel free to contact me at eventura@cityofplymouth.org.

Sincerely,

E. Ventura

Erin Ventura
City Planner
City of Plymouth

9426 Main Street • P.O. Box 429 • Plymouth, CA 95669
Phone (209) 245-6941 • Fax (209) 245-6953
Email: info@cityofplymouth.org

California Department of Transportation

OFFICE OF THE DISTRICT 10 PLANNING
P.O. BOX 2048 | STOCKTON, CA 95201
(209) 948-7325 | FAX (209) 948-7164 TTY 711
www.dot.ca.gov

December 21, 2022

Ruslan Bratan
Planner
Amador County Planning Department
810 Court Street
Jackson, CA 95642

AMA-16-PM 9.02
Subdivision
Putnam Ranch Traffic Study
Scoping

Mr. Bratan,

Caltrans appreciates the opportunity to review and respond to the Putnam Ranch Traffic Study Scoping Agreement. The project proposes dividing a combined 423 acres into 53 residential lots ranging in size from ±5 to ±9.9 acres and six (6) open space lots totaling ±118.7 acres.

The project site is directly north of State Route (SR) 16 at the intersections of SR 16 with SR 124 and SR 49, directly south of the city limits of Plymouth on Assessor Parcel Numbers (APN) 008-090-015 and 008-100-29.

Caltrans has the following comments:

Environmental

If any construction-related activities encroach into Caltrans Right of Way (ROW), the project proponent must apply for an Encroachment Permit to the Caltrans Encroachment Permit Office. All California Environmental Quality Act (CEQA) documentation, with supporting technical studies, must be submitted with the Encroachment Permit Application. These studies will analyze potential impacts on cultural sites, biological resources, hazardous waste locations, scenic highways, and/or other environmental resources within Caltrans ROW at the project site(s). Evidence of consultation with local Native American tribes and interested parties will need to be presented within the technical documents to approve encroachment in the Caltrans ROW. Mature trees within and/or near Caltrans ROW could provide suitable nesting habitats. If work occurs between February 1 and September 30 of any year, a pre-construction bird survey must be conducted by a qualified biologist before any construction-related activities in Caltrans ROW. A protective buffer must be established around the nest if an active nest is observed per California Department of Fish and

Wildlife (CDFW) guidelines. No work is allowed within the protective buffer limits until the young have fledged and until authorized by the Caltrans District 10 Environmental Office.

Hydrology
The site is adjacent to SR 16. The developer needs to ensure that the existing State drainage facilities will not be significantly impacted by any future developments. If historical undeveloped topography shows drainage from this site flowed into the State ROW, it may continue to do so with the conditions that peak flows may not be increased from the pre-construction quantity and the site runoff be treated to meet present storm water quality standards.

We request to review runoff calculations and drainage plans for future developments to understand flow patterns. If necessary, the additional review will be done once drainage plans and calculations are submitted.

There are two state-owned culverts located near the project site. The applicant needs to ensure there is no damage to the existing culverts. The culvert outlets are located near the property on SR 16 at PM 9.08 and 9.14.

- PM 9.08 Outlet Coordinates: 38.45384 -120.87312
- PM 9.14 Outlet Coordinates: 38.45416 -120.87204

Traffic Operations
The proposed access roadways on SR 16 (Blue Oak Drive and Putnam Ranch Drive) fall within the restricted access expressway between PM 0.000 and PM 9.373 (Junction 49). A California Transportation Commission (CTC) approval is needed for the roadway access and intersection modifications.

If CTC approves these intersections, the rest of the comments will apply to this project:

- Study intersection needs to include any access intersections connecting to the State Routes (e.g., Blue Oak Drive & SR 16 if that access is proposed).
- For the intersection at Blue Oak Drive & SR 16, due to the high-speed limit of 55 MPH on SR 16, dedicated left turn and right turn pockets are needed. This lane will allow EB left turn and WB right turn traffic to safely enter the proposed roadway without impacting the traffic behind them. The proposed project needs to consider the safety effect of the generated traffic from and to the access roadway.
- The proposed project's resultant increase in the traffic volumes will result in increased impacts to both the eastbound and westbound SR 16 through traffic at the proposed SR 16/Blue Oak Drive intersection. It is due to the project's traffic

decelerating in the eastbound and westbound SR 16 thru lanes to enter the Putman Ranch via SR 16/Blue Oak Drive. The proposed project needs to consider the safety effect of its generated traffic on the mainline SR 16 with significant traffic and posted speed limit of 55 mph.
- The project needs to construct a dedicated left-turn lane on eastbound SR 59 and a dedicated right-turn lane on the westbound SR to safely allow the project's traffic to enter the project site via SR 59/Blue Oak Drive.
- We suggest collecting new traffic counts to reflect the current traffic conditions if the current traffic volume is higher than the projected non-COVID volume.
- Please use the existing signal timing for the signalized intersection in the study. If needed, you can request a signal timing sheet from Caltrans.
- Please ensure the new access roads meet current Caltrans standards.

Travel Forecasting
- Task 2: we recommend using Amador County Transportation Commission (ACTC) travel demand model for the Vehicle Miles Traveled (VMT) calculation instead of the statewide travel demand model.
- Task 2: there needs to be a discussion on the travel demand model and methodology to forecast future traffic. We recommend the contractor use Amador County's travel demand model.
- We recommend Putnam Ranch follow the Amador CTC VMT-focused Traffic Impact Study Guide (TISG).

Outdoor Advertising
It is important to note that any advertising structure visible to the National Highway System (NHS) is subject to the provisions of the California Outdoor Advertising Act outlined in Business and Professions Code Section 5200 et seq. Any advertising structure that displays off-premises commercial copy visible from the NHS will require a permit from the Office of Outdoor Advertising (ODA). Any advertising structure that only advertises goods and services available on-premises will not require a permit from ODA, provided it adheres to the provisions of Business and Professions Code Section 5272 and 5274 and California Code of Regulations 2243 and 2246. Each of the proposed advertising structures should refrain from operating in any of the conditions outlined in Business and Professions Code Section 5403. For questions related to the ODA permit application process please visit our website at: http://www.dot.ca.gov/trafficops/oda/.

Encroachment Permits
Once this area is developed where traffic on the highway is impacted, then at that time, any work in or close to the State ROW will need to be reviewed. It may require an Encroachment Permit application package to be submitted for review and approval.

If any future project activities encroach into Caltrans Right-of-Way (ROW), the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. These studies will include an analysis of potential impacts to any cultural sites, biological resources, hazardous waste locations, and/or other resources within Caltrans ROW at the project site(s). For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

Caltrans suggest Amador County continue to coordinate and consult with Caltrans to identify and address potential cumulative transportation impacts that may occur from this project and other developments near this location. This will assist Caltrans in ensuring that traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities.

Please contact Paul Bauldry at (209) 670-9488 (email: paul.bauldry@dot.ca.gov), or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov) if you have any questions or concerns.

Sincerely,

Gregoria Ponce

Gregoria Ponce', Chief
Office of Rural Planning

California Department of Transportation

OFFICE OF THE DISTRICT 10 PLANNING
P.O. BOX 2048 | STOCKTON, CA 95201
(209) 948-7325 | FAX (209) 948-7164 TTY 711
www.dot.ca.gov

May 22, 2023

Ruslan Bratan
Planner
Amador County Planning Department
810 Court Street
Jackson, CA 95642

AMA-16-PM 9.02
Subdivision
Putnam Ranch Traffic Study
Scoping Agreement

Mr. Bratan,

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young have fledged and until authorized by the Caltrans District 10 Environmental Office.

Hydrology
The site is adjacent to SR 16. The developer needs to ensure that the existing State drainage facilities will not be significantly impacted by any future developments. If historical undeveloped topography shows drainage from this site flowed into the State ROW, it may continue to do so with the conditions that peak flows may not be increased from the pre-construction quantity and the site runoff be treated to meet present storm water quality standards.

We request to review runoff calculations and drainage plans for future developments to understand flow patterns. If necessary, the additional review will be done once drainage plans and calculations are submitted.

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If CTC approves these intersections, the rest of the comments will apply to this project:

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Putman Ranch via SR 16/Blue Oak Drive. The proposed project needs to consider the safety effect of its generated traffic on the mainline SR 16 with significant traffic and posted speed limit of 55 mph.

- The project needs to construct a dedicated left-turn lane on eastbound SR 59 and a dedicated right-turn lane on the westbound SR to safely allow the project's traffic to enter the project site via SR 59/Blue Oak Drive.
- We suggest collecting new traffic counts to reflect the current traffic conditions if the current traffic volume is higher than the projected non-COVID volume.
- Please use the existing signal timing for the signalized intersection in the study. If needed, you can request a signal timing sheet from Caltrans.
- Please ensure the new access roads meet current Caltrans standards.
- Please provide Synchro analysis files for Caltrans review.

Travel Forecasting

- Task-2, we recommend using Amador County Transportation Commission (ACTC) travel demand model for the Vehicle Miles Traveled (VMT) calculation instead of the statewide travel demand model.
- Task-2, there needs to be a discussion on the travel demand model and methodology to forecast future traffic. We recommend the contractor use Amador County's travel demand model.
- We recommend Putnam Ranch follow the Amador CTC VMT-focused Traffic Impact Study Guide (TISG).

Outdoor Advertising

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Encroachment Permits

Once this area is developed where traffic on the highway is impacted, then at that time, any work in or close to the State ROW will need to be reviewed. It may require an Encroachment Permit application package to be submitted for review and approval.

If any future project activities encroach into Caltrans Right-of-Way (ROW), the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. These studies will include an analysis of potential impacts to any cultural sites, biological resources, hazardous waste locations, and/or other resources within Caltrans ROW at the project site(s). For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

Caltrans suggest Amador County continue to coordinate and consult with Caltrans to identify and address potential cumulative transportation impacts that may occur from this project and other developments near this location. This will assist Caltrans in ensuring that traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities.

Please contact Paul Bauldry at (209) 670-9488 (email: paul.bauldry@dot.ca.gov), or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov) if you have any questions or concerns.

Sincerely,

Gregoria Ponce'

Gregoria Ponce', Chief
Office of Rural Planning

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
Amador – El Dorado Unit
Camino, CA 95709
(530) 644-2345
Website: www.fire.ca.gov

May 23, 2023

Project: TSM 186 and GPA-22;7-1 Putnam Ranch

Location: Intersection of State Highway 16 and State Highway 124 and State Highway 49 near the town of Plymouth

Subject: CAL FIRE comments

The project listed above is within lands identified as SRA (State Response Area). CAL FIRE has prevention and suppression responsibilities in these areas including enforcement of development standards in accordance with the SRA Minimum Fire Safe Regulations. The following comments related to this project and are the state minimum requirements for this project within the SRA. Local fire jurisdictions and county planning departments may have more restrictive requirements.

In accordance with CA CCR Title 14, Division 1.5, Chapter 7, Subchapter 2

Emergency Access and Egress

Roads and driveways, whether public or private, unless exempted under 14 CCR § 1270.02(d), shall provide for safe access for emergency wildfire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency consistent with 14 CCR §§ 1273.00 through 1273.09.

Width.

All roads shall be constructed to provide a minimum of two ten (10) foot traffic lanes, not including shoulder and striping. These traffic lanes shall provide for two-way traffic flow to support emergency vehicle and civilian egress, unless other standards are provided in this article or additional requirements are mandated by local jurisdictions or local subdivision requirements.

Roadway Surface

Roadways shall be designed and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds and provide an aggregate base. Project proponent shall provide engineering specifications to support design, if requested by the local authority having jurisdiction.

Roadway Grades

The grade for all roads, streets, private lanes and driveways shall not exceed 16percent.Grade may exceed 16%, not to exceed 20%, with approval from AHJ.

Radius

No road or road structure shall have a horizontal inside radius of curvature of less than fifty (50) feet. An additional surface width of four (4) feet shall be added to curves of 50-100 feet radius; two (2) feet to those from 100-200 feet.
The length of vertical curves in roadways, exclusive of gutters, ditches, and drainage structures designed to hold or divert water, shall be not less than one hundred (100) feet.

Turnarounds

Turnarounds are required on driveways and dead-end roads.
The minimum turning radius for a turnaround shall be forty (40) feet, not including parking. If a hammerhead/T is used instead, the top of the “T” shall be a minimum of sixty (60) feet in length.
Driveways exceeding 150 feet in length, but less than 800 feet in length, shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds 800 feet, turnouts shall be provided no more than 400 feet apart.
A turnaround shall be provided on driveways over 300 feet in length and shall be within fifty (50) feet of the building.
Each dead-end road shall have a turnaround constructed at its terminus. Where parcels are zoned five (5) acres or larger, turnarounds shall be provided at a maximum of **1,320 foot** intervals.

Roadway Turnouts

Turnouts shall be a minimum of twelve (12) feet wide and thirty (30) feet long with a minimum twenty-five (25) foot taper on each end.

Dead-end Roads

The maximum length of a dead-end road, including all dead-end roads accessed from that dead-end road, shall not exceed the following cumulative lengths, regardless of the number of parcels served:
parcels zoned for less than one acre - 800 feet
parcels zoned for 1 acre to 4.99 acres - 1,320 feet
parcels zoned for 5 acres to 19.99 acres - 2,640 feet
parcels zoned for 20 acres or larger - 5,280 feet
All lengths shall be measured from the edge of the road surface at the intersection that begins the road to the end of the road surface at its farthest point. Where a dead-end road crosses areas of differing zoned parcel sizes requiring different length limits, the shortest allowable length shall apply.

Gate Entrances

Gate entrances shall be at least two (2) feet wider than the width of the traffic lane(s) serving that gate and a minimum width of fourteen (14) feet unobstructed horizontal clearance and unobstructed vertical clearance of thirteen feet, six inches (13' 6”).
All gates providing access from a road to a driveway shall be located at least thirty (30) feet from the roadway and shall open to allow a vehicle to stop without obstructing traffic on that road.
Where a one-way road with a single traffic lane provides access to a gated entrance, a forty (40) foot turning radius shall be used.
Security gates shall not be installed without approval. Where security gates are installed, they shall have an approved means of emergency operation. Approval shall be by the local authority having jurisdiction. The security gates and the emergency operation shall be maintained operational at all times.

Signing and Building Numbering

Addresses for Buildings.
All buildings shall be issued an address by the local jurisdiction which conforms to that jurisdiction's overall address system. Utility and miscellaneous Group U buildings are not required to have a separate address; however, each residential unit within a building shall be separately identified.
(The size of letters, numbers, and symbols for addresses shall conform to the standards in the California Fire Code, California Code of Regulations title 24, part 9.
Addresses for residential buildings shall be reflectorized.

Address Installation, Location, and Visibility.
All buildings shall have a permanently posted address which shall be plainly legible and visible from the road fronting the property.
Where access is by means of a private road and the address identification cannot be viewed from the public way, an unobstructed sign or other means shall be used so that the address is visible from the public way.
Address signs along one-way roads shall be visible from both directions.
Where multiple addresses are required at a single driveway, they shall be mounted on a single sign or post.
In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter.

Emergency Water

Emergency water for Wildfire protection shall be available, accessible, and maintained in quantities and locations specified in the statute and these regulations in order to attack a Wildfire or defend property from a Wildfire.

Setback for Structure Defensible Space.

All parcels shall provide a minimum thirty (30) foot setback for all Buildings from all property lines and/or the center of a Road, except as provided in the exception below.

A reduction in the minimum setback shall be based upon practical reasons and shall provide for an alternative method to reduce Structure-to-Structure ignition by incorporating features such as, but not limited to:

(1) non-combustible block walls or fences; or
(2) non-combustible material extending five (5) feet horizontally from the furthest extent of the Building; or
(3) hardscape landscaping; or
(4) a reduction of exposed windows on the side of the Structure with a less than thirty (30) foot setback; or
(5) the most protective requirements in the California Building Code, California Code of Regulations Title 24, Part 2, Chapter 7A, as required by the Local Jurisdiction.

Identify methods you intend to use to reduce structure to structure ignition. The local fire jurisdictions will need to approve the method used. That exception will be recorded at the CAL FIRE Headquarters AEU.

Fuel Breaks

When Building construction meets the following criteria, the Local Jurisdiction shall determine the need and location for Fuel Breaks in consultation with the Fire Authority:

(1) the permitting or approval of three (3) or more new parcels, excluding lot line adjustments as specified in Government Code (GC) section 66412(d); or
(2) an application for a change of zoning increasing zoning intensity or density; or
(3) an application for a change in use permit increasing use intensity or density.

Fuel Breaks required by the Local Jurisdiction, in consultation with the Fire Authority, shall be located, designed, and maintained in a condition that reduces the potential of damaging radiant and convective heat or ember exposure to Access routes, Buildings, or infrastructure within the Development.

Fuel Breaks shall have, at a minimum, one point of entry for fire fighters and any Fire Apparatus. The specific number of entry points and entry requirements shall be determined by the Local Jurisdiction, in consultation with the Fire Authority.

Maintenance of Defensible Space Measures.

To ensure continued maintenance of commonly owned properties in conformance with these standards and to assure continued availability, access, and utilization of the defensible space provided by these standards during a wildfire, provisions for annual maintenance shall be provided in emergency access covenants or similar binding agreements.

Disposal of Flammable Vegetation and Fuels

Disposal, including chipping, burying, burning or removal to a site approved by the local jurisdiction, of flammable vegetation and fuels caused by site development and construction, road and driveway construction, and fuel modification shall be completed prior to completion of road construction or final inspection of a building permit.

Please contact this office with any questions.

Jeff Hoag
Battalion Chief - Amador El Dorado Unit
Wildfire Resiliency Program
2840 Mt. Danaher Rd Camino 95709
Cell: (530) 708-2725