

Appendix D
**Agricultural and Forestry
Resources**

TIMBER HARVESTING PLAN

FOR ADMIN. USE ONLY

- 1. _____ 8. _____
- 2. _____ 9. _____
- 3. _____ 10. _____
- 4. _____ 11. _____
- 5. _____ 12. _____
- 6. _____ 13. _____
- 7. _____ 14. _____

STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY
AND FIRE PROTECTION
RM-63 (06-2018)

FOR ADMIN. USE ONLY

THP No. _____
Date Rec'd: _____
Date Filed _____
Date Approved _____
Date Expires _____

THP Name: _____

- If this is a **MODIFIED THP**
- Is this a **MODIFIED THP for FUEL HAZARD REDUCTION** Extension: [] Am # _____
If THP is any one of the modified types above complete appropriate modified checklists at end of general section

This Timber Harvesting Plan (THP) form, when properly completed, is designed to comply with the Forest Practice Act (FPA) and Board of Forestry and Fire Protection rules. All rule references are from Title 14 CCR; when cited, the form text will only make reference to the rule number itself. The THP is divided into six sections. See separate instructions for information on completing this form. **NOTE: The form must be printed legibly in ink or typewritten, an online version is available at _____.** Additional space may be inserted, as needed, to provide required information. Please distinguish answers from questions by *font change*, **bold** or underline.

SECTION I - GENERAL INFORMATION

This THP conforms to my/our plan and upon approval, I/we agree to conduct harvesting in accordance therewith. Consent is hereby given to the Director of Forestry and Fire Protection, and his or her agents and employees, to enter the premises to inspect timber operations for compliance with the Forest Practice Act and Forest Practice Rules.

1. REGISTERED PROFESSIONAL FORESTER:

RPF Signature: _____ Lic. No. 1760 Date _____
RPF Printed Name William E. Snyder Phone (707) 583-3400
Address 4787 Hillsboro Circle City Santa Rosa State CA Zip 95370
Email: bill_e_snyder@att.net

2. LICENSED TIMBER OPERATOR(S): Name Unknown Lic. No. _____
(If unknown, so state. You must notify CAL FIRE, by amendment, of LTO prior to start of operations)

Address _____
City _____ State _____ Zip _____ Phone _____
Email: _____
Signature: _____

3. TIMBERLAND OWNER(S) OF RECORD: Name Hardin Flat, LLC

Address P.O. Box 130
City Moccasin State CA Zip 95437 Phone (602) 421-8694
Email: joel@meridiantile.com
Signature: _____

NOTE: This Timber Harvesting Plan is a final draft, and has not yet been submitted to CAL FIRE. It may be subject to minor changes prior to submission, and once it is in the CAL FIRE system, content may change based

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4. TIMBER OWNER(S) OF RECORD: Name Same as Timberland Owners
Address _____
City _____ State _____ Zip _____ Phone _____
Email: _____
Signature: _____

NOTE: The Timber Owner is responsible for payment of a yield tax. Per State of California Revenue and Taxation Code sections 38104 and 38115. Timber Yield Tax information may be obtained at: Timber Tax Section, MIC: 60, California Department of Tax and Fee Administration, P.O. Box 942879, Sacramento, California 94279-0060. Phone 1-800-400-7115 OR 1-916-274-3330. For Timber Tax information, please see our website at: www.boe.ca.gov/proptaxes/timbertax.htm.

5. PLAN SUBMITTER(S): Name Under Canvas Inc.
The submitter is the person who owns, leases, contracts, or operates on timberland. If the submitter is not identified in (2), (3), or (4), above, an explanation of his/her authority to submit the plan should be provided in Section III. [1032.7(a) and 1034(e)].
Address 1172 Happy Lane
City Belgrade State Montana Zip 95714 Phone (775) 750-4997
Email: _____
Signature: _____

6. ON-SITE CONTACT: Name: William E. Snyder
List person to contact on-site who is responsible for the conduct of the operations. If unknown, so state; name must be provided for inclusion in the THP prior to start of timber operations.
Address 4787 Hillsboro Circle
City Santa Rosa State CA Zip 95405 Phone (707) 583-3400
Email: bill_e_snyder@att.net

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CalTREES THP GENERAL INFORMATION

ITEM #7 LOCATION OF TIMBER OPERATIONS

a. Legal Description						
Meridian	Township	Range	Section	Acreage	Assessor's Parcel Number	County
Mount Diablo	1 South	18 East	SE ¼, Sec 26	80	068-120-060, 068-120--0	Tuolumne
			TOTAL AC	80		

NOTE: Total Acreage only includes the logging area

FOREST DISTRICT

b. Forest District	
<input type="checkbox"/> COAST FOREST DISTRICT	<input type="checkbox"/> Tahoe Regional Planning Authority Jurisdiction
<input type="checkbox"/> Southern Sub District of the Coast Forest District	<input type="checkbox"/> A County with Special Regulations
<input checked="" type="checkbox"/> SOUTHERN FOREST DISTRICT	<input type="checkbox"/> Coastal Zone, no Special Treatment Area (STA)
<input type="checkbox"/> High use Sub District of the Southern Forest District	<input type="checkbox"/> STA(s): Type: Identify:
<input type="checkbox"/> NORTHERN FOREST DISTRICT	<input type="checkbox"/> Other:

c. CALWATER PLANNING WATERSHED		
Name	Watershed identification Number	CALWATER Version
Big Creek	6536.800201	2.2.1

d. WATERSHED (ASP, 303D)	
<input type="checkbox"/> ASP Watersheds	<input checked="" type="checkbox"/> Non ASP Watersheds
<input type="checkbox"/> Upstream of ASP Watersheds	<input type="checkbox"/> 303d Watersheds
<input type="checkbox"/> Exempt from ASP Watershed Rules	• Reason listed:
• Reason Exempt:	

e. USGS QUADRANGLE	
Name	Date
Ascension Mountain	2018

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CaITREES THP GENERAL INFORMATION

ITEM #8

MODIFIED THP REQUIRED CONDITIONS AND MITIGATIONS

a. Modified THP	
1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this THP submitted as a modified THP per 14 CCR § 1051
2. <input type="checkbox"/> Yes <input type="checkbox"/> No	Is this THP submitted as a modified THP for Fuel Hazard reduction per 14 CCR § 1051.3

b. Timberland Conversion	
1. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Has a Timberland Conversion been submitted?
	<ul style="list-style-type: none"> Permit Number: <u>To be determined</u> (if known) or: To be determined. Tuolumne County is the lead agency for review of the EIR associated with the recreational development project associated with this Timberland Conversion. The timing of submission of the Timberland Conversion Permit and this Timber Harvesting Plan is tied to submission of the Draft EIR to The County for their California Environmental Quality Act review and approval. Expected approval date: July 15, 2020
2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Has a Timberland Conversion been approved?
	<ul style="list-style-type: none"> Permit Number: Approval date: Expiration date:

c. Demonstration of Maximum Sustained Production (MSP) per 14 CCR § 913.11 (93.11, 953.11).	
	MSP is not applicable as this is a conversion
MSP OPTION	
<input type="checkbox"/> (a)	THP Number Option (a) is approved under: _____ Date Approved: _____
<input type="checkbox"/> (b)	Has a Sustained Yield Plan been approved? <ul style="list-style-type: none"> SYP number: Date Approved:
	Has a Sustained Yield Plan been submitted but not approved? <ul style="list-style-type: none"> SYP number: Date Submitted:
<input type="checkbox"/> (c)	

d. Conservation Easements / Landowner Assistant programs	
1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there a conservation easement, existing, for any of the plan area? If "YES" provide <ul style="list-style-type: none"> Conservation Easement Name: _____ Who is the easement grantee: (Who holds the easement) _____
2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is a Conservation Easement proposed or waiting approval for any portion of the plan area?
3. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any land owner assistance programs associated for any portion of the propose plan area? If "YES" indicate what land assistance program it is and associated identifying document number and/or name of project. The landowners have an existing California Forest Improvement Program contract (Manly CFIP 2017 14-GHG-CFIP-01-0054). Activities under the contract include preparation of a Mini Management Plan, tree planting and herbicide release.

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CaITREES THP GENERAL INFORMATION

e. Habitat Conservation Plans (HCP) / Natural Communities Conservation Plans (NCCP)	
1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is any portion of the ownership covered by a Habitat Conservation Plan?
<input type="checkbox"/>	Aquatic
<input type="checkbox"/>	Terrestrial
2. <input type="checkbox"/> Yes <input type="checkbox"/> No	
3. <input type="checkbox"/> Yes <input type="checkbox"/> No	

ITEM #9	Prescribed Maintenance Period
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will the Licensed Timber Operator be employed for the construction and maintenance of roads and landings during the conduct of timber operations?</p> <p>If "NO" identify who will be responsible and provide a contact phone number.</p> <p>Contact name: _____</p> <p>Phone number: _____</p>
b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will the Licensed Timber Operator be responsible for erosion control maintenance after timber operations have ceased and until a work completion report has been certified by the department?</p> <p>If "NO" include a written agreement per 14 CCR 1050(c). Timberland Owner acknowledgement form contains the necessary information and can be included as the written agreement</p> <p>NOTE: Prescribed maintenance periods:</p> <ul style="list-style-type: none"> • Outside ASP watersheds maintenance period is one year but can be extended 3 years at the Departments discretion. • ASP watersheds the maintenance period is three years <p>Other activities such as stocking, that require the use of roads, crossings, or other features requiring erosion control shall be maintained during that activity even after the prescribed maintenance period has ended.</p>
c. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Is it anticipated timber operations will commence on the date of THP conformance as approved by the Department?</p> <p>If "NO" provide an expected date of commencement of timber operations: DATE _____</p>
d. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Is it anticipated timber operations will be completed within 5 years from the date of THP conformance?</p> <p>If "NO" provide the expected date timber operations will be completed: DATE _____</p>

ITEM #10	Stocking Adjacent Plans
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is there a THP on file with CAL FIRE for any portion of the plan area for which a Report of Satisfactory Stocking has not been issued by CAL FIRE?</p> <p>If "YES" provide THP Number: _____</p>
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is there a contiguous even aged unit with regeneration less than five years old or less than five feet tall?</p> <p>If "YES" provide explanation per 14 CCR 913.1 (933., 953.1)(a)(4)</p>

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CaITREES THP GENERAL INFORMATION

ITEM #11	Responsibilities / Notifications
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	RPF has notified the Plan Submitter, in writing, of their responsibilities pursuant to 14 CCR 1035 of the Forest Practice Act and Rules. Plan submitter acknowledgement form is attached at the end of this section.
b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	RPF has notified the timber owner and the timberland owner of their responsibilities for compliance with the Forest Practice Act and Rules and the prescribed maintenance periods and maintenance of erosion control structures. Timberland owner and Timber owner acknowledgment forms are attached at the end of this section.
c. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	RPF will provide the timber operator with a copy of the portions of the approved THP as listed in 14 CCR 1035(f). If "NO" who is responsible to provide the LTO a copy of the approved THP?
	Who will meet with the LTO prior to commencement of operations to advise of sensitive conditions and provisions of the THP per 14 CCR 1035.2. <input checked="" type="checkbox"/> RPF <input type="checkbox"/> Supervised Designee <input type="checkbox"/> Both <input type="checkbox"/> Other Additional information:
d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are Archaeological or historical sites within or near the plan area that require protection? NOTE: Archaeological information is CONFIDENTIAL
e. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	RPF has the following authority and responsibilities for the preparation and administration for the THP and timber operations. (Including both work completed and work remaining to be done). Additional information:
f. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	RPF has been retained by the plan Submitter to provide professional advice to the LTO and timberland owner upon request throughout the active timber operations regarding the THP, the Forest Practice Rules, and other associated regulations pertaining to timber operations per 14 CCR 1035(d)(1) See attached RPF acknowledgement form attached to the end of this section
	Describe additional required work requiring an RPF, which the RPF submitting this proposed THP does not have the authority or responsibility to perform. Oversight of road construction, fuel treatment activities, pre-operational on the ground meeting with licensed timber operator, flagging or watercourse and lake protection zones, Equipment Exclusion Zones and Equipment Limitation Zones, preparation of plan amendments on behalf of the plan submitter, marking of snags to retained on the project area, delineation of understory retention areas and participation in the THP review and approval process. The RPF has not been retained to oversee development of camping facilities and associated infrastructure such as water systems, waste disposal systems, etc.

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CalTREES THP GENERAL INFORMATION

ITEM #12		Notice of Intent (NOI)
Per 14 CCR 1032.7(c)(1-5) The RPF preparing the THP shall submit to the Director, with the THP, a Notice of Intent (NOI) to harvest timber if:		
(1) Any proposed boundary lies within 300 feet of any property not owned by the timberland owner, or (2) Plan amendments that change plan boundary so that new boundaries are within 300 feet of property not owned by the timberland owner. (3) Plan amendments change the silvicultural method if a notice was required for the Plan by condition (1) or (2) above. (4) Any overhead electrical power line, except a line from a transformer to a service panel, is present within the plan area or within 200 feet outside the Plan boundary, or (5) Plan amendments change a plan boundary so that the overhead electrical power line, except a line from a transformer to a service panel, is within the new boundary area or within 200 feet outside the Plan Boundary.		
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is a Notice of Intent necessary for this THP? If "YES" include the NOI with the THP as a separate form with the THP	
b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	I understand the NOI is to be posted prior to submitting the THP and I will post the NOI at the conspicuous location near the project location prior to submitting this proposed THP.	

ITEM #13		Statement of Environmental Impact
After considering the rules of the Board of Forestry and Fire Protection and the mitigation measures incorporated in this THP, I the Registered Professional Forester, have determined that the timber operations (mark all that apply)		
a. <input type="checkbox"/>	WILL HAVE A SIGNIFICANT adverse effect on the environment. Provide a statement of reasons for overriding considerations in SECTION III.	
b. <input checked="" type="checkbox"/>	WILL NOT HAVE A SIGNIFICANT adverse impact on the environment.	
<input type="checkbox"/>	I certify that I, or my supervised designee, personally inspected the THP area, and this plan complies with the Forest Practice Act, the Forest Practice Rules and the Professional Foresters Law.	

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State of California
Department of Forestry and Fire Protection

(Administrative Use Only-Area _____)
(Plan No. _____)
(Date Received _____)
(Amendment Number _____)

LICENSED TIMBER OPERATOR RESPONSIBILITY ACKNOWLEDGEMENT

(As per 14 CCR §§ 1035.3(a)(1)-(2), 1092.14(a)(1)-(2).)

Harvesting Plan Number: _____

Licensed Timber Operator Information

Name: _____ To be determined _____

Street Address/PO Box: _____ City: _____ Zip Code: _____

Telephone Number: _____ LTO Number: _____

I hereby agree to abide by the terms and specifications of the plan. I have read and understand my responsibility as LTO, as described under 14 CCR §§ 1022.4, 1090.12 and 1092.14. I agree to fulfill my responsibilities as an LTO as they pertain to this plan.

LTO Signature: _____ **Title:** _____

Responsible On-Site Contact (if different)

Name: _____

Printed Name: _____ Date: _____

Street Address/PO Box: _____ City: _____ Zip: _____

Telephone Number: _____

REGISTERED PROFESSIONAL FORESTER (RPF) RESPONSIBILITY ACKNOWLEDGEMENT

(As per 14 CCR § 1035.1)

RPF Certified to Provide Professional Advice:

Name: William E. Snyder _____

Street Address/PO Box: 4787 Hillsboro Circle _____ City: Santa Rosa, CA Zip Code: 95405 _____

Telephone Number: (707) 583-3400 _____ RPF Number: 1760

I have read and understand my responsibility as RPF, as described under 14 CCR § 1035.1(a)-(g). I agree to fulfill my responsibilities as an RPF as they pertain to this plan.

Yes No I have been retained as the RPF available to provide professional advice to the licensed timber operator and timberland owner upon request throughout the active timber operations regarding: (1) the plan, (2) the forest practice rules, (3) and other associated regulations pertaining to timber operations.

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RPF Signature: _____

LTO, RPF, PS, TLO Notification

12/19/19

PLAN SUBMITTER RESPONSIBILITY ACKNOWLEDGEMENT

(As per 14 CCR § 1035)

Plan Submitter

Name: Under Canvas, Inc.

Street Address/PO Box: 1172 Happy Lane City: Belgrade, Montana Zip Code: 95714

Telephone Number: (775) 750-4997

I have read and understand my responsibilities as Plan Submitter as described under 14 CCR § 1035. I certify that I have fulfilled my legal obligation as stated in the forest practice rules and agree to fulfill my responsibility as the plan submitter as it pertains to this plan.

Yes No I have retained the services of an RPF to provide professional advice to the LTO and timberland owner upon request throughout active timber operations regarding: (1) the plan, (2) the forest practice rules, (3) and other associated regulations pertaining to timber operations.

Yes No I have authorized the timberland owner to perform the services of a professional forester, understanding that the services will be provided personally on lands owned by the timberland owner.

Plan Submitter Signature: _____

TIMBERLAND OWNER RESPONSIBILITY ACKNOWLEDGEMENT

(As 14 CCR § 1035(d)(2)(B))

Timberland Owner

Name: Not Applicable

Street Address/PO Box: _____ City: _____ Zip Code: _____

Telephone Number: _____

I have read and understand my responsibilities as timberland owner as described under 14 CCR § 1035(d)(2)(A)-(C). I certify that I have fulfilled my legal obligation as stated in the forest practice rules, and agree to fulfill my responsibilities as the timberland owner as it pertains to this plan.

I understand that I have been authorized by the plan submitter to perform the services of a professional forester pursuant to the Landowner exception in PRC § 757, and such services will be personally performed only on those lands that I own'

Timberland Owner's Signature: _____

LTO, RPF, PS, TLO Notification

12/19/19

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CalTREES THP ITEM #14 - SILVICULTURE

ITEM #14 – SILVICULTURE

- Check the Silvicultural methods or treatments allowed by the Forest Practice Rules to be applied under this THP.
- If more than one method or treatment will be used identify the boundaries on a map per 14 CCR § 1034(x)(2)
- List the approximate acreage for each method identified.

a.	Evenaged	ACRES	
<input type="checkbox"/>	Clearcutting		<p align="center">EVENAGED REGENERATION METHODS (14 CCR § 913.1 [933.1, 953.1]) (All Districts)</p> <p align="center">NOTE: variation by District in (a)(4)(A) and (d)(3) Shelterwood Removal Step</p>
<input type="checkbox"/>	Seed Tree Seed Step		
<input type="checkbox"/>	Seed Tree Removal Step		
<input type="checkbox"/>	Shelterwood Preparatory Step		
<input type="checkbox"/>	Shelterwood Seed Step		
<input type="checkbox"/>	Shelterwood Removal Step		
	Un-evenaged		<p align="center">UNEVENAGED REGENERATION METHODS (14 CCR § 913.2 [933.2, 953.2]) (All Districts)</p> <p align="center">NOTE: variation by District in (a)(2)(A)(1)</p>
<input type="checkbox"/>	Selection		
<input type="checkbox"/>	Group Selection		
<input type="checkbox"/>	Transition		
	Intermediate Treatments		<p align="center">INTERMEDIATE TREATMENTS (14 CCR § 913.3 [933.3, 953.3])</p>
<input type="checkbox"/>	Commercial Thinning		
<input type="checkbox"/>	Sanitation Salvage		
	Alternative		<p align="center">ALTERNATIVE PRESCRIPTIONS (ALL DISTRICTS) (14 CCR § 913.6 [933.6, 953.6])</p>
<input type="checkbox"/>	Alternative Prescription		
	Special Prescriptions		<p align="center">SPECIAL PRESCRIPTIONS (14 CCR § 913.4 [933.4, 953.4])</p> <p>RPF is required to include specific information when Restoration or Oak woodland management is selected. The FPR element forms are provided at the end. Indicate the specific acreage for each type of restoration or oak area on these forms.</p>
<input type="checkbox"/>	Special Treatment Area Prescription		
<input type="checkbox"/>	Rehabilitation of Understocked Area Prescription		
<input type="checkbox"/>	Fuel Break / Defensible Space		
<input type="checkbox"/>	Variable Retention		
<input type="checkbox"/>	Restoration – Aspen, Meadow, & Wet Area		
<input type="checkbox"/>	Ca. Black and Oregon White Oak Woodland Management		
	Non-regeneration		<p align="center">NON REGENERATION HARVESTING</p>
<input checked="" type="checkbox"/>	Conversion	80	
<input type="checkbox"/>	Road Right-of-way		
<input type="checkbox"/>	No Harvest		

TOTAL ACREAGE:	80	If acreage is different than acreage listed in the legal description provide explanation:

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CalTREES THP ITEM #14 - SILVICULTURE

If Selection, Group Selection, Commercial Thinning, Sanitation Salvage or Alternative methods are selected the post-harvest stocking levels must be stated. If Site class varies then state the post-harvest stocking standard to be met by each applicable Site Class.

NOTE: Location of boundaries of timber-site classes needed for the determination of stocking standards to be applied, down to 20-acres minimum or as specified in district rules shall be mapped per 14 CCR § 1034(x)(12)

b. POST-HARVEST STOCKING TO BE MET AT THE COMPLETION OF OPERATIONS		
Silvicultural Prescription	Site Class (I, II, III, IV, V)	Post-harvest stocking standard
Conversion	I,II	NA

c. EVENAGED REGENERATION SIZE	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will evenaged regeneration step Units be larger than those specified in the rules?</p> <input type="checkbox"/> 20 acres TRACTOR <input type="checkbox"/> 30 acres AERIAL or CABLE <p>If YES is the RPF proposing:</p> <input type="checkbox"/> An increase to evenaged TRACTOR Units to 30 acres because Erosion Hazards Rating is Low and the slopes are less than 30% <input type="checkbox"/> An increase to any evenaged harvest unit up to 40 acres <p>If YES provide substantial evidence that the THP contains measures to accomplish any one of the subsections per 14 CCR § 913.1 [933.1, 953.1](a)(2)(A) – (E) In SECTION III</p> <p>Operational Instruction to the LTO, needed to meet subsections (A) – (E) above shall be included in SECTION II</p> <p>NOTE: Oversized Units should be designated on the THP map(s) by size.</p>

Operational instructions to the LTO:

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CaITREES THP ITEM #14 - SILVICULTURE

d. TIMBER MARKING				
In the table below indicate the area requiring tree marking, the method of marking, who completed the marking and if it was an entire or sample area mark.				
Marking completed in (specify Location(s))	Trees Marked (Harvest / Retained)	Completed By (RPF / Designee)	Area Marked (Entire / Sample area)	RPF Explanation if needed (Optional)

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the RPF requesting a waiver of required marking?
	If YES, provide directions explaining how the LTO will determine what trees shall be harvested or retained:
	If more than one silvicultural method or group selection is used, provide instructions to the LTO identifying how boundaries of the different methods or groups have been identified:
	<p>The development area to be converted has been staked on the ground with stakes that identify the centerline and clearing limits of the road or location of other improvement such as administrative buildings, pools, and tent structures. The portion of the area outside of the development area to be treated to reduce fuel loading is shown on the THP map and will be flagged by the RPF prior to the start of timber operations. The fuel reduction prescription applicable to the development area and areas shown on the THP map is as follows:</p> <p>Surface and ladder fuels shall be treated to reduce total fuels > than 3" in diameter and 4' to achieve a post-treatment level in these fuels of less than 5 tons per acre. This target will include retention of down logs greater than 20" on the small end and 20' in length. All other fuels greater than 3" in small end diameter and less than 20" in diameter on the small end will be chipped on site as part of the mastication process or removed to disposal areas on the project and chipped on site or chipped and/or hauled to a biomass facility. Down material less than 3" in diameter shall be masticated to achieve a minimum post treatment standard that results in 80% of the material being less than 18" in length and at least 60% being less than 12" in length. In addition, mastication shall remove live and dead brush throughout 85% of the treatment area and shall also remove live ladder fuels from within the dripline of residual trees. Areas where live brush and/or seedlings, saplings, and poles will be retained shall be identified by the ESA biologist or by the RPF prior to the start of operations. Post treatment depth of surface fuels shall be less than 3" over 80% of the treatment area.</p>

e. FOREST PRODUCTS TO BE HARVESTED:					
<input checked="" type="checkbox"/>	Saw Logs	<input type="checkbox"/>	Poles	<input type="checkbox"/>	Clean Chips
<input type="checkbox"/>	Peeler Logs	<input type="checkbox"/>	Split Wood Products	<input type="checkbox"/>	Firewood
<input type="checkbox"/>	Fuel Wood	<input checked="" type="checkbox"/>	Fuel chips	<input type="checkbox"/>	Other
<input type="checkbox"/>	Burl Wood				

f. GROUP B SPECIES MANAGEMENT	
1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are group B species proposed for management?
2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are group B or non-indigenous A species to be used to meet stocking standards?
3. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will group B species need to be reduced to maintain relative site occupancy of group A species?
If any answer is YES, list the species, describe treatment, and provide LTO felling and slash treatment guidance. See table below	

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CalTREES THP ITEM #14 - SILVICULTURE

TABLE FOR LTO TREATMENT GROUP B SPECIES MANAGEMENT			
Species	Treatment Method	Felling Instruction	Slash Treatment Instructions

1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are follow-up treatments expected to maintain relative site occupancy of group A species? <input type="checkbox"/> Manual Treatments - Describe: <input type="checkbox"/> Herbicide Treatments - Describe: <input type="checkbox"/> Both
	If YES who will be responsible?
2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will a Licensed Pest Control Advisor be involved in the process? If YES explain when an advisor will be needed:

g.	LTO FELLING INSTRUCTIONS PLAN AREA

h.	REGENERATION
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will artificial regeneration be required to meet stocking standards? Describe:

i.	SITE PREPARATION
Definition of site preparation per 14 CCR § 895.1: Site preparation means “any activity” involving mechanical disturbance of soils or burning of vegetation which is performed during or after completion of timber harvesting and is associated with preparation of any portion of a logging area for artificial or natural regeneration.	
1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will site preparation be used within the logging area? If YES, provide site preparation plan per 14 CCR § 915.4 [935.4, 955.4]
2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will site preparation be required to meet stocking? <ul style="list-style-type: none"> • General method(s) of site preparation: • Type of equipment to be used for mechanical site preparation and/or firebreak construction: • Methods to protect desirable residual trees per 14 CCR § 917.7 [937.7, 957.7]:
3. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<ul style="list-style-type: none"> • Are there any exceptions or alternatives proposed to the standard rules? If YES, provide an explanation and justification for the proposed exceptions: • Provide a map identifying the boundaries of site preparation areas, if different from the logging area boundaries, and distinguish areas by type of site preparation activity.

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CalTREES THP ITEM #14 - SILVICULTURE

<ul style="list-style-type: none"> • Prior to conducting site preparation activities provide the name of the person responsible for site preparation:
<ul style="list-style-type: none"> - Name:
<ul style="list-style-type: none"> - Address:
<ul style="list-style-type: none"> - Phone #:
<ul style="list-style-type: none"> • Estimated timing of site preparation activities:

j. REGENERATION PLAN (rehabilitation of understocked areas or variable retention)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is a regeneration plan needed per 14 CCR § 913.4 [933.4, 953.4](b) or (d)? If YES, please provide a detailed description for Review Team to evaluate how the proposed management prescription will aid in restoring and enhancing the productivity of commercial timberland.</p> <p>The regeneration plan shall include but not be limited to:</p> <ul style="list-style-type: none"> - <u>Rehabilitation of understocked areas</u>: site preparation, method of regeneration and other information needed to evaluate the proposal by the Review team: - <u>Variable Retention</u>: Trees and elements retained, objectives intended to achieved by retention, distribution and quantity of retained tress, intended time period of retention, and potential future conditions or events the RPF believes would allow harvest of retained trees.

Regeneration plan:

000014

CalTREES THP ITEMS #15-17 – PEST / HARVEST PRACTICES / EROSION HAZARD RATING

ITEM #15 – PESTS

PESTS / FOREST DISEASES	
Timber operations shall be conducted so as to minimize the build-up of destructive insect populations or the spread of forest Diseases. 14 CCR 917.9 [937.9, 957.9](a) – (c) (All Districts)	
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this THP within an area that the Board of Forestry and Fire Protection has declared a Zone of: 1. <input type="checkbox"/> Infestation 2. <input type="checkbox"/> Infection pursuant to PRC §§ 4712 - 4718? If YES, identify feasible measures being taken to mitigate adverse infestation or infection impacts from the timber operation. 917.9 (937.9, 957.9)(a) Reference Board of Forestry Technical Rule Addendum Number 3 for RPF considerations.
Measures to mitigate adverse infestations or infections:	

b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any other significant insect or forest disease problems within the THP area if outside a declared zone? 1. <input type="checkbox"/> Insect(s) 2. <input type="checkbox"/> Disease(s) 3. <input type="checkbox"/> Pest problems 4. <input type="checkbox"/> Other (provide description of the forest problem) If YES, describe proposed measures to improve the health, vigor, and productivity of the stand(s).
Proposed measures:	

ITEM #16 – HARVESTING PRACTICES

YARDING SYSTEM AND EQUIPMENT TO BE USED					
	GROUND BASED (Tractor, skidder, Forwarder)		CABLE		OTHER (Special)
<input checked="" type="checkbox"/>	Tractor, including end/long lining	<input type="checkbox"/>	Cable, ground lead	<input type="checkbox"/>	Helicopter
<input checked="" type="checkbox"/>	Rubber tire skidder, forwarder	<input type="checkbox"/>	Cable, High lead	<input type="checkbox"/>	Animal
<input checked="" type="checkbox"/>	Feller buncher	<input type="checkbox"/>	Cable, skyline	<input type="checkbox"/>	Other (describe below)
<input type="checkbox"/>	Shovel yarding				

**** All Tractor operations restrictions apply to ground based equipment Reference 14 CCR 914.2 [934.2, 954.2] (All Districts)**

000015

CalTREES THP ITEMS #15-17 – PEST / HARVEST PRACTICES / EROSION HAZARD RATING

ITEM #17 – EROSION HAZARD RATING

EROSION HAZARD RATING (EHR)					
		Per 14 CCR 914.6 [934.6, 954.6](c) Waterbreaks Road and/or Trail Gradients Waterbreak Spacing by trail/road gradient			
		10 or less	11-25	26-50	>50
<input checked="" type="checkbox"/>	LOW	300	200	150	100
<input type="checkbox"/>	MODERATE	200	150	100	75
<input type="checkbox"/>	HIGH	150	100	75	50
<input type="checkbox"/>	EXTREME	100	75	50	50
NOTE:					
<ul style="list-style-type: none"> • If more than one rating is checked, areas must be identified on a THP map down to 20 acres in size. • COASTAL DISTRICT with a High or extreme EHR(s) must be mapped to 10 acres. • If ratings checked do not match the EHR Worksheet clarify the discrepancy: 					
EHR rating discrepancy:					

CalTREES THP ITEM #15-17

000016

CalTREES THP ITEM #18 – SOIL STABILIZATION

ITEM #18 – SOIL STABILIZATION

ITEM #18 SOIL STABILIZATION / EROSION CONTROL

Per 14 CCR 923.5, 943.5, 963.5 – Erosion Control for Logging Roads and Landings [All Districts] – All logging road and landing surfaces shall be adequately drained, through the use of logging road and landing surface shaping in combination with the installation of drainage structures or facilities and shall be hydrologically disconnected from watercourses and lakes to the extent feasible.

Per 14 CCR 914, 934, 954 – Harvesting practice and erosion control [All Districts] – Timber operations shall be conducted to: Meet the goal... to prevent degradation of the quality and beneficial uses of water and maintain site productivity by minimizing soil loss

Guidance on methods for hydrologic disconnection may be found in “Board of Forestry Technical Rule Addendum Number 5: Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk Crossings” (1st Edition, revised 10/27/14)

14 CCR 923.5, 943.5, 963.5(b), (c), (d), (e), (f), (g), (h), (j), (k), (p) contain standard Forest Practice Operational rules pertaining to the timing and specifics for the installation of erosion control structures for Roads and Landings.

14 CCR 914.6, 934.6, 954.6(a) (1-2), (b), (c), (d), (e), (f), (g), additional Coast areas (h), (i) contain standard Forest Practice Operational rules pertaining to the timing and specifics for the installation of erosion control structures for harvesting practices, tractor and cable operations.

THE LTO SHALL BE FAMILIAR WITH THESE STANDARD OPERATIONAL REQUIREMENTS, PRIOR TO OPERATIONS.

a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any exceptions proposed to the above listed standard operational requirements? If YES, please provide the specific operational instruction to the LTO.
<input type="checkbox"/>	Methods of stabilization to be used: (check all that apply) STRAW Mulch Depth (inches): _____ Percent coverage: _____
<input type="checkbox"/>	SLASH Mulch <input type="checkbox"/> Scattered Depth (inches): _____ Percent coverage: _____ <input type="checkbox"/> Packed Depth (inches): _____ Percent coverage _____
<input type="checkbox"/>	Grass Seeding LTO Instructions:
<input type="checkbox"/>	Rock Armoring Size: _____ Installation instructions:
<input type="checkbox"/>	Replanting LTO instructions if needed
<input type="checkbox"/>	Installation of commercial erosion devices Describe commercial devise and provide instructions to the LTO:
<input type="checkbox"/>	Other Describe method and provide LTO instructions:

000017

CalTREES THP ITEM #18 – SOIL STABILIZATION

Per 14 CCR 914.9[934.9, 954.9] the RPF may develop on a site-specific basis alternative practices that will achieve environmental protection at least equal to the standards set forth in 914.1-914.8 [934.1-934.8, 954.1-954.8]	
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any alternative practices to the standard harvesting or erosion control rules proposed? If YES, the information as required per 914.9 [934.9, 954.9] shall be provided in SECTION III. Provide instructions to the LTO in SECTION II.

All WATERSHEDS				
Logging roads / Landings	N/A	Description of Treatments	Protection Measures	Timing
c. 923.5[943.5, 963.5](i): treatments to prevent significant discharge where features cannot be hydrologically disconnected.	N/A			
d. 923.5[943.5, 963.5](l) & (m): treatments for sidecast or fill; cuts and fills associated w/ approaches to watercourse crossings; bare areas w/in WLPZ.		Bare soil which are exposed during construction of Under Canvas Way shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Sites to be stabilized include: <ol style="list-style-type: none"> 1) All sidecast or exposed bare fill material that has access to any watercourse. 2) All bare areas created by timber operations within watercourse and lake protection zones, equipment exclusion zones, and equipment limitation zones. 	Areas to be stabilized include all sidecast or fills within any watercourse or protection zone, equipment exclusion zone or equipment limitation zone. Treatment shall consist of applying a seed mix of grasses approved by CAL FIRE to a density of at least six seeds per sq.to all bare areas and covering all seeded areas with a minimum of 4" of certified weed free straw mulch.	
e. 923.5[943.5,963.5](n): When the natural ability of ground cover in WLPZ is inadequate to filter sediment.	N/A			
f. 923.5[943.5,963.5](o): Exceptions to soil	N/A			

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CalTREES THP ITEM #18 – SOIL STABILIZATION

stabilization treatment timing.				
Watercourse crossings on logging roads				
g. 923.9[943.9,963.9] (t)(1)-(3): Bare soil on fills, sidecast, timing of treatment.		Soil stabilization treatment shall be in place upon completion of timber operations for the year of any use or prior the beginning of the extended wet period (October 15 thru May1). Bare areas created during the extended wet period shall be treated prior to the start of rain that generates overland flow or within 10 days of the creation of the bare areas, whichever is sooner.	Areas to be stabilized include all sidecast or fills within any watercourse or protection zone, equipment exclusion zone or equipment limitation zone. Treatment shall consist of applying a seed mix of grasses approved by CAL FIRE to a density of at least six seeds per sq.to all bare areas and covering all seeded areas with a minimum of 4" of certified weed free straw mulch.	

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CalTREES THP ITEM #18 – SOIL STABILIZATION

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing. WLPZ & Protected ELZ & EEZs within a Non ASP and exempt ASP watersheds. Please address the following table and the specific rule. If not applicable, so state.

<u>Non ASP & Exempt ASP watersheds</u> WLPZ & Protected ELZ & EEZ	N/A	Description of Treatments	Protection Measures	Timing
h. 916.7[936.7,956.7] Stabilization measures for WLPZ of C I & C II.		Treatment shall consist of applying a seed mix of grasses approved by CAL FIRE to a density of at least six seeds per sq.to all bare areas and covering all seeded areas with a minimum of 4" of certified weed free straw mulch.	Areas to be stabilized include all sidecast or fills within any watercourse or protection zone, equipment exclusion zone or equipment limitation zone. Soil stabilization treatment shall be in place upon completion of timber operations for the year of any use or prior the beginning of the extended wet period (October 15 thru May1). Bare areas created during the extended wet period shall be treated prior to the start of rain that generates overland flow or within 10 days of the creation of the bare areas, whichever is sooner	

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing WLPZ & Protected ELZ & EEZ, Roads and Landings and Watercourse Crossings, within an ASP Watershed or Immediately upstream of an ASP Watershed. Please address the following table and the specific rule. If not applicable, so state.

<u>ASP WATERSHEDS</u> Logging roads / Landings	N/A	Description of Treatments	Protection Measures	Timing
i. 916.9[936.9,956.9](n)(1)-(7): WLPZ, & protected ELZ & EEZs.				
j. 923.5[943.5,963.5](q)(3): as it pertains to roads, landings, etc.				
k. 923.9[943.9,963.9](t)(4): as it pertains to watercourse crossings.				

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CaITREES THP ITEMS #19-21 – GROUND BASED EQUIPMENT

ITEM #19 – 21: GROUND BASED EQUIPMENT

GROUND BASED EQUIPMENT	
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Per 14 CCR 895.1 a layout is a prepared bed in which a tree is felled, generally constructed by a tractor or other ground based equipment.</p> <p>Are tractor or skidder constructed layouts to be constructed?</p> <p>If YES, specify the location (consider mapping) and the extent of use. NOTE: winter operations and soil stabilization measures apply to tractor or skidder constructed layouts.</p>
<p>Per 14 CCR 914.3 [943.3, 954.3](e) Tractors shall not be used in areas designated for cable yarding except:</p> <ul style="list-style-type: none"> • To pull trees away from streams • To yard logs in areas where deflection is low • Where swing yarding is advantageous • To construct firebreaks and/or layouts • To provide tail-holds <p>Such exception(s) shall be explained and justified in the THP, and require Director's approved</p>	
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will ground based equipment be used within area(s) designated for cable yarding: (CHECK all that apply)</p>
<input type="checkbox"/>	Pulling trees away from watercourses
<input type="checkbox"/>	Yarding logs from areas with low deflection
<input type="checkbox"/>	Swing yarding
<input type="checkbox"/>	Construct fire breaks
<input type="checkbox"/>	Construct layouts
<input type="checkbox"/>	Providing tail-holds
<input type="checkbox"/>	Other Describe:
<p>If YES, specify the location (consider mapping) and provide LTO instructions</p>	
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are any exceptions proposed for ground based operations within cable areas outside of the exceptions listed above?</p> <p>If YES, provide the required explanation and justification in SECTION III of the THP and provide operations instructions for the LTO in SECTION II below.</p>

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CaITREES THP ITEMS #19-21 – GROUND BASED EQUIPMENT

Per 14 CCR § 914.9 [934.9, 954.9](a) Alternatives to Standard Rules:

- (a) Alternative practices may be developed by the RPF on a site-specific basis provided the following conditions are complied with and the alternative practices will achieve environmental protection at least equal to that which would result from using measures stated in 14 CCR §§ 914.1-914.8 ,934.1-934.8, 954.1-954.8.
 - (1) Environmental impacts with potential for significant adverse effects on the beneficial uses of water, on the residual timber, and on the soil productivity are identified and measures proposed to mitigate such impacts are included in an approved THP. The THP shall also contain a clear statement as to why alternative harvesting and erosion control measures are needed.
 - (2) The alternative practice(s) must be explained in sufficient detail and standards provided in the THP so that they can be adequately evaluated and enforced by the Director and implemented by the licensed timber operator.
 - (3) On a THP in which alternatives covering harvesting and erosion control measures have been incorporated, the timber operator shall agree to the alternative specifications by signing and filing with the Director a copy of the plan, the amended plan or a facsimile thereof, prior to beginning or continuing operations on the portion of the plan to which the alternatives apply.
- (b) The Director shall not accept for inclusion in a THP alternative harvesting and erosion control measures proposed under this section which do not meet the standard of subsection (a) of this section. In the event that there is more than one written negative position showing that the alternative practice(s) does (do) not meet the standard of subsection (a) received from among the agencies listed in 14 CCR 1037.3 and the Department which participated in the review of the plan including on-the-ground inspection, the Director shall reject the proposed alternative.
- (c) Alternative practices stated in an approved THP shall have the same force and authority as those practices required by the standard rule.

<p>d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Is the RPF proposing any Alternative Practices to the standard rule on a site-specific basis?</p> <p>If “YES” provide clear instruction to the LTO in Section II advising LTO how the Alternative is to be implemented to maintain equal protection of the standard rule. In Section III explain how the alternative practice proposed achieves environmental protection at least equal to that what which would result from using measures stated in 14 CCR §§ 914.1-914.8 ,934.1-934.8, 954.1-954.8.</p>
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LTO Instructions:

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CalTREES THP ITEMS #19-21 – GROUND BASED EQUIPMENT

14 CCR 914.2 [934.2, 954.2](a-k) Identifies the Forest Practice Rule requirements for the use of ground based equipment within the harvesting area.

- (b) Tractor, or other heavy equipment equipped with a blade, SHALL NOT operate on skid roads or slopes that are so steep as to require the blade to be used for breaking.
- (c) Tractor roads SHALL be limited in number and width to the minimum necessary for removal of logs.
 - When less damage to the resources specified in 14 CCR 914[934, 945] will result, existing tractor roads shall be used instead of constructing new tractor roads.
 - [NORTHERN only] RPF may propose exceptions for silvicultural reasons when explained and justified within the plan.
- (e) Slash and debris from timber operations SHALL not be bunched adjacent to residual trees required for silvicultural or wildlife purposes, or placed in a location where they could discharge into a Class I or II watercourse, or Lake.
- (g) where tractor roads are constructed only those roads shall be used for the skidding of logs to landings
- (h) Desirable residual trees and seedlings will not be damaged or destroyed by tractor operations.
- (i) where water breaks cannot effectively disperse surface runoff, other erosion controls shall be installed as needed.
- Slope restriction are identified in subsection (d), (f) [Coastal, Northern], (j) [Southern]

The LTO shall be aware of these rule requirements prior to operations

e. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will new tractor roads be constructed?
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f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will tractor road use be limited to existing tractor roads?
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ASP NOTE: per 14 CCR 916.9 (k)(1) – Year-around tractor road limitations, Tractor roads shall not be used when operations may result in significant sediment discharge and (m) Tractor Road Drainage Facility Installation - All tractor roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following yarding and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within a WLPZ or within any ELZ or EEZ designated for watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch:

Will ground based equipment be used on:

g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unstable areas? (only allowed if unavoidable) If YES, the RPF SHALL develop specific measures to minimize the effect of operations on slope stability. Provide the required justification and explanation in SECTION III and operational instructions to the LTO in SECTION II.
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h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Slopes steeper than 65% if YES, provide site specific instructions to the LTO in SECTION II below and provide the required explanation and justification in SECTION III.
--	--

i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Slopes steeper than 50% where the erosion hazard rating (EHR) is HIGH or EXTREME. if YES, provide site specific instructions to the LTO in SECTION II below and provide the required explanation and justification in SECTION III.
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000023

CaITREES THP ITEMS #19-21 – GROUND BASED EQUIPMENT

Will ground based equipment be used on:	
<p>j. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p>Slopes between 50% and 65% with a MODERATE EHR at: (percentage based on average slope on sample areas of 20 acres)</p> <p>Existing tractor roads that do not require reconstruction.</p> <p>[NORTHERN and SOUTHERN only] New tractor roads that have been flagged by an RPF or supervised designee prior to use.</p> <p>[COASTAL only] New tractor roads at a location that has been shown on the THP map, flagged by an RPF or supervised designee prior to the pre-harvest inspection, or prior to the start of timber operations if a PHI was not required.</p> <p>if YES, provide site specific instructions to the LTO in SECTION II below.</p>
<p>k. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Slopes over 50% which lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake?</p> <p>if YES, provide site specific instructions to the LTO in SECTION II below and provide the required explanation and justification in SECTION III.</p>
<p>NOTE:</p> <ul style="list-style-type: none"> - Per 14 CCR 1034(x)(15) all exceptions must be located on a map. - If any question above is answered YES then tractor road locations must be flagged on the ground prior to the PHI or the start of timber operations if a PHI is not required. 	

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CalTREES THP ITEM #23 – WINTER OPERATIONS

ITEM # 23 – WINTER OPERATIONS

Per 14 CCR 895.1:

- **“Winter period”** means the period between November 15 and April 1, Except under special County Rules per 14 CCR:
 - 925.1 (Santa Clara)
 - 926.18 (Santa Cruz)
 - 927.1 (Marin)
 - 965.5 (Monterey)

- **“Extended wet weather period”** means the period from October 15 to May 1.

- **Tractor roads (except as otherwise provided in the rules):**
 - All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations.
 - Installation of drainage facilities and structures is required from October 15 to November 15 and April 1 to May 1 on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a “chance” (30% or more) of rain within the next 24 hours per 14 CCR 914.6[934.6, 954.6](a).
- **Logging roads and landings used for timber operations shall have adequate drainage:**
 - Upon completion of use for the year or by October 15, whichever is earlier.
 - An exception is that drainage facilities and drainage structures do not need to be constructed on logging roads and landings in use during the extended wet weather period provided that all such drainage facilities and drainage structures are installed prior to the start of rain that generates overland flow. 923.5[943.5, 963.5](j).

- When the term **“WPOP”** (Winter Period Operating Plan) is used below, all the requirements per 14 CCR 914.7[934.7, 954.7] (b) must be addressed.

ITEM #23	WINTER OPERATIONS
If timber operations are proposed within the winter period the RPF may propose to operate under a: <ul style="list-style-type: none"> • Winter Period Operating Plan (WPOP) per 14 CCR 914.7, 934.7, 954.7(b) • In-lieu winter operating plan per 14 CCR 914.7 [934.7, 954.7](c) 	
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will timber operations occur during the winter period?
WINTER PERIOD OPERTING PLAN (WPOP)	
A Winter Period Operating Plan (WPOP) is required when winter operations will occur under the following conditions: <ul style="list-style-type: none"> • Site preparation • Road and landing construction • Temporary logging road watercourse crossings will not be removed • At tractor watercourse crossings • Temporary logging roads or landings • Roads to be abandoned or deactivated • Operations are proposed in an ASP watershed or immediately upstream 	
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will mechanical site preparation be conducted during the winter period? If YES, then a WPOP is required per 14 CCR 914.7 [934.7, 954.7](b)
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will roads be constructed during the winter period? If YES, a WPOP is required per 14 CCR 914.7 [934.7, 954.7] addressing logging road and landing construction and reconstruction per 14 CCR 923.4 [943.4, 963.4](l). Provide operational instructions to the LTO in SECTION II
d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will landings be constructed during the winter period? If YES, a WPOP is required per 14 CCR 914.7 [934.7, 954.7] addressing logging road and landing construction and reconstruction per 14 CCR 923.4 [943.4, 963.4](l). Provide operational instructions to the LTO in SECTION II

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CalTREES THP ITEM #23 – WINTER OPERATIONS

e. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will temporary logging road watercourse crossings be left in place during the winter period? If YES, a WPOP is required per 14 CCR 923.9 [943.9, 963.9](r). Provide specific measures to be taken during operations by the LTO in SECTION II
f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will tractor watercourse crossings be used during the winter period? If YES, a WPOP is required per 14 CCR 914.8 [934.8, 954.8](d). Provide operational instructions and stabilization measures in SECTION II. If an exception is proposed provide an explanation and justification in SECTION III.
g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will temporary logging roads be used during the winter period? If YES, a WPOP is required per 14 CCR 923.6 [943.6, 963.6](f) and 923.8 [943.8, 963.8](d). Provide specific measures to be taken during operations for the LTO in SECTION II.
h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will temporary landings be used during the winter period? If YES, a WPOP is required per 14 CCR 923.6 [943.6, 963.6](f) and 923.8 [943.8, 963.8](d). Provide specific measures to be taken during operations for the LTO in SECTION II.
i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will logging roads to be abandoned or deactivated, be open (not blocked) during the winter period? If YES, a WPOP is required per 14 CCR 923.6 [943.6, 963.6](f) and 923.8 [943.8, 963.8](d). Provide specific measures to be taken during operations for the LTO in SECTION II.
ASP WATERSHEDS OR IMMEDIATELY UPSTREAM	
Extended Wet Weather Period:	
j. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are timber operations proposed during the extended wet weather period – October to May 1? If YES, then a WPOP is required per 14 CCR 916.9 [936.9, 963.9](l) and (l)(1)
k. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>logging roads construction or reconstruction</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
l. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>logging road use</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
m. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>landing construction or reconstruction</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
n. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>landing use</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
o. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will any watercourse crossing drainage structures be <u>CONSTRUCTED</u> during the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.9 [943.9, 963.9](s) In SECTION II
p. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will any watercourse crossing drainage structures be <u>RECONSTRUCTED</u> during the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.9 [943.9, 963.9](s) In SECTION II
q. <input type="checkbox"/>	If any of the questions above are answered YES then WPOP is required: RPF chooses to prepare a WPOP per 14 CCR 914.7 [934.7, 954.7](b)(1-12)

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CalTREES THP ITEM #23 – WINTER OPERATIONS

IF A WINTER OPERATING PLAN (WPOP) IS NOT BEING PROPOSED THEN THIS PAGE MAY BE REMOVED

ITEM FF

WINTER PERIOD OPERATING PLAN (WPOP)	
Per 14 CCR 914.7 [934.7, 954.7](b) the WPOP shall include the specific measures to be taken during the winter period to avoid or substantially lessen erosion, soil movement into watercourses and soil compaction from timber operations. The winter period operating plan shall address the following subjects:	
1) Erosion Hazard Rating:	
2) Mechanical Site preparation methods:	
3) Yarding system: <i>(Constructed skid trails and tractor road watercourse crossings)</i>	
4) Operating Period:	
5) Erosion Control facilities timing:	
6) Consideration of form of precipitation: <i>(rain or snow)</i>	
7) Ground conditions: <i>(soil moisture conditions, frozen)</i>	
8) Silvicultural system ground cover:	
9) Operations within the WLPZ:	
10) Equipment limitations:	
11) Known Unstable Areas:	
12) Logging roads and landings:	

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CalTREES THP ITEM #23 – WINTER OPERATIONS

IN-LIEU WINTER PERIOD OPERATION PLAN	
r. <input checked="" type="checkbox"/>	RPF chooses the in-lieu winter operating plan option as allowed per 14 CCR 914.7 [934.7, 954.7](c)(1-3) <i>Operations during the winter period are not proposed</i> Specify the procedures listed in subsections (1) and (2), and list the site specific measures for operations in the WLPZ and unstable areas as required by subsection (3).
s. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will the in-lieu winter operating plan include operations within WLPZ(s) or unstable area(s) during the winter period? If YES, provide site specific measures per 14 CCR 914 [934, 954] to protect the beneficial uses of water in SECTION II as instructions to the LTO.
Hauling and heavy equipment use roads and landings	
t. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>ROADS</u> be used for log hauling and heavy equipment use during the winter period where there will not be a stable operating surface or surfaced with rock to a depth and quantity sufficient to maintain a stable operating surface? If YES, the required explanation and justification should be provided in SECTION III per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].
u. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>LANDINGS</u> be used for log hauling and heavy equipment use during the winter period where there will not be a stable operating surface or surfaced with rock to a depth and quantity sufficient to maintain a stable operating surface? If YES, the required explanation and justification should be provided in SECTION III per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].
Hauling and heavy equipment use on hydrologically disconnected or saturated soils.	
v. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>ROADS</u> be used for log hauling and heavy equipment use during the winter period on roads that are NOT hydrologically disconnected and exhibit saturated soil conditions? If YES, provide a required explanation and justification in SECTION III. per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].
w. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will <u>LANDINGS</u> be used for log hauling and heavy equipment use during the winter period on roads that are NOT hydrologically disconnected and exhibit saturated soil conditions? If YES, provide a required explanation and justification in SECTION III. per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].
Watercourse crossing removal	
x. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will any logging road watercourse crossing proposed for removal and/or stabilization be left in place during the winter period? Not Applicable If YES, provide operational instructions to the LTO addressing the specifics of the applicable CDFW 1600 agreement, Lake and Streambed alteration agreement or otherwise specify in the plan. Per 14 CCR 923.9[943.9, 963.9](p)(4) in SECTION II

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CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

LANDING CONSTRUCTION	
n. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any Landing(s) be CONSTRUCTED?</p>
o. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any landing(s) be constructed within?</p> <p><input type="checkbox"/> 150 feet of a Class I Watercourse and Lake Transition Line (WLTL)</p> <p><input type="checkbox"/> 100 feet of a class II WLTL on slopes greater than 30%</p> <p><input type="checkbox"/> Class I Watercourse or Lake</p> <p><input type="checkbox"/> Class II Watercourse or Lake</p> <p><input type="checkbox"/> Class III Watercourse or Lake</p> <p><input type="checkbox"/> Class IV Watercourse or Lake</p> <p><input type="checkbox"/> A Watercourse and Lake Protection Zone (WLPZ)</p> <p><input type="checkbox"/> Other (Examples; marshes, wet meadows, wet areas)</p> <p>If "OTHER" is selected describe the type of feature referenced below.</p> <p>NOTE: Exceptions are permitted per 14 CCR 923.1 [943.1, 963.1](b)(1) – (3) at:</p> <ul style="list-style-type: none"> - Existing crossing(s) - Logging road watercourse crossing(s) to be constructed that are approved as part of a Fish and Game Code process (F&GC 1600 et seq.) - Logging road watercourse crossings of class III watercourses that are dry at the time of use. <p align="center">If YES, address per 14 CCR 923 [943, 963](c)</p>
p. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any landing(s) exceed one half acre in size?</p> <p>NOTE: per 14 CCR 1034(x)(5)(D) if any landing exceeds ¼ acre in size or requires substantial excavation, the location shall be mapped.</p> <p align="center">If YES, address per 14 CCR 923 [943, 963](c) and 923.2 [943.2, 963.2](e)(2)</p>
q. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any Landing(s) be located on?</p> <p><input type="checkbox"/> Unstable areas</p> <p><input type="checkbox"/> Connected headwall swales (14 CCR 895.1 "Connected Headwall Swale"</p> <p><input type="checkbox"/> Both</p> <p align="center">If YES, address pursuant to 14 CCR 923.1 [943.1, 963.1](d)</p>
r. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any landing construction be located across 100 feet or more lineal distance on?</p> <p><input type="checkbox"/> Slopes over 65%</p> <p><input type="checkbox"/> Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake.</p> <p align="center">If YES, address per 14 CCR 923.2 [943.2, 963.2](a)(7) and 923.4 [943.4, 963.4](n)</p>
s. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any Landing(s) be deactivated?</p> <p>Will any Landing(s) be abandoned?</p> <p align="center">If YES, describe specific measures to prevent significant sediment discharge. per 14 CCR 923.8 [943.8, 963.8] et seq. and 923.9 [943.9, 963.9](e) and (p)</p>

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CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

LANDING RECONSTRUCTION	
t. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will any Landing(s) be RECONSTRUCTED?
u. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any logging roads be reconstructed within?</p> <p><input type="checkbox"/> Class I Watercourse or Lake</p> <p><input type="checkbox"/> Class II Watercourse or Lake</p> <p><input type="checkbox"/> Class III Watercourse or Lake</p> <p><input type="checkbox"/> Class IV Watercourse or Lake</p> <p><input type="checkbox"/> A Watercourse and Lake Protection Zone (WLPZ)</p> <p><input type="checkbox"/> Other (Examples; marshes, wet meadows, wet areas)</p> <p>If "OTHER" is selected describe the type of feature referenced below.</p> <p>NOTE: Exceptions are permitted per 14 CCR 923.1 [943.1, 963.1](b)(1) – (3) at:</p> <ul style="list-style-type: none"> - Existing logging roads crossing(s) - Logging road watercourse crossing(s) to be constructed that are approved as part of a Fish and Game Code process (F&GC 1600 et seq.) - Logging road watercourse crossings of class III watercourses that are dry at the time of use. <p align="center">If YES, address per 14 CCR 923 [943, 963](c)</p>
u.1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any landing reconstruction be located across 100 feet or more lineal distance on?</p> <p><input type="checkbox"/> Slopes over 65%</p> <p><input type="checkbox"/> Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake.</p> <p align="center">If YES, address per 14 CCR 923.2 [943.2, 963.2](a)(7) and 923.4 [943.4, 963.4](n)</p>

SIGNIFICANT EROSION SITE(S)	
w. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are there any significant erosion sites?</p> <p><input type="checkbox"/> Existing</p> <p><input type="checkbox"/> Potential</p> <p><input type="checkbox"/> Both</p> <p>Associated within the logging area at?</p> <p><input type="checkbox"/> Logging road(s)</p> <p><input type="checkbox"/> Landing(s)</p> <p><input type="checkbox"/> Watercourse crossing(s) in the logging area?</p> <p>Per 14 CCR 923.1 [943.1, 963.1](e)(1) – (5). Also see 923.9 [943.9, 963.9](a)</p> <p>If YES, for each significant existing or potential erosion site, provide the following:</p> <ul style="list-style-type: none"> ➤ Describe current condition of the site. ➤ Identify which sites can be feasibly treated, and which sites cannot. ➤ Specify mitigations for those sites that can be feasibly treated. ➤ Indicate logical order of treatment for those which have feasible treatments <p>NOTE: Consider providing a MAP POINT TABLE which identifies the erosion site by mapped referenced identifier consistent with mapped locations.</p>

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CALTREES THP ITEM #24 & 25- ROADS AND LANDINGS

MAP POINT (MP) Identifier	SITE DESCRIPTION (SD) (See Key)	Watercourse CLASS (WC) or feature	EXISTING Culvert Diameter Size (EC)	PROPOSED Culvert Diameter Size (PC)	Geologist used? Yes or No	1600? Yes or No	Potential Sediment Discharge (PSD) in cu. yds. (See Key)	Implementation Priority (IP) (See Key)
MITIGATION AND/OR MANAGEMENT MEASURES: If needed, provide additional details of site, and/or describe proposed treatment								

*NOTE: Write "NA" or "---" if a box is not applicable to the map point

MP:	SD:	WC:	EC:	PC:	Geo Used?	1600?	PSD:	IP:
Mitigation/Management Measures:								
MP:	SD:	WC:	EC:	PC:	Geo Used?	1600?	PSD:	IP:
Mitigation/Management Measures:								
MP:	SD:	WC:	EC:	PC:	Geo Used?	1600?	PSD:	IP:
Mitigation/Management Measures:								
MP:	SD:	WC:	EC:	PC:	Geo Used?	1600?	PSD:	IP:
Mitigation/Management Measures:								
MP:	SD:	WC:	EC:	PC:	Geo Used?	1600?	PSD:	IP:
Mitigation/Management Measures:								

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CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

INSTRUCTIONS FOR FILLING OUT MAP REFERENCE TABLE FOR PLANNED WORK AND MITIGATION

The Map Reference/Work Order Table is designed to be used in Timber Harvesting Plans (THPs), Nonindustrial Timber Management Plans (NTMPs), and Notices of Timber Operations (NTOs). It has been designed to eliminate the need to repeatedly provide the same information separately for THPs/NTMPs, Erosion Control Plans, and 1600 applications. Instead, the table can be referenced under appropriate THP/NTMP item numbers, RWQCB Erosion Control Plans (ECP)'s, and/or 1600 permit applications included in the THP/NTMP.

All map points (e.g. unstable areas, exception and in lieu points, watercourse crossings, mitigation sites, etc.) can be identified in the table. Acronyms from the "Map Key" (see below) can be utilized for the "Site Description" and "Implementation Priority" found on the table. It is suggested that you include the Map Key, Map Reference Table, and associated map together in Section II of the Plan.

To add additional rows in the Map Reference Table: copy the full row which is established for each map point (composed of two lines); and add to the bottom of your table.

If you are submitting an NTO, please update your Map Reference Table to reflect current information. If a map point has been addressed under a previous NTO, indicate that (e.g. "Addressed under previous NTO") and include any additional maintenance information, if applicable, for that map point. If you add new map points to the NTO table, they must have been amended to the NTMP first, UNLESS they are maintenance points only.

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CaITREES THP ITEM #24 & 25– ROADS AND LANDINGS

MAP POINT / WORK ORDER TABLE KEY			
SITE DESCRIPTION			
OK	Functional Site	CROSSING TYPES	
CSDS	Controllable Sediment Discharge Site	B	Bridge
UA	Unstable Area	CR	Crossing site
O	Other descriptions than below (describe under "Measures" on table)	CRF	Crossing failure
		CRP	Crossing- EXISTING permanent
ROAD / SKID TRAILS		CRT	Crossing- EXISTING temporary
CRN	Critical dip needed	C	Culvert (also see below)
CUTF	Cutbank failure	F	Ford
FF	Fill failure	HCR	Humboldt crossing
FP	Fill perched	LSB	Log stringer bridge
G	Gully	RRD	Rocked Rolling Dip
L	Landing	SCR	Spittler crossing
IDE	inside ditch eroding		
RA	Road abandonment	CULVERT CONDITIONS	
RC	Road construction	CAM	Culvert attachments missing (e.g. trash racks, downspouts, etc.)
RR	Road Reconstruction	CD	Damaged inlet or outlet
RD	Rolling dip	CDR	Ditch relief needed
SK	Skid trail	CF	Failed / failing
WB	Waterbar	CFB	Fish barrier
		CFD	French Drain
WLPZ and WATERCOURSES		CNA	Culvert not aligned
AP	Alternative practice	CNG	Culvert not installed to grade
FB	Fish barrier	CE	Outlet erosion
HE	Habitat enhancement	CS	Outlet shotgunned
IL	In lieu practice	CP	Culvert plugged
WD	Water drafting	CU	Culver undersized
WCD	Watercourse diversion		
WDP	Woody debris project		
IMPLEMENTATION PRIORITY (IP)			
HIGH	Mitigation applied in: 1 st year after Harvest Document approval.		
MED.	Mitigation applied concurrent with operations affecting site.		
LOW	Mitigations applied prior to Harvest Document completion.		
POTENTIAL SEDIMENT DISCHARGE			
If located in the Region of the North Coast Regional Water Quality Control Board, provide the following information in the associated table for each Controllable Sediment Discharge Source (CSDS) map point			
<ul style="list-style-type: none"> • <u>Potential Sediment Discharge (PSD)</u>: expressed in total cubic yards 			

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CaITREES THP ITEM #24 & 25– ROADS AND LANDINGS

ITEM #25

NOTE: If any item listed above is checked "YES" Provide:

- **Operations Instructions to the LTO**, in accordance with the respective rule requirement(s) in **SECTION II** of the THP.
- Any required **explanation and justification** should be included in **SECTION III**

Operation instructions to the LTO:

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CaITREES THP ITEMS 26 – WATERCOURSES

ITEM #26– WATERCOURSE LAKE PROTECTION ZONE (WLPZ) PROTECTION MEASURES

ITEM #26		WATERCOURSES	
<p>Per 14 CCR 916, 936, 956 – Intent of Watercourse and lake Protection [ALL DISTRICTS] – The purpose of this article is to ensure that timber operations do not potentially cause significant adverse site-specific and cumulative impacts to the beneficial uses of water, native aquatic and riparian-associated species, and the beneficial functions of riparian zones; or result in an unauthorized take of listed aquatic species; or threaten to cause violation of any applicable legal requirements. This article also provides protection measures for application in watersheds with listed anadromous salmonids and watersheds listed as water quality limited under Section 303(d) of the Federal Clean Water Act.</p> <p>It is the intent of the Board to restore, enhance, and maintain the productivity of timberlands while providing appropriate levels of consideration for the quality and beneficial uses of water relative to that productivity.... Further, it is the intent of the Board that the evaluations that are made, and the measures that are taken or prescribed, be documented in a manner that clearly and accurately represents those existing conditions and those measures.</p>			
<p>a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>		<p>Are there any watercourses or lakes classified as a CLASS I through CLASS IV within or adjacent to the plan area? (Check all that apply)</p>	
		<u>Within plan area</u>	<u>Adjacent to plan area</u>
	<input type="checkbox"/> Class I:	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> Class II:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/> Class III:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Class IV:	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Lakes:	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Other (Springs, Seeps)	<input type="checkbox"/>	<input type="checkbox"/>

<p>If YES, to above question list:</p> <ul style="list-style-type: none"> • Class of the water feature • Associated WLPZ or ELZ and width • Protection measures; determined from 14 CCR 916.5[936.5, 956.5], Table I. and/or 14 CCR 916.9[936.9, 956.9] et seq. • Specify if Class III or IV watercourses will have a WLPZ or ELZ 	
<p>b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>Will Class III or IV watercourses be protected with a WLPZ or ELZ? If YES, describe below</p>	

LTO instructions:
Centerlines of Class II watercourses have been flagged on the ground with blue and yellow flagging. No mechanized equipment is to be utilized within 25' of the flagged centerline except at prepared crossings. Woody material which needs to be removed for fuel reduction purposed may be removed from the ELZ.

Watercourse description and protection measures to be applied: (14 CCR 916.5)		
Watercourse Map Designation	Slope Class	Water Class
1	<30	II
<p>Protection Measures</p> <ol style="list-style-type: none"> 1) A minimum 50' WLPZ will be flagged prior to plan submittal to meet requirements of 956.6 (e) "B", 956.2 (a), 956.4 (b) 2) Existing canopy is less than 50% and no live trees, except at the watercourse crossing within the WLPZ, will be harvested in order to meet the requirements of 956.5 (e) "E", 956.3(f) 3) 100% of the existing live tree canopy covering the ground will be maintained in order to meet the requirements of 965.5 (e) "E" 4) Heavy equipment shall not be used for timber felling or yarding of dead trees within the WLPZ in order to meet the requirements of 956.4 (d) and 956.5 (e) "I" 		

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CaITREES THP ITEMS 26 – WATERCOURSES

5) Standing snags > 18" in DBH and down logs > 18" on the small end and 20' in length will be retained		
Watercourse Map Designation 1a	Slope Class <30	Water Class III
Protection Measures		
<ol style="list-style-type: none"> 1) A minimum 25' Equipment Limitation Zone (ELZ) will be flagged on the ground prior to plan submittal to meet or exceed the requirements of 956.5 (e) "C" 2) No harvesting activities will be conducted in the ELZ in order to meet or exceed requirements of 956.5 (e) "F" 3) Use of an existing rocked road segment that runs parallel to the watercourse will be permitted on a temporary basis during the project construction phase subject to provisions of mitigation TO-7 described below. 4) No live trees will be harvested within the ELZ in order to meet the requirements of 956.5 (e) "F" 5) 100 % of the existing understory vegetation between the edge of the existing road and the watercourse channel will be retained. 		
Watercourse Map Designation 2a	Slope Class <30	Water Class III
Protection Measures		
<ol style="list-style-type: none"> 1) A minimum 25' Equipment Exclusion Zone (EEZ) will be flagged on the ground prior to plan submittal in order to meet or exceed the requirements of 956.5 (e) "C" 2) No harvesting activities will be conducted in the EEZ in order to meet or exceed requirements of 956.5 (e) "F" 3) No live trees will be harvested within the EEZ to meet the requirements of 956.5 (e) "F" 4) 100 % of the existing understory vegetation will be retained in order to meet the requirement of 956.5 (e) "I" 		
Watercourse Map Designation 3	Slope Class <30	Water Class III
Protection Measures		
<ol style="list-style-type: none"> 1) A minimum 25' Equipment Exclusion Zone (EEZ) will be flagged on the ground prior to plan submittal in order to meet or exceed the requirements of 956.5 (e) "C" 2) No harvesting activities will be conducted in the EEZ in order to meet or exceed requirements of 956.5 (e) "F" 3) No live trees will be harvested within the EEZ in order to meet the requirements of 956.5 (e) "F" 4) 100 % of the existing understory vegetation will be retained in order to meet the requirement of 956.5 (e) "I" 		
Wet Area 1-See discussion below for other specific mitigations for protection of federally designated wetlands.		
Protection Measures		
<ol style="list-style-type: none"> 1) A minimum 25' Equipment Exclusion Zone (EEZ) will be flagged on the ground prior to plan submittal to meet or exceed the requirements of 956.5 (e) "C" 2) No harvesting activities will be conducted in the EEZ in order to meet or exceed requirements of 956.5 (e) "F" 3) No live trees will be harvested within the EEZ in order to meet the requirements of 956.5 (e) "F" 4) 100 % of the existing understory vegetation will be retained in order to meet the requirement of 956.5 (e) "I" 		

One existing rocked road is located within the Equipment Limitation Zone of Watercourse 1a. The rock used for the road surface is coarse textured drain rock and contains no fine material that could be displaced from the road surface. Further, the roughness of the road surface created by the rock effectively traps fine materials which move onto the road surface. Based on observations of the existing conditions this road in its current condition does not contribute significant sediment to the watercourse. The watercourse segment potentially impacted includes the origin of the watercourse and approximately 800' of the watercourse length downstream of the origin.

Based on observed conditions, the potential for this watercourse to transport significant quantities of sediment is limited. Planned use of the road segment located within the ELZ includes initial access for equipment used in the early construction and fuel treatment/mastication phase of the project and longer term use of the road as an emergency guest evacuation route in the event that evacuation could not take place over Under Canvas Way and Hardin Flat Road. Maintaining the current rocked surface will be needed post construction to continue to mitigate the potential for adverse impacts attributable to the road location. Additional road drainage in the form of rock rolling dips will also provide further mitigation for avoidance of sediment inputs. To avoid impacts associated with use of this ELZ road segment during construction and post construction phases of the project, the following mitigation will be implemented.

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CalTREES THP ITEMS 26 – WATERCOURSES

Mitigation TO-7: During the winter operating period the rocked road segment identified on the THP map shall be maintained in its current condition. Prior to the beginning and during the winter period, the rock road surface shall be restored to its pre-project condition thru placement of angular 1” minus road rock to achieve a depth of 4” or greater. Two rocked rolling dips shall be installed and surfaces rocked at locations indicated by the RPF or project engineer prior the beginning of the first winter after construction activities are initiated.

c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there any tractor road watercourse crossings that require mapping per 14 CCR 1034(x)(7)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will TRACTOR road watercourse crossings involve the use of a culvert? If YES, per 14 CCR 914.8[934.8, 954.8](e) state the minimum diameter and length for each culvert.

Map Reference Points (MRP)	Culver Diameter	Culvert Length

d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is there a Master Agreement for Timber Operations (MATO) for Streambed Alteration Agreement (SAA) approved by the Department of Fish and Wildlife for any portion of this plan? MATO or SSA Number: _____</p> <p>If YES, provide a list of the crossings, water drafting sites, or other water features to be used during operations and provide the conditions to be utilized and or consider from the MATO or SAA as operational instruction to the LTO in SECTION II.</p>
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MATO or SAA INSTRUCTIONS TO LTO

Specific water feature under MATO or SAA (crossings, drafting sites, etc.)	Conditions of MATO or SAA to be utilized at each specific feature

e. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is this THP Review Process to be used to meet Department of Fish and Wildlife CEQA review requirements?</p> <p>If YES, attach the required 1611 Addendum at the end of SECTION II and include any supporting information and analysis in SECTION III.</p> <p>List instructions to the LTO in SECTION II for installation, protection measures, and mitigation measures, per THP from instructions or CDF Mass Mailing (07/02/1999) “Fish and Game Code 1611 Agreements and THP Documentation.”</p>
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LTO INSTRUCTIONS:

f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are any exceptions provided under F & G code 1600 et seq., and made an enforceable part of plan?</p> <p>If YES, per 14 CCR 923 [943,963](d) identify the exceptions and provide the enforceable standards as instructions to the LTO in SECTION II.</p>
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g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will new drainage structures and facilities on watercourses that support fish or listed aquatic species be constructed?
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CalTREES THP ITEMS 26 – WATERCOURSES

	<p>If YES, per 14 CCR 914.8[934.8, 954.8](c) and 923.9 [943.9, 963.9](c). Structures and facilities shall be fully described and allow unrestricted passage of all life stages of fish or listed aquatic species, and natural movement of bedload. Provide operational instructions to the LTO in SECTION II.</p>
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A table has been provided (next page) to assist with listing your information. This table is consistent with the table provided within the online submission THP in CalTREES. Use of this table is optional.

CalTREES THP Item 26-27

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CalTRES THP ITEMS 26 – WATERCOURSES

MAP POINT / REFERENCE TABLE					
Map point / reference	Watercourse Class / feature	Existing culvert (Diameter size OR other drainage structure)	Proposed culvert (Diameter size or other drainage structure)	CDFW 1600 requested	Implementation priority (high, medium, low)
1	2	Bridge	yes	high	
<p>Site Description: Permanent Crossing of Class II perennial watercourse with bridge</p> <p>Mitigation measures: Placement and Installation of bridge abutments and footings will avoid disturbance to existing streambanks and channel. All bridge components would be placed outside of the defined bed and bank of the channel. Exposed areas of soil within the Watercourse and Lake Protection Zone will be covered with straw mulch to a minimum depth of 4" over 90% of the exposed soil surface. Bridge design will minimize surface runoff discharge into the watercourse.</p>					
3	3	18" CMP	yes	high	
<p>Site Description: 18" CMP crossing of a class III watercourse</p> <p>Mitigation measures: Rock rip-rap to be placed on the fill side of the culvert inlet to protect the fill. 6" and larger rock will be placed on the inlet and outlet the crossing to a height which is level with the top of the culvert. Exposed areas of soil within the Equipment Exclusion Zone will be covered with straw mulch to a minimum depth of 4" over 90% of the exposed soil surface. The channel on the outlet side of the culvert shall be lined with 6" and greater rock to armor the channel and reduce erosion.</p>					
4	3	18" CMP	yes	high	
<p>Site Description: 18" CMP crossing of a class II watercourse</p> <p>Mitigation measures: Rock rip-rap to be placed on the fill side of the culvert inlet to protect the fill. 6" and larger rock will be placed on the inlet and outlet the crossing to a height which is level with the top of the culvert. Exposed areas of soil within the Equipment Exclusion Zone will be covered with straw mulch to a minimum depth of 4" over 90% of the exposed soil surface. The channel on the outlet side of the culvert shall be lined with 6" and greater rock to armor the channel and reduce erosion</p>					
2	3	36" CMP	yes	high	
<p>Site Description: 36" CMP crossing at the intersection with Under Canvas Way with Hardin Flat Roads. The culvert installation will include cement headwalls on the inlet and outlet and rip rapping of the channel below the outlet to reduce erosion. Exposed areas of soil within the Equipment Exclusion Zone will be covered with straw mulch to a minimum depth of 4" over 90% of the exposed soil surface.</p> <p>Mitigation measures: Rock rip-rap to be placed on the fill side of the culvert inlet to protect the fill. 6" and larger rock will be placed on the inlet side of the crossing to a height which is level with the top of the culvert inlet</p>					
6	3	Head-cut stabilization	yes	high	
<p>Site Description: A small headcut has developed within the channel of a Class III watercourse (Watercourse 1a on the THP map)</p> <p>Mitigation measures: Head cut will be stabilized to prevent further expansion of the headcut through hand placement of rock rip rap. See Narrative at the end of this section for specific details.</p>					

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Implementation Priority:

- High – Mitigation completed the 1st year after THP approval
- Medium – Mitigation completed concurrently with operations which affect the site.
- Low – Mitigation completed prior to the final completion of the THP

CalTREES THP ITEMS 26 – WATERCOURSES

Map Point HC

Flows within this watercourse segment are minimal and channel development in some segments of the upper parts of the watercourse is poorly defined. Neither the road within the ELZ or runoff from surface flows appear to have contributed to post Rim Fire impacts to the watercourse channel with the exception of a small headcut at location HC. The existing head cut will be stabilized as part of the timber operations and the following mitigation will be implemented as part of the THP:

Mitigation TO-7a: The headcut at map point 6 shall be stabilized as part of the Timber Operations. Stabilization will require placement of 6” or greater rock to armor the channel for a distance of 10’ above and 10’ below the existing headcut. Six inch (6”) or greater rock shall also be placed on sidewalls of the headcut. Prior to placement of rock the channel shall be lined with drain cloth or similar material to prevent flows from undercutting the rock that will be placed in the channel. Channel cross section created by placement of drain cloth and rock shall be capable of passing a 100 year storm interval event.

Per 14 CCR 923.9(e) – The location of all NEW permanent constructed and reconstructed, and temporary logging road watercourse crossings, including those crossings to be abandoned or deactivated, SHALL be shown on a map. If the structure is a culvert intended for permanent use, the minimum diameter of the culvert and the method(s) used to determine the culvert diameter SHALL be specified in the plan,	
h. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any NEW PERMANENT constructed logging road watercourse crossings requiring mapping?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any NEW RECONSTRUCTED logging road watercourse crossings requiring mapping?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any watercourse crossings to be ABANDONED or DEACTIVATED?
If YES, to the above questions these crossing shall be shown on a map in section II	
Per 14 CCR 923.9(e) If any watercourse crossing has a culvert intended for permanent use, the minimum diameter of the culvert and the method(s) used to determine culvert diameter shall be stated in the plan.	
Per 14 CCR 923.9(f) permanent watercourse crossings that are constructed or reconstructed SHALL accommodate the estimated 100-year flood flow, including debris and sediment loads.	
Method for sizing crossing: Site hydrology was calculated using the Rational Method, with the inputs as outlined in the Methodology. Tuolumne County has a required 18” minimum culvert size. Engineering Reports prepared by DAX Engineering provide specific information on culvert sizing methodology and data. These reports are included in Appendix VI.	
i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there any exception to flagging or otherwise identifying the location of any constructed or reconstructed road watercourse crossing prior to the pre-harvest inspection?
If YES, per 14 CCR 923.9[943.9, 963.9](j) provide the explanation and justification in SECTION III.	
j. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will other methods for diversion of overflow at culvert crossings be utilized (<u>other than critical dips</u>) in the construction or reconstruction of logging road watercourse crossings which culverts?
If YES, per 14 CCR 923.9[943.9, 963.9](j) provide instructions to the LTO in SECTION II identifying the methods to be used for the diversion of overflow at watercourse crossings.	
Per 14 CCR 923.9[943.9, 963.9](k) watercourse crossings and associated fills and approaches SHALL be constructed and maintained to prevent diversion of stream overflow down the road, and to minimize fill erosion should the drainage structure become obstructed.	
k. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any existing watercourse crossings that are located on logging roads within the logging area?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any watercourse crossing proposed for construction located on logging roads within the logging area?
If YES, per 14 CCR 923.9[943.9, 963.9](k) identify the crossing and provide the methods to mitigate or address the diversion of stream overflow at the crossing.	

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CalTREES THP ITEMS 26 – WATERCOURSES

	See Map Point/ Reference Table
i. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will rock be used to stabilize crossing outlets?</p> <p>If YES, per 14 CCR 923.9[943.9, 963.9](k) Rock used to stabilize outlets of crossings shall be adequately sized to resist mobilization of soil and significant sediment discharge. The range of rock size shall be described within the plan as instruction to the LTO in SECTION II indicate the range of the rock dimensions to be used.</p> <p>See Map Point/ Reference Table</p>
m. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Watercourse crossing proposed to be reconstructed or removed, are there any significant volumes of sediment accumulated upstream of the watercourse crossing?</p> <p>If, YES per 14 CCR 923.9[943.9, 963.9](n) provide instructions to the LTO, in SECTION II, describing how the material will be stabilized, removed (the extent feasible), and in conformance with CDFW agreements, where applicable.</p>
n. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Do logging road watercourse crossing drainage structures and other erosion control features have high historical fail rates within the project area?</p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Do/will existing watercourse crossings utilizing a culvert have large amounts of fill material covering the culvert making up the crossing?</p> <p>If, YES per 14 CCR 923.9[943.9,963.9](o) drainage structures and erosion control features shall be oversized, designed for low maintenance, reinforced, or removed before the completion of timber operations or as specified in the approved plan.</p> <p>Provide instruction to the LTO in SECTION II identifying these crossings, providing instruction of how these crossings will be treated.</p>
<p>Guidance on reducing the potential for failure at high risk watercourse crossings may be found in “Board of Forestry Technical Rule Addendum Number 5: Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk crossings” (1st Edition, revised 10/27/14)</p>	
o. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any logging road watercourse crossing be removed?</p> <p>If YES, provide instructions to the LTO, in SECTION II, describing the removal plan pursuant to the standards per 14 CCR 923.9[943.9, 963.9](p)(1)-(4)</p>

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CaITREES THP ITEMS 26 – WATERCOURSES

FOR PLANS LOCATED WITHIN AN ASP WATERSHED

p. <input type="checkbox"/> Yes <input type="checkbox"/> No	Will timber operations occur within a class I WLPZ?
<input type="checkbox"/> Yes <input type="checkbox"/> No	Will timber operations occur within a WLPZ adjacent to a restorable Class I watercourse?

If YES, Address per 14 CCR 916.9[936.9, 956.9](f)(2)(A)-(E).

Per 14 CCR 916.9[936.9, 956.9](e)(1)(A)-(E) there shall be NO timber operations within a channel zone with the exception of those conditions listed within 916.9[936.9, 956.9](e)(1)(A)-(E)

q. <input type="checkbox"/> Yes <input type="checkbox"/> No	Will there be any timber operations within the channel zone of any watercourse? If YES, Indict the location and type of timber operations to be conducted and provide instructions to the LTO in SECTION II.
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Per 14 CCR 923.1[943.1, 963.1](h) NO logging road(s) or landing(s) shall be planned for construction or reconstruction in the CMZ or Core Zone of a Class I watercourse or within 150 feet of a watercourse transition line. with the exception of those conditions listed within 916.9[936.9, 956.9](e)(1)(A)-(E) and 916.9[936.9, 956.9](v)

<input type="checkbox"/> Yes <input type="checkbox"/> No	Will there be any logging road(s) or landing(s) constructed in the CMZ or Core Zone of a Class I?
	If Yes, indicate the location and provide instructions to the LTO in SECTION II.

Per 14 CCR 923.9[943.9, 963.9](d) Watersheds with listed anadromous salmonids. A description of all existing permanent Class I watercourse crossings shall be provided, where fish are always or seasonally present or fish passage is restorable.

r. <input type="checkbox"/> Yes <input type="checkbox"/> No	Are there existing permanent Class I crossings where fish are always present?
<input type="checkbox"/> Yes <input type="checkbox"/> No	Are there existing permanent Class I crossings where fish are seasonally present?
<input type="checkbox"/> Yes <input type="checkbox"/> No	Are there existing permanent Class I crossings where fish passage is restorable?
	If YES, provide a description of the existing permanent Class I watercourse crossings. Indicate in the description where the current crossing conditions may be adversely affecting fish passage and identify the proposed measures, if feasible, to address the conditions.

s. <input type="checkbox"/> Yes <input type="checkbox"/> No	Will water drafting occur in association with the timber operations?
	If YES, timber operations shall comply with Fish and Game Code Section 1600, et seq.

t. <input type="checkbox"/> Yes <input type="checkbox"/> No	Is there a Fish and Game Code Section 1600 Master Agreement for Timber Operations which addresses water drafting? If YES, provide the operational restrictions from the Master Agreement in SECTION II as instructions to the LTO. If NO, describe the water drafting site conditions and proposed water drafting activity in the plan. Per 14 CCR 923.7[943.7, 963.7](l)(2)(A)-(F) (See Below)
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Per 14 CCR 923.7[943.7, 963.7](l)(2)(A)-(F) the description of water drafting site conditions and proposed water drafting activity shall include: **No Water drafting is proposed.**

General description of proposed site:

Watercourse Classification:

Drafting parameters including:

- Month(s) of use -
- Estimated volume needed per day -
- Estimated maximum instantaneous drafting rate and filling time -
- Other water drafting activities in same watershed -

Drainage area (acres) above point of diversion -

Estimated:

- Unimpeded stream flow -

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CalTREES THP ITEMS 26 – WATERCOURSES

Pumping rate -

Drafting duration -

A discussion of the effects on aquatic habitat downstream from the drafting site(s) of single pumping operations, or multiple operations at the same location, and at other locations in the same watershed:

Additional Mitigations:

The project site supports wetlands and other waters of the U.S. subject to USACE jurisdiction under Section 404 of the CWA. Section 404 of the CWA requires that a permit be obtained from the USACE prior to the discharge of dredged or fill materials into any "waters of the United States," which includes wetlands. Section 404 permits generally require mitigation to offset losses of these habitat types, in accordance with Executive Order 11990, which is intended to result in no net loss of wetland values or acres. These features may also be protected under state regulations, including the Porter-Cologne Act and California Fish and Game code, and the Forest Practice Act and associated regulations.

To avoid impacts to Waters of the United States, ESA has recommended the following mitigations. Operations conducted under this THP and as part of the project implementation will adhere to the following mitigation:

Mitigation Measure TO-8: The project proponent shall demonstrate that there is no net loss of wetlands and other waters of the U.S. and state protected waters/wetlands. To ensure this, wetland mitigation shall be developed as a part of the permitting process as described above. Mitigation shall be provided prior to construction related impacts on the existing waters/wetlands. The exact mitigation ratio would be determined in consultation with the USACE, CDFW, and/or RWQCB based on the type and value of the waters/wetlands affected by the project, but the project shall compensate for impacted waters/wetlands at a ratio no less than 1:1. Compensation shall take the form of preservation or creation in accordance with USACE and/or CDFW mitigation requirements, as required under project permits. Preservation and creation would occur offsite through purchasing credits at a USACE, CDFW, and/or RWQCB-approved mitigation bank.

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CalTREES THP ITEMS 27 – WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

ITEM #27– WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

ITEM #27	WLPZ IN-LIEU OR ALTERNATIVES
	<p>Per 14 CCR 916.1[936.1, 956.1] (In-Lieu Practices) – In rule sections where provision is made for site specific practices to be proposed by the RPF, approved by the Director and included in the THP in lieu of a standard rule, the RPF shall:</p> <ul style="list-style-type: none"> • Reference the standard rule • Explain and describe each proposed practice • Explain how it differs from the standard practice, • Explain and justify how the protection provided by the proposed practice is at least equal to the protection provided by the standard rule. • Identify the specific location where it shall be applied. 14 CCR 1034(x)(15) and (16) <p>Per 14 CCR 916.6[936.6, 956.6] (Alternatives) – Alternative prescription for the protection of watercourses and lakes may be developed by the RPF or proposed by the Director on a site specific basis provided the following conditions are complied with and the alternative prescription will achieve compliance with the standards set forth in 14 CCR 916.3[936.3, 956.3] and 916.4[936.4, 956.4](b)</p> <p>The alternative prescription shall include in the THP information per 14 CCR 916.6[936.6, 956.6]a)(1)-(3)</p>
<p>a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the prohibition of the construction or use of tractor roads listed below?</p> <p>Per 14 CCR 916.3[936.3, 956.3(c) Timber operators shall not construct or use tractor roads in a Class I, II, III, IV watercourses, wet meadows and other wet areas unless explained and justified in the plan by the RPF.</p> <p>Except at:</p> <ul style="list-style-type: none"> • Prepared tractor crossing described in 14 CCR 914.8[934.8, 954.8](b) • Class III watercourse crossings dry at the time of use • At new and existing tractor road crossings approved as part of a Fish and Game Code Process (F&GC 1600 et seq.) <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the retention of non-commercial vegetation bordering and covering meadows and wet areas?</p> <p>14 CCR 916.3[936.3, 956.3(d)</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the Directional felling of trees within any WLPZ away from the watercourse or lake?</p>

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CaITREES THP ITEMS 27 – WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

ITEM #27		WLPZ IN-LIEU OR ALTERNATIVES	
		14 CCR 916.3[936.3, 956.3(e) If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)	
d.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any site-specific practices proposed in-lieu of, or as an alternative, to the standard WLPZ(s) width(s) identified in 14 CCR 916.5[936.5, 956.5], Table I? If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)	
e.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any site-specific practices proposed in-lieu of, or as an alternative, to the protection of Class IV watercourse(s)? 14 CCR 916.4[936.4,956.4](c) and 916.5[936.5, 956.5], Table I If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)	
f.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any site-specific practices proposed in-lieu of, or as an alternative, to the exclusion of heavy equipment from the WLPZ except at those locations listed below? Per 14 CCR 916.4[936.4, 956.4(d)&(f) – Heavy equipment shall not be used in timber falling, yarding, or site preparation within the WLPZ unless such use is explained and justified in the THP and approved by the Director. Except at: <ul style="list-style-type: none"> • Prepared tractor crossing described in 14 CCR 914.8[934.8, 954.8](b) • Class III watercourse crossings dry at the time of use • Existing road crossings • New tractor and road crossings approved as part of a Fish and Game Code Process (F&GC 1600 et seq.) If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)	
g.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any site-specific practices proposed in-lieu of, or as an alternative, to the establishment of ELZ(s) for Class III watercourses unless side slopes are, 30% and EHR is low? 14 CCR 916.4[936.4, 956.4](c)(1) If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)	

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CalTREES THP ITEMS 27 – WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

<p>h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the Retention of at least 50% of the overstory canopy in the WLPZ? 14 CCR 916.5[936.5, 956.5](e)“G”</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the Retention of at least 50% of the understory in the WLPZ? 14 CCR 916.5[936.5, 956.5](e)“G”</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>j. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any additional in-lieu or alternative practices proposed for watercourse or lake protection?</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>

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CaITREES THP ITEMS 28-29 – DOMESTIC WATER NOTIFICATIONS

ITEM #28-29 – DOMESTIC WATER NOTIFICATIONS

ITEM #28	DOMESTIC WATER NOTIFICATIONS
<p>Per 14 CCR 1032.10 – The THP submitter shall provide notice by letter to all other landowners within 1,000 feet downstream of the THP boundary whose ownership adjoins or includes a Class I, II, or IV watercourse(s) which receives surface drainage from the proposed timber operations.</p> <p>The notice shall request that the THP submitter be advised of surface domestic water use from the watercourse, within the THP or within 1,000 feet downstream of the THP boundary.</p> <p>When required to notice by letter, publication shall also be given one time by the THP submitter in a newspaper of general circulation in the area affected by the proposed project.</p> <p>Such letter and publication shall notify the adjoining party:</p> <ul style="list-style-type: none"> • of the proposed timber operation • describe its legal location • identify the name, if any, of the watercourse it may affect • request a response by the property owner within ten days of the post-marked date on the letter or the date of publication as appropriate <p>The RPF may propose, with justification and explanation, an exemption to such notification requirements, and the Director may agree.</p> <p>Copies of either notice, proof of service and publication, and any responses shall be attached to the THP (SECTION V) when submitted.</p> <p>If domestic use is noted, the plan shall contain mitigations necessary to protect domestic water use.</p> <p>THE PLAN SHALL NOT BE SUBMITTED UNTIL <u>TEN DAYS</u> AFTER THE ABOVE NOTIFICATION(S) HAVE BEEN COMPLETED</p>	
<p>a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Are there any landowners with 1,000 feet downstream of the THP boundary whose ownership adjoins or includes a class I, II or IV watercourse(s) which receive surface drainage from the proposed timber operations?</p> <p>If YES, the requirement of 1032.10. Proof of letter notification shall be included in THP SECTION V. If NO, notification exemption request below need not be answered.</p>
<p>b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Letter</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Both</p>	<p>Is an exemption to the notification requirements requested? (check notification requesting to be exempted)</p> <p>If YES, provide the explanation and justification for the exemption request in SECTION III of the THP.</p>
<p>c1. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Was any information received in response to domestic water notifications indicating domestic water supplies may be present within or downstream of the project area? Two phone call responses were received as described below:</p> <p>A call was received from Mr. Swartz in response to the DWS notification by phone on September 5, 2019. He indicated that his property receives surface water from the project area and from Hardin Flat road. He expressed concerns about poor drainage attributable to equipment damage that occurred to Hardin Flat Road. He was concerned about the potential of additional run-off from the Under Canvas Project and the potential to adversely impact his property. His water supply is provided by a well and is not dependent upon surface run-off.</p>

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CalTREES THP ITEMS 28-29 – DOMESTIC WATER NOTIFICATIONS

	The second response to the DWS notification was from Mrs. Linda Wight. As was the case with Mr. Swartz Mrs. Wight indicated she did not depend on surface water supplies. She also expressed concerns regarding run-off from the Under Canvas as well as concerns over having to support the cost of the Under Canvas project development.
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c2. <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, are there any additional mitigation measures needed beyond that required by standard watercourse and lake protection rules? If YES, provide the site-specific instruction to the LTO in SECTION II.
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ITEM #29	SENSITIVE WATERSHEDS
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<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is any part of the THP area within a Sensitive Watershed as designated by the Board of Forestry and Fire Protection? If YES, identify the watershed and list the special rules, operating procedures or mitigation that will be used to protect the resources identified at risk.
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WATERSHED	SPECIAL RULE	MITIGATION MEASURES PROTECTING RESOURCES IDENTIFIED AT RISK

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CaITREES THP ITEM #30 – HAZARD REDUCTION

ITEM #30 – HAZARD REDUCTION

ITEM #30	HAZARD REDUCTION
<p>Per 14 CCR 917, 937, 957 - Hazard reduction shall provide standards for the treatment of snags and logging slash in order to reduce fire and pest safety hazards in the logging area, to protect such area from potential insect and disease attack, and to prepare the area for natural or artificial reforestation while retaining wildlife habitat.</p> <p>Per 14 CCR 917.2, 937.2, & 957.2 – The following standards shall apply to the treatment of slash created by timber operations within the plan area and on roads adjacent to the plan area.</p>	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will slash treatment occur within 100 feet of the edge of the traveled surface of a PUBLIC road?
b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will slash treatment occur within 50 feet of the edge of the traveled surface of PERMANENT private roads open for public use where permission to pass is not required?
c. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	[SOUTHERN only] Will slash treatment occur within 50 feet of the edge of the traveled surface of SEASONAL private roads open for public use where permission to pass is not required?
	<p>If YES to any of the above, slash created or trees knocked down by road construction or timber operations shall be treated by: (Select all that apply)</p> <p><input type="checkbox"/> lopping for Fire hazard reduction per (14 CCR 895.1)</p> <p><input type="checkbox"/> Piling and burning per (14 CCR 917.2, 937.2, 957.2(a)(1-3))</p> <p><input type="checkbox"/> chipping</p> <p><input type="checkbox"/> burying</p> <p><input type="checkbox"/> removal</p> <p><input checked="" type="checkbox"/> Other (explain) Woody material will be masticated on site as part of the overall fuel treatment prescription which is described at the end of this section.</p>
d. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Are there any permanently located structures maintained for human habitation in the project area requiring slash treatment?</p> <p>If YES, identify distance slash treatment will occur and indicate the method of treatment</p> <p><input checked="" type="checkbox"/> Within 100 feet of permanent structure</p> <p><input type="checkbox"/> Removed</p> <p><input type="checkbox"/> Piled and burned per (14 CCR 917.2, 937.2, 957.2(a)(1-3))</p> <p><input checked="" type="checkbox"/> Other (explain) See below</p> <p><input checked="" type="checkbox"/> Between 100-200 feet of permanent structure</p> <p><input type="checkbox"/> Lopped for fire hazard reduction (per 14 CCR 895.1)</p> <p><input type="checkbox"/> removed</p> <p><input type="checkbox"/> chipped</p> <p><input type="checkbox"/> Piled and burned per (14 CCR 917.2, 937.2, 957.2(a)(1-3))</p> <p><input checked="" type="checkbox"/> Other (explain) See below</p>
e. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Has the RPF or Director determined there is an unusual fire risk or other hazard exists within the proposed project area?</p> <p>If YES then lopping is required within 200-500 feet of permanent structures.</p>

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CalTREES THP ITEM #30 – HAZARD REDUCTION

f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the RPF proposing any alternatives to treating slash along roads and within 200 feet of structures. If YES, the RPF shall explain and justify in the plan how equal fire protection will be provided. The explanation and justification shall include:
	Description of the alternative treatment(s):
	Estimated amount / distribution of slash:
	Type of remaining vegetation:
	Topography:
	Climate:
	Degree of public exposure fire history:
	Provide a description of where the alternative will be used: (mapping area(s) is suggested)

g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will piling and burning be used for hazard reduction? If YES, refer to 14 CCR 917.2, 937.2, 957.2(a)(1-3). (select all that apply) <input type="checkbox"/> Piles created prior to September 1 shall be treated not later than April 1 of the year following its creation, or within 30 days following climatic access after April 1 of the year following its creation. <input type="checkbox"/> Piles created on or after September 1 shall be treated not later than April 1 of the second year following its creation, or within 30 days following climatic access after April 1 of the second year following its creation.
h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the RPF proposing any alternatives to piling and burning from those required in 14 CCR 917.2, 937.2, 957.2(a)(1-2)? If YES, the RPF shall provide and explanation and justification in the plan to be approved by the director.

Given the use by the public and fire safety and defensible space considerations, standing dead and dying trees and large down logs, and other large woody material require treatment. The following prescription will be utilized to reduce the size and distribution of surface fuels and standing dead and dying trees to a level that would facilitate direct attack by firefighters.

The following slash treatment prescription shall be applicable to operations conducted under this THP:

- Standing dead and dying trees < 26” dbh that are determined to pose a safety or fire threat as determined by a certified arborist or the RPF will be masticated in place or felled and masticated.
- Surface and ladder fuels will be treated to reduce total fuels and achieve a residual average level of material >3” in diameter on the small end to less than 5 tons per acre.

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CaITREES THP ITEM #30 – HAZARD REDUCTION

- Fuel treatment will include retention of down logs greater than 20” on the small end and 20’ in length. All other fuels greater than 3” in small end diameter be chipped on site as part of the mastication process or removed to disposal areas on the project and chipped on site or chipped and/or hauled to a biomass facility.
- Down material less than 20” in diameter will be masticated to achieve a minimum standard that results in 80% of the post treatment material being less than 18” in length and at least 60% being less than 12” in length.
- In addition, mastication will remove dead and live brush throughout 85% of the treatment area and will also remove live ladder fuels from within the dripline of residual trees.
- Post treatment depth of surface fuels shall be less than 3” over 80% of the treatment area.

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CalTREES THP ITEMS #32-35 BIOLOGICAL RESOURCES

ITEM # 32 – BIOLOGICAL RESOURCES

ITEM #32		LISTED PLANT or ANIMAL SPECIES INCLUDING HABITAT
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Are there any <u>ANIMAL SPECIES</u> , including their habitat(s), which are listed as rare, threatened or endangered under Federal or state law, or a sensitive species by the Board of Forestry associated with the THP area?
		If YES, identify the animal species and the provisions to be taken for the protection of the species.

Listed and Sensitive Animal Species Table					
Animal Species	Species type Mammal / bird / reptile / amphibia / fish / Invertebrate	FEDERAL Threatened / endangered /	STATE Threatened / endangered / candidate	BOF Sensitive	Protection measures
pallid bat (<i>Antrozous pallidus</i>),	mammal				See below-Mitigation TO-6a
spotted bat (<i>Euderma maculatum</i>),	mammal				See below-Mitigation TO-6a
western mastiff bat (<i>Eumops perotis californicus</i>)	mammal				See below-Mitigation TO-6a
western red bat (<i>Lasiurus blossevillii</i>)	mammal				See below-Mitigation TO-6a

b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Are there any <u>PLANTS</u> , including their habitat(s), which are listed as rare threatened or endangered under Federal or state law, or a sensitive species by the Board of Forestry associated with the THP area?
		If YES, identify the animal species and the provisions to be taken for the protection of the species.

Plant Species Table				
Plant Species	FEDERAL Threatened / endangered	STATE Rare / Threatened / Endangered	CRPR (1A, 1B, 2A, 2B, 3, 4)	Protection measures

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NON-LISTED SPECIES IMPACTS	
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any NON-LISTED species which will be significantly impacted by the operation? If yes, identify the species and the provisions to be taken for the protection of the species.

Non-Listed Species Table		
Species	Species type Mammal / bird / reptile / amphibia / fish / Invertebrate	Protection measures
Migratory birds	Bird	See below-Mitigation TO-6

ITEM # 35 –OTHER WILDLIFE PROTECTION REQUIRED BY FOREST PRACTICE RULES

a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any other provisions for wildlife protection required by the rules? If YES, describe.
Description:	

SOTHERN FOREST DISTRICT ONLY	
Per 14 CCR 959.15(a) Protection of Wildlife Habitat	
(a) Where present at time of timber harvest, 400 sq. ft. basal area of oak per 40 acres should be retained and protected, giving preference to deciduous oaks. Oaks should be retained on areas designated by CDFW as deer migration corridors, holding areas, or key ranges when consistent with good forestry practices. Black Oaks and black oak sprout clumps will be retained as specified in the mitigation measures TO-2 and TO-3 described below.	
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will timber operations occur where the pre-harvest stand consists of 400 square feet basal area of oak per 40 acres?
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is any of the proposed harvest area within an area designated by CDFW as deer migration corridors, holding areas, or key ranges?
If YES, to one or both questions above provide direction to the LTO identifying oak retention shall occur to comply with 14 CCR 959.15. Provide site-specific instructions to the LTO indicating how Oak tree protection will be accomplished. (if necessary provide a map of these areas for the LTO)	

ITEM # 33 – SNAGS

ITEM #33	SNAGS
Per 14 CCR 919, 939, 959 – Timber operations shall be planned and conducted to maintain suitable habitat for wildlife species as specified by the provisions of Article 9 of the Forest Practice Rules. See Mitigation TO-1 below.	
Within the logging area all snags shall be retained to provide wildlife habitat with the exception of snags for safety reasons Per 14 CCR 919.1, 939.1, 959.1(a)-(f)	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any snags which must be felled for fire protection or safety reasons?
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will snags over 20 feet in height and 16 inches dbh be felled within 100 feet of a main ridge that is suitable for fire suppression? If YES, ridge shall be delineated on a THP map.

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c. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will snags over 20 feet in height and 16 inches dbh be felled within 100 feet of all public roads, permanent roads, landings and railroads? (select all that apply) <input checked="" type="checkbox"/> Public road(s) <input checked="" type="checkbox"/> Permanent road(s) <input type="checkbox"/> Landing(s) <input type="checkbox"/> Railroad(s)
d. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will snags be felled where federal and state safety laws and regulations require the felling of snags?
e. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will snags be felled within 100 feet of structures maintained for human habitation?
f. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will merchantable snags be felled in any location as provided for in the plan?
g. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will snags be felled as required to control insect or disease concerns?

ITEM # 34 – LATE SUCCESSIONAL FOREST STANDS

ITEM #34	LATE SUCCESSIONAL FOREST STANDS
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are any Late Successional Forest stands proposed for harvest? If YES, describe measures to be implemented by the LTO to avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with late successional forests.
Describe:	

Wildlife Habitat Retention Considerations

Large snags are valuable wildlife habitat elements, develop slowly and are hard to replace on the landscape. Wildlife use of snags is related to the internal and external characteristics of the snag (Jain, et. al. 2012). While it is recognized that the project footprint is relatively small and the presence of large snags on the project site is relatively low, the significant value of large snags to a variety of wildlife should be recognized (Forestland Steward, 2010). In addition, large woody debris on site can provide important habitat to wildlife species (Peterson, et.al, 2009).

Another key element contributing to quality of wildlife habitat is presence of black oak. Given the impact of the fire, mortality of mature black oaks was high and black oak stocking is primarily from sprout clumps. Sprout clumps are easily removed during mastication treatments and would be susceptible to loss during mastication operations unless protection measures are implemented to avoid sprout clumps. To avoid potential impacts to sprouting black oak and loss of large snags, and decadent black oaks, the following mitigation will be incorporated into the operational limitations to be followed during operations conducted under this Conversion Timber Harvesting Plan and project EIR.

Mitigation TO-1- Snags > 26” dbh and all living black oak trees > 8” in dbh and 20’ in height shall be retained unless a determination is made by a certified arborist in consultation with the project biologist that removal is absolutely necessary to protect life and property.

Mitigation TO-2- Removal of dead black oaks >15” in dbh within the masticated areas or those black oaks marked for retention by the RPF within the road right of way shall be avoided and the road alignment adjusted to avoid individual black oak trees which meet the diameter retention threshold.

Mitigation TO-3- Mastication shall avoid black oak sprouts. Dead standing black oak boles > 3’ in height and less than 15” in DBH shall be masticated while avoiding black oak sprouts, if present.

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Mitigation TO-4- The mastication treatment shall avoid designated understory retention areas as flagged on the ground by the project wildlife biologist or Registered Professional Forester. Retention areas shall be focused on creating minimum patch sizes of 15' in diameter and, where available, shall be placed in areas with a mix of brush species, grasses and conifer seedlings.

Mitigation TO-5- Retain all down stem material > 20" in small end diameter outside bark and greater than 20' in length on site up to a maximum of three pieces per acre. Down logs which meet this description may be moved to other areas within the project area as necessary to achieve fire reduction and guest safety objectives.

Mitigation to Protect Nesting Raptors and Migratory Birds

While evidence of nesting raptors was not noted during the field visits by ESA biologists, construction of the proposed project would result in the removal of trees and other vegetation which may serve as perching or nesting sites for special-status species and migratory birds, including raptors. Direct impacts on nesting raptors or migratory birds or their habitat such as removal of trees could result in substantial lowered reproductive success or habitat loss, thereby potentially adversely affecting local population levels. Additionally, human disturbances and noise from construction activities have the potential to cause nest abandonment and death of young or loss of reproductive success at active nests located near project activities. To avoid potential impacts the following mitigations will be followed:

Mitigation Measure TO-6 -Vegetation mastication operations, road construction, and other project related grading and tree removal, shall occur outside of the nesting season that encompasses all birds (September 16 through January 31), to the extent feasible. If vegetation removal begins during the nesting season (February 1 to September 15), a qualified biologist shall conduct a preconstruction survey for active nests in suitable nesting habitat within 500 feet of the construction area for nesting raptors and migratory birds (¼ mile for northern goshawk and California spotted owl). Areas that are inaccessible due to private property restrictions shall be surveyed using binoculars from the nearest vantage point. The survey shall be conducted by a qualified biologist no more than seven days prior to the onset of timber operations or construction. If no active nests are identified during the pre-construction survey, no further mitigation is necessary. If timber operations or construction activities begin prior to February 1, it is assumed that no birds would nest in the project site during active construction or timber harvesting activities and no pre-construction surveys are required. If at any time during the nesting season timber harvesting or construction stops for a period of two weeks or longer, pre-construction surveys shall be conducted prior to resuming timber operations or construction activities.

If active nests are found during the survey, the project proponent shall implement mitigation measures to ensure that the species would not be adversely affected, which would include establishing a no-work buffer zone as, approved by CDFW, around the active nest.

Measures shall include:

1. For trees with active nests, the project proponent shall conduct any tree removal activities required for project construction outside of the migratory bird breeding season (February 1 through August 31).
2. If active nests are found on or within 500 feet of the project site (¼ mile for northern goshawk and California spotted owl), then the project proponent shall establish no disturbance buffers for active nests of 250 feet for migratory bird species, 500 feet for non-listed raptor species, and ¼-mile for northern goshawk and California spotted owl, until the breeding season has ended, or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Depending on the conditions specific to each nest, and the relative location and rate of the timber harvesting or construction activities, it may be feasible for timber harvesting or construction to occur as planned within the buffer without impacting the breeding effort. Nests that are inaccessible due to private property restrictions shall be monitored using binoculars from the nearest vantage point. Timber harvesting or

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construction activities shall be halted at any time if, in the professional opinion of the biologist, activities are affecting the breeding effort.

3. Depending on conditions specific to each nest, and the relative location and rate of timber harvesting and construction activities, it may be feasible for timber harvesting and/or construction to occur as planned within the buffer without impacting the breeding effort. In this case (to be determined on a case-by-case basis), the nest(s) shall be monitored by a qualified biologist during timber harvesting or construction within the buffer. If, in the professional opinion of the monitor, the project would impact the nest, the biologist shall immediately inform the timber operator or construction manager and the project proponent shall notify CDFW. The timber operator or construction manager shall stop activities within the buffer until the nest is no longer active. Completion of the nesting cycle shall be determined by a qualified biologist. If timber operations or construction begins outside of the migratory bird breeding season (February 1 through August 31), then the project proponent is permitted to continue timber operation and construction activities throughout the breeding season.

Protection Measures Applicable to Special-status Bat Species

Special-status bat species were not observed by ESA biologists during their visits to the project site. However, forest habitats within the project site provide suitable roosting and foraging habitat for special-status bat species, including pallid bat (*Antrozous pallidus*), spotted bat (*Euderma maculatum*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus blossevillii*). These and other bat species could use trees with suitable cavities, crevices, exfoliating bark and/or bark fissures on and near the project site for roosting. The proposed project could result in the removal of trees potentially used for roosting by special-status bats or other modifications to bat habitat. In addition, construction-related activities would temporarily elevate noise levels in areas on and surrounding the construction zone. If construction activities occur during the bat breeding season (April 1st to August 31st), disturbance to roosting sites could have a significant effect on special-status bat species if active maternity roosts are present.. The following mitigation will be included in the THP to provide operational guidance applicable to all timber operations for avoiding impacts to special-status bat species:

Mitigation Measure TO-6a: For construction activities expected to occur during the breeding season of special-status bat species (April 1 to August 31), a field survey shall be conducted by a qualified biologist to determine whether active roosts are present onsite or within 100 feet of the project boundaries. Areas off the project site that are inaccessible due to private property restrictions shall be surveyed using binoculars from the nearest vantage point. Field surveys shall be conducted early in the breeding season before any construction activities begin, when bats are establishing maternity roosts but before pregnant females give birth (April through early May). If no roosting bats are found, then no further mitigation is required. If roosting bats are found, then disturbance of the maternity roosts shall be avoided by halting construction until the end of the breeding season or a qualified bat biologist excludes the roosting bats in consultation with CDFW. If construction activities begin prior to April 1, it is assumed that no bats would roost in the project site during active construction activities and no pre-construction surveys are required. If at any time during the roosting season construction stops for a period of two weeks or longer, pre-construction surveys shall be conducted prior to construction resuming.

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CaITREES THP ITEMS #36-38 – CULTURAL RESOURCES / GROWTH AND YIELD / SPECIAL INSTRUCTIONS

ITEM # 36 – CULTURAL RESOURCES

ITEM #36	ARCHAEOLOGICAL / HISTORICAL
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Has an archaeological / historical survey been made for the THP area?
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Has a current archaeological / historical records check been conducted for the THP area?
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	During pre-field research and surveys were archaeological or historical sites identified within the plan area? IF YES, THIS INFORMATION IS CONFIDENTIAL AND NOT AVAILABLE TO REVIEW AGENCIES, OTHER THAN CAL FIRE, AND THE GENERAL PUBLIC. RPF is advised to complete the Confidential Archaeological Addendum (CAA) and place in Section VI of the THP.

Although no significant archaeological resources were identified, no subsurface investigations were conducted and there remains the potential that archaeological resources could be encountered during project-related ground-disturbing activities. If any such resources were encountered and found to qualify as a historical resource or unique archaeological resource for CEQA purposes, project-related impacts to the resources could be significant. A significant impact would also occur if the project would disturb any human remains, including those interred outside of formal cemeteries. There is no indication that the project site has been used for burial purposes in the recent or distant past. While it is unlikely that human remains would be encountered in the project site, damage to human remains would be a potentially significant impact.

Mitigations to avoid potential adverse impacts: Mitigation Measure T0-10 will be implemented in the event of discovery of unidentified archaeological cultural resources. This mitigation requires work to halt and the resources to be thoroughly documented and treated appropriately. Implementation of this mitigation measure would ensure that impacts on archaeological resources remain at a **less-than-significant** level. **Mitigation Measure T0-9**, which will be implemented in the event of discovery of unidentified tribal cultural resources, requires work to halt and the resources to be thoroughly documented and appropriately treated. Implementation of this mitigation measure would ensure that impacts on tribal cultural resources remain at a **less-than-significant** level.

Mitigation Measure T0-9: If prehistoric or historic-era archaeological resources are encountered, all construction activities within 100 feet of the find shall halt and Tuolumne County (County) shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. An archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology (qualified archaeologist) shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with Public Resources Code (PRC) § 21083.2 and CEQA Guidelines § 15126.4, with a preference for preservation in place.

Consistent with CEQA Guidelines § 15126.4(b)(3), preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the County. Treatment of unique archaeological resources shall follow the applicable requirements of PRC § 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target

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CalTREES THP ITEMS #36-38 – CULTURAL RESOURCES / GROWTH AND YIELD / SPECIAL INSTRUCTIONS

the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

Mitigation Measure TO-10: In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Tuolumne County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American (PRC § 5097.98), who in turn would make recommendations to the County for the appropriate means of treating the human remains and any associated funerary objects [CEQA Guidelines § 15064.5(d)].

ITEM # 37 – GROWTH AND YIELD INFORMATION

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Has any inventory or growth and yield information designated "TRADE SECRET" been submitted in a separate confidential envelope in Section VI of this THP? If YES, THIS INFORMATION IS CONFIDENTIAL AND NOT AVAILABLE TO REVIEW AGENCIES.
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ITEM # 38 – SPECIAL INSTRUCTIONS OR CONSTRAINTS

CONDITION Flagging codes / water drafting / paint colors etc.	INSTRUCTION

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Under Canvas Section III

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Section III-Proposed Project

I. Introduction

Under Canvas Inc. (Under Canvas or project applicant) is proposing the Yosemite Under Canvas Project (project), which is a 99-tent luxury campground with supporting facilities located adjacent to State Route 120 (SR-120) in the vicinity of Hardin Flat, east of the community of Groveland and west of Yosemite National Park, in Tuolumne County, California. The Yosemite Under Canvas Project is a transient tent (no fixed structures) camp for guests to stay March to October as weather allows. Under Canvas Inc. specializes in providing all the provisions necessary to camp out in a particular location. Under Canvas camps provide guests with canvas tents, beds, bathroom facilities, meals, and community fire pits. Potable water and sanitary sewer would be provided by on-site private systems owned by Under Canvas. A total of 99 tents are proposed for the Yosemite Under Canvas camp along with an office/guest check-in tent, commercial kitchen, communal bathrooms and a number of support tents.

I.1 Project Objectives

The project objectives are:

- 1) Help meet the demand for lodging facilities near Yosemite National Park and surrounding outdoor recreational resources.
- 2) Provide a camping experience with full-service amenities for visitors to Yosemite National Park and the surrounding area in an outdoor setting.
- 3) Assist the County in meeting its General Plan goals and polices, particularly those related to natural resources, public safety, natural hazards, and economic development.
- 4) Plan for land use compatibility with adjacent landowners and land use activities through effective placement, orientation, and screening of project facilities.
- 5) Reduce hazardous wildfire fuel and timber conditions on the project site.
- 6) Provide on-site infrastructure improvements relating to potable water delivery, wastewater management, and drainage.
- 7) Develop a financially sustainable project that can fund the construction and operation of the facilities and services that are needed to serve the project

I.2 Project Location and Surrounding Uses

The project is located on a private inholding within the Stanislaus National Forest. It falls within the southeastern portion of Section 26, Township 1 South, Range 18 East, Mount Diablo Baseline and Meridian. The project site is located on a 160 acre parcel owned by Hardin Flat, LLC within unincorporated Tuolumne County. The project will be located on the portion of the property owned by Hardin Flat, LLC which lies to the south of SR-120. The area south of SR-120 totals approximately 80.1 acres. Project development will

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include construction of roads and on-site improvements to accommodate 99 tent sites along with construction of associated infrastructure. Approximately 55 acres area will be subject to fuel treatment activities designed to remove snags and reduce the amount of ground fuel greater than 3” in diameter.

Access to the site is provided by Hardin Flat Road via SR-120. Currently, the site consists of undeveloped land and was previously used for forestry and logging. Adjacent land uses include scattered private residences, recreation facilities, and open space. The nearest building is a Caltrans snow plow garage approximately 1,250 feet north across SR-120 from the nearest proposed project facilities. The nearest residence is approximately 1,300 feet southeast of the nearest proposed project facilities. Elevation in the project site ranges from 3,740 feet above mean sea level in the east to 4,050 feet above mean sea level in the west.

II. Project Description

The Yosemite Under Canvas Project is proposed to be built on two parcels (APNs 68-120-62 and -63) totaling approximately 80.1 acres. The parcels are zoned Commercial Recreation (C-K) and Open Space-1 (O-1). The project will be located on the portion of the property with C-K zoning, and will require a site development permit for a campground use.

Traditional buildings with concrete foundations are not proposed for the project. However, there are communal bathrooms, a commercial kitchen, laundry and housekeeping, and a lobby tent with dining area. These facilities would not be permanent fixtures on the land. Utility improvements to support the camp include wastewater treatment, a water supply well, and power supplied to the kitchen, laundry, and communal bathrooms. Details on guest amenities and supporting infrastructure are provided below.

II.1 Guest Tents

The project proposes a total of 99 guest tents with 77 suite tents with an in-suite washbasin, shower, and toilet, and twenty-two safari tents with access to a communal bathroom. Four of the suite tents would be Americans with Disabilities Act (ADA) compliant. The approximate tent footprints range from 200 to 400 square feet. Tents are typically made from canvas mounted on non-permanent wooden decks. Decks are typically mounted on moveable above-ground concrete footings. The tents would be removed at the end of each season in October, with the decks remaining in place. The tents would be stored on-site in shipping containers, though some could be transported off-site for use at other Under Canvas facilities. Bathroom Facilities

To serve the safari tents without in-suite bathroom facilities, the project proposes two communal bathroom facilities, which would be manufactured off-site and contain six stalls, with each stall consisting of a toilet, sink, and shower. The units would be prefabricated and mounted on wheels, and would be non-permanent in nature, but would likely remain on-site during the off season, though they could be transported off-site for use at other Under Canvas facilities.

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II.2 Reception, Dining, and Support Facilities

The project proposes one reception/dining tent, an adjacent commercial kitchen trailer, and a number of support (housekeeping and maintenance) portable storage containers. The project's commercial kitchen would prepare and serve single-service meals to guests staying at the camp.

As with the guest tents described previously, the reception/dining tent would be disassembled at the end of each season and stored in an on-site shipping container. The commercial kitchen trailer would be prefabricated and mounted on wheels, and would be non-permanent in nature, but would likely remain on-site during the off season, though it could be transported off-site for use at other Under Canvas facilities. The remaining housekeeping and maintenance support containers would also likely remain on-site during the off-season.

II.3 Outdoor Campfires and Heating Stoves

The project would provide up to four traditional, communal campfire pits interspersed around the project site. The lighting, maintenance, and extinguishing of these campfires would be managed by camp staff.

The project would provide heating within the guest tents on an as-needed basis through the use of wood heating stoves. The current-specification wood stove used at most of the existing Under Canvas facilities is the "Hunter" stove, manufactured by Cylinder Stoves.

II.4 Access and Internal Circulation

Internal circulation would be provided by a main internal access road (Under Canvas Way) and internal cart paths and footpaths. There is existing access to the property by way of Hardin Flat Road via SR-120. The proposed Under Canvas Way would begin from Hardin Flat Road at a point approximately 500 feet south from the intersection of SR-120 and Hardin Flat Road. A secondary point of access would be provided for emergency purposes on the northwest side of the site via an existing unimproved roadway that connects to Forest Service Road 1S09. This road would be maintained for emergency use through an agreement with the Stanislaus National Forest, and obtaining this permit would be a condition of project approval. Onsite roadways would not be paved, but would be topped with gravel where needed.

The construction of Under Canvas Way within the project site would require two primary crossings of drainages and minor crossings over smaller features as described below:

The construction of Under Canvas Way within the project site would require two primary crossings over ephemeral drainages and minor crossings over smaller features as described below:

- A culvert crossing is proposed near the project access to Hardin Flat Road in the northeastern portion of the project site. This crossing would utilize a 36-inch diameter corrugated metal pipe covered with a minimum cover of two feet, including at least 10-inch thick compacted aggregate base. Both ends would be fitted with a concrete headwall and to prevent erosion. The outlet would include riprap for energy dissipation.

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- A steel bridge with concrete deck is proposed just northeast of the common parking area to cross another drainage. Rock head walls would utilize 4-foot minus rock and extend 25 to 35 feet in each direction of flow. Bridge design would be based on American Association of Highway and Transportation Officials bridge standards for low-volume traffic, and would be designed and maintained to support the imposed loads of fire apparatus, up to a 4,000-gallon water tender, a semi transport with dozer, or a large semi with 48-foot trailer. Radii for approach and departure would support these large vehicles. The two-lane bridge width would be 24 feet wide and designed for HS-20 loading. All bridge components and associated construction activities would be located outside of the defined bed and bank of the channel.
- Under Canvas Way crosses a small drainage feature in the southwest portion of the project site in two locations. These locations would utilize 18-inch diameter corrugated metal pipes covered with one foot of minimum compacted base. Multiple check dams would be located upstream and downstream of these crossings to reduce flow velocity.

Internal roads and pathways would be gravel-covered, as needed, and not paved, though several ADA-designated parking spaces would be paved to comply with applicable regulations. All roads would be constructed to have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet. For dead-end roadways in excess of 150 feet in length, the project would provide a turnaround for fire apparatus.

Parking would be provided along proposed camp roads and would be located near the deluxe/suite tents. The safari tents would have a common parking area. Approximately 130 total parking spaces would be provided for guests and employees. All of the tents would be accessed via gravel paths and trails.

II.5 Transit Accessibility

A bus stop for the Yosemite Area Regional Transportation System (YARTS) is proposed on the west side of Hardin Flat Road at the entrance to the Yosemite Under Canvas facility, approximately 800 feet south of the Hardin Flat Road/SR-120 intersection. The bus stop would be designed to accommodate a typical 45-foot YARTS coach. The stop would be designed in consultation with YARTS with respect to design and safety criteria. The stop would provide Yosemite Under Canvas guests with the option to use the regional public transit system to access Yosemite National Park and other regional destinations. YARTS currently operates between May and September and offers three round trips per day into Yosemite National Park.

II.6 Potable Water Supply and Use

Drinking and potable water at the camp would be provided by groundwater source wells. The source would be developed as a Public Water System, and classified as a Transient Non-Community water system, as defined in California Health and Safety Code Section 116275. Water distribution would include storage cisterns, small diameter distribution lines, re-pressure pumps, source development, and services to the laundry, lobby tent, bath units, and deluxe/suite tents.

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Estimated instantaneous flows for the distribution system are 80 gallons per minute (gpm). General system layout would be finalized pending development of a groundwater source, and design documents for the proposed system would be submitted for agency approval. Water use at existing Under Canvas camps in other parts of the U.S. is typically under 12 gallons per day (gpd)/person. As with all Under Canvas facilities, water usage monitoring would be implemented to verify daily water use of 20 gpd per person or less. To meet this goal, the project would incorporate a number of water efficiency features that have been implemented at other operational Under Canvas facilities, including the use of water fixtures that use minimal water, shower facilities with shower heads and faucets that turn on by pulling a handle or pushing a knob and turn off as soon as the handle or knob is released, and toilets that would use 0.8 to 1.2 gallons of water per flush. Preliminary water supply requirements for the site at full occupancy are listed in the following table.

EXPECTED TOTAL DAILY WATER USE

Proposed Use	Design GPD	Unit Per	Number of Units	GPD	Notes
Expected Guest Demand (99 tents, 2.5 guests/tent)	20	Person	247.5	4,950	20 gpd/guest x 247.5 guests
Employees	10	Person	20	200	10 gpd/employee x 20 employees
Laundry Facility	42.5	Machine	26	1,105	42.5 gallons per wash x 26 washes
Food Preparation	4	Service	375	1,500	4.0 gpd x 375 meals
Total Expected Daily Water Use (full occupancy)				7,755	

NOTE: The expected water use values presented here are representative of expected potable water use at the site, as based on recorded observations at other Under Canvas facilities. However, the impact analysis for the project, as presented in Section 3.5, *Hydrology and Water Quality/Utilities and Service Systems*, assumes a greater quantity of water use to provide for a worst-case scenario analysis.

Based on this analysis, the water source(s) would need to be developed to supply an average demand of 7,755 gpd. Accordingly, the proposed groundwater source wells would be developed to supply 20 to 30 gpm. Wells 1 and/or 2 would be used to supply water for the project, with Well 3 retained as a backup. The locations of the wells are shown in Figure 2-3. The wastewater and water use quantities would be monitored and submitted to the Tuolumne County Community Development Department, Environmental Health Division.

The site's water and wastewater systems would be winterized after closing for the season. The systems would be tested by a State Water Board Division of Drinking Water certified laboratory prior to being placed in use each season. Once in use, potable water samples would be tested the first Tuesday of each month for bacteria.

II.7 Wastewater Management

Wastewater treatment would be designed to meet the County's guidelines for design and evaluation of special design on-site sewage treatment and disposal systems, and would comply with Tuolumne County Ordinance Code Section 13.08.270A, as overseen by the County's Environmental Health Division. Wastewater would be treated on-site through the use of two separated systems. Sewer mains would be constructed to convey the wastewater to the two systems, which would be located near the southeastern area of the site, as shown in Figure 2-3. Wastewater System #1 would be a domestic

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strength wastewater system which would receive primary treatment from code compliant septic tanks, and would be delivered to gravel filled leach trenches via pressure dosing. Wastewater System #2 would be a hybrid system to manage the high strength food facility wastewater, and the domestic strength wastewater from the laundry facilities. The high strength food facility waste would have primary treatment via a code compliant grease interceptor and septic tank. High strength food facility wastewater would then receive secondary treatment from a properly sized moving bed bio-film reactor (MBBR) to reduce the high strength wastewater to domestic strength wastewater. Both employee generated wastewater and laundry service wastewater would be treated as domestic strength wastewater, and would receive primary treatment from code compliant sized septic tanks. The treated food facility wastewater, employee generated wastewater, and the laundry service wastewater would be combined and delivered to a gravel filled leach system via pressure dosing. The following table shows the designed capacity of the wastewater system, at full occupancy.

The daily wastewater calculations presented above represent maximum daily volumes at maximum occupancy. Maximum occupancy is likely to be achieved only occasionally, so actual wastewater volumes are likely to be much less. Accordingly, the values shown represent a maximum or worst-case scenario.

PEAK DAILY WASTEWATER DISPOSAL

Proposed Use	Design GPD	Unit Per	Number of Units	GPD
Wastewater System 1				
Tents (99) at maximum occupancy	30	Person	276	8,280
Total Wastewater System 1				8,280
Wastewater System 2				
Food Service Wastewater (276 guests x 3 meals/day)	2	Meal	828	1,656
Employee Generated Wastewater	20	Employee	40	800
Laundry Service	42.5	Laundry Load	26	1,105
Total Wastewater System 2				3,561
TOTAL				10,841

NOTE: All wastewater flow rate calculations and tank sizing specifications were derived from Appendix H of the 2016 California Plumbing Code. Specifically, 2016 California Plumbing Code, Estimated Waste/Sewage Flow Rates, Table H 201.1 (2), 9. Hotels (No kitchen); 30gpd/person. Also Chart H 901.7 Design Criteria for commercial kitchen/food preparation wastewater treatment and dispersal using disposable utensils. Per Tuolumne County Environmental Health policy, the maximum daily volumes used for wastewater system design must represent maximum daily volumes at maximum occupancy. The maximum occupancy and employee/staff information was supplied by Under Canvas.

II.8 Electricity and Lighting

Electric power for the camp would be provided by a local utility company, but most electricity demand would be met using low voltage solar systems. Lighting for the lobby tent, common areas, and guest tents would be low voltage solar lighting. All light fixtures and the use thereof would be International Dark Sky Association (IDA) compliant, while still providing safety and guidance for guests. Incorporated lighting standards would include:

- 1) Lights would be on only when needed, and would only light those areas that require it.
- 2) Lighting would be no brighter than necessary.
- 3) Blue light emissions would be minimized, with LED fixtures utilizing color temperatures no greater than 3000 Kelvins.

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- 4) All light fixtures would be down-shielded and would be pointed downwards.

To provide electric power to the site during power outages, a 70 kW propane-powered standby generator would be placed adjacent to Well #1 (see Figure 2-3). The generator would be placed inside its own enclosure for protection against the elements and for noise abatement purposes.

II.9 Solid Waste Management

Trash from the guest tents would be collected daily as part of normal housekeeping activities. All solid waste produced at the site, particularly food waste, would be stored in locking wildlife-resistant containers and then removed from the site by a commercial hauler for disposal at a permitted landfill.

II.10 Wildfire Prevention

In addition to the fuels reduction and road construction that would be undertaken as part of the THP, the site would be subject to ongoing fuel and vegetation management treatments as prescribed in the project's Wildfire Mitigation. The Wildfire Prevention Plan would be subject to review and approval by the Tuolumne County Fire Department (TCFD) in cooperation with CAL FIRE. The Wildfire Prevention Plan would include a number of standard prescriptions to be utilized in the future, including, but not limited to:

To prevent the ignition of wildfires from the project site, a number of measures would be implemented, including:

- All tent fabrics would be California State Fire Marshall approved.
- All heating stoves on the site would be equipped with spark arrestors, which would be constructed of woven or welded wire screening of 12 USA standard gage wire (0.1046 inch) having openings not exceeding 1/2-inch. The net free area of the spark arrestor would not be less than four times the net free area of the outside of the chimney outlet.
- The ashes from the stoves would be removed in metal containers by camp staff and disposed of in a steel container. Firewood and combustible materials would not be stored in unenclosed spaces, beneath tents, or on decks under eaves, canopies or other projections or overhangs. Fire wood and combustible material would be stored in defensible space, located a minimum of 20 feet from structures, and separated from the crown of trees by a minimum horizontal distance of 15 feet.
- Smoking would be restricted to designated areas with receptacles for cigarette waste. The area and a minimum 50-foot buffer would have vegetative material cleared to bare mineral soil.
- Community campfire rings would be enclosed within a large metal ring to contain burning material, and would be installed 12 inches into the ground, with a minimum of 12 inches extending above the ground. A mesh screen would be installed to encompass and cover the fire as a spark arrestor. Branches and other vegetation above each fire area would be removed, and a cone of clearance to the sky would be established. A large metal cover would be provided to cover the fire ring when not in use and nightly after the fire is extinguished by camp staff. A hose bib would be provided in proximity to each fire ring to extinguish fires prior to covering. Remote web cameras of fire pit areas would be installed to monitor each fire pit, and would be monitored from the campground office and mobile

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devices. Fires would not be allowed whenever the U.S. Forest Service imposes restrictions on campfires due to the proximity of the Forest boundary.

- The mobile kitchen facility would be equipped with a hood and range dry chemical extinguishing system.
- Fire tool lockers and fire extinguishers would be provided throughout the site, meeting the requirements of Public Resources Code (PRC) 4428 and 4429. Fire extinguishers would be located in each guest tent structure, as well as in all other facilities.
- Fire hose stations with fire hoses and nozzles would be provided throughout the site, with 200 feet of fire hose provided at each station. These stations would be located in such a manner that no tent structure would be greater than 150 feet from a fire hose station.

Prior to operation, an Emergency Operations Plan would be developed to address wildfire and other emergency incidents at the site. This plan would be subject to review and approval by applicable emergency services providers. The plan would include, at a minimum:

- A Training and Exercise Plan, to be implemented annually with all employees, covering the Emergency Operation Plan and issues such as response to fire, fire extinguisher and firehose use, first aid and emergency medical response, and dealing with problem guests.
- An orientation briefing for guests concerning potential hazards and what to do in the event of an emergency incident.
- Provision of an on-site fire and emergency alert system to notify site occupants in the event of an emergency.
- A site evacuation plan, defining routes of ingress and egress, rally points, and protocols for disabled guests and/or guests without their own transport.
- Establishment and maintenance of temporary refuge areas if evacuation is not possible.
- Establishment of an emergency helicopter landing site. The site would not be a permitted heliport as described in California Code of Regulation 3554, and would be maintained for use in emergencies only.
- Basic fire and first aid training would be provided to all employees, with at least one employee onsite at any given time with advanced first aid training (Emergency Medical Technician or similar).

II.11 Timber Harvesting Plan

The Timber Harvesting Plan (THP) would involve removal of dead and dying trees and treatment of live surface and ladder fuels along with down woody material utilizing mastication machinery. Davey Tree Service, conducted an arborist inspection of the project area between March 9, 2019 and April 30, 2019. A total of 511 dead standing trees were assessed and determined to pose a safety threat.

These trees would be removed subject to wildlife mitigations specified in the THP and EIR. The following treatment standards will apply:

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- Standing dead and dying trees < 26” dbh that are determined to pose a safety or fire threat as determined by a certified arborist or the RPF will be masticated in place or felled and masticated.
- Surface and ladder fuels will be treated to reduce total fuels and achieve a residual average level of material >3” in diameter on the small end to less than 5 tons per acre.
- Fuel treatment will include retention of down logs greater than 20” on the small end and 20’ in length. All other fuels greater than 3” in small end diameter be chipped on site as part of the mastication process or removed to disposal areas on the project and chipped on site or chipped and/or hauled to a biomass facility.
- Down material less than 20” in diameter will be masticated to achieve a minimum standard that results in 80% of the post treatment material being less than 18” in length and at least 60% being less than 12” in length.
- In addition, mastication will remove dead and live brush throughout 85% of the treatment area and will also remove live ladder fuels from within the dripline of residual trees.
- Post treatment depth of surface fuels shall be less than 3” over 80% of the treatment area.

The objective of the this treatment is to ensure that the project, upon completion, will reduce the size of current woody surface fuels and remove standing dead and dying trees to a level that would facilitate direct attack by firefighters.

II.12 Operational Characteristics

The average occupancy at existing Under Canvas facilities is approximately 2.5 guests per tent. Most guests arrive for the night and then leave the site in the morning to pursue recreational and sightseeing opportunities in the area, and then return later in the day following the day’s activities. Quiet hours are enforced from 9:00 PM to 6:00 AM. Operation of the facility would not employ any sources of amplified noise, with the exception of an emergency notification public address system.

Between 20 and 30 staff members would be employed at the site, with 10 to 15 personnel working on the site at any given time. Employees would largely be drawn from the local community, though some could be recruited from elsewhere. If they desire, employees without housing in the local community would be housed in rental units facilitated by Under Canvas.

II.13 Construction

Site development activities would be preceded by the planned timber operations associated with road construction and fuel reduction. Following the timber operations, construction of the campground facility itself would employ currently accepted and typical construction methods. The contractor would establish access routes and staging areas, within the proposed development area, for travel within the site and storage of materials and equipment. If needed, dust control would employ a standard water truck equipped with spray nozzles. The site plans are based on minimal site disturbance based on seasonal occupancy. Few permanent or “hard” facilities would be present. Tent pads would require minimal excavation. Access roads

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and paths would be designed and constructed to minimize cut and fill requirements. The project would follow Low Impact to Hydrology (LITH) Design Guidelines for the design of roads and paths. Infrastructure for wastewater collection and water distribution would be designed and constructed to minimize trenching depths and disturbance. Wherever possible, water lines and other utility infrastructure would be placed underground beneath roadways, paths, or disturbed areas.

II.13.1 Schedule and Work Hours

Construction of the project is expected to take one construction season, starting in June 2020 and extending to November 1, 2020, for a total of five months of construction activity. Though the County does not have a specific noise ordinance that defines acceptable working hours, construction activity would comply with standards that are typical for other jurisdictions in California, which relegate noise-producing construction activities in non-residential areas to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday.

II.13.2 Equipment

Anticipated construction equipment is shown in following table.. The actual equipment used during construction would be determined by the contractor and the construction schedule.

CONSTRUCTION EQUIPMENT	
Equipment	Construction Purpose
Bulldozer	Earthwork construction and clearing and grubbing
Grader	Ground leveling
Mini Excavator	Soil manipulation
Skid Steer Loader	Soil or gravel manipulation
Trencher	Trench digging

III. Regulatory Setting

III.1 County Zoning

The parcels are zoned Commercial Recreation (C-K) and Open Space-1 (O-1). The project would be located within the C-K zoning portion of the project site, which requires a site development permit for campground use.

III.2 CEQA/EIR Lead Agency-

- 2. Lead Agency Name and Address:** Tuolumne County Community Resources Agency
2 S. Green Street
Sonora, CA 95370
- 3. Contact Person and Phone Number:** Natalie Rizzi, Planner
(209) 533-5936

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4. **Project Location:** Tuolumne County
5. **Project Sponsor's Name and Address:** Under Canvas Inc.
1172 Happy Lane
Belgrade, MT 59714
6. **General Plan Designation(s):** Parks and Recreation (R/P)

III.3 CAL FIRE's role as a Responsible Agency-

Approximately 80 of timberland as defined in The Public Resources Code Article 1 Section 4526 of Division 4, Chapter 8, Section 4526 (PRC) will be converted to a recreational land use. Conversion of timberland for recreational purposes constitutes Timber Operations as defined in Section 4527 of the PRC. Consistent with PRC 4582, Timber Operations require preparation of a timber harvesting plan and approval by the California Department of Forestry and Fire Protection (CAL FIRE).

In addition to the requirements necessitating preparation of a Timber Harvesting Plan, PRC Article 9 also requires that the Timberland owner submit an application to the Department of Forestry and Fire Protection for approval subject to the provisions of Article 9 Sections 4621, 4622, 4623, and 4625. No Timber Operations are to be conducted until the Timber Harvesting Plan associated with the timberland conversion is approved. Additionally, the Timber Harvesting Plan cannot be approved by CAL FIRE until the associated Timberland Conversion Permit is approved and a Timberland Conversion Permit is issued to the Timberland Owner, in this case Hardin Flatt, LLC.

The Department of Forestry and Fire Protection (CAL FIRE) is a responsible agency as defined in Chapter 2.5 section 21609 of the California Environmental Quality Act and, as set forth in Article 15, Section 15231 of the CEQA Guidelines. CAL FIRE will rely on the determination by the Lead Agency relative to compliance with CEQA. CAL FIRE will be responsible for determination that the Timberland Conversion Permit meets the requirements of the provisions referenced in the preceding paragraph, and that the associated Timber Harvesting Plan meets the requirements of the Forest Practice Act and associated regulations prior to approval by CAL FIRE.

IV. Environmental Setting, Impacts Evaluation and Mitigation Measures for Planned Timber Operations

IV.1 Physical Environment

IV.1.1 Soils

Soils on the project area are classified as Holland Family, (deep and moderately deep) and Josephine Family, (moderately deep-deep complex).

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Holland family-deep consists of soils derived from granitic rocks. Typically, the surface is a light brown loam about 3 inches thick. The subsoil is a reddish yellow clay loam at least 40” thick. Depth to a highly weathered bedrock layer is more than 40”.

Holland family-moderately deep consist of soils formed from granitic rock. Typically, the surface layer is a brown loam approximately 5 inches thick and the subsoil is a yellow clay loam about 35 inches thick. Depth to highly weathered decomposed rock is 20 to 40 inches.

Josephine family-moderately deep consists of soils formed in materials weathered from metasedimentary rock. Typically, the surface layer is a dark brown loam about 5 inches thick. The subsoil is a reddish brown loam about 30 inches thick. Rock fragment content is 10 to 50 percent. Depth to highly fracture bedrock is 20 to 40 inches.

Josephine family, deep consists of soils formed in material weathered from metasedimentary rock. Typically, the surface layer is a brown gravelly loam about 7 inches thick. The subsoil is reddish clay loam about 50” thick. Rock fragment content is 10 to 30 percent. Depth to highly fracture bedrock is 40 to more than 60 inches.

IV.1.2 Precipitation

The 1961-1990 precipitation as posted on the NOAA website and displayed on the “Average Annual Northern California Precipitation map indicate precipitation of 30 to 40 inches per year. Precipitation occurs predominantly during the period between October through May of any given year.

IV.1.3 Management History

This property had been included in an existing Non-industrial Management Plan (NTMP) filed by the predecessor to Hardin Flat, LLC. The NTMP was approved in 1991 as NTMP N-2-91-2. Silviculture was uneven-age single tree selection.

As described in the NTMP, it appears the property was originally logged around the turn of the 20th century. This is consistent with ages noted in stump ring counts of fire salvaged trees. The stand was logged again with most of the residual old growth and larger second growth removed at that time. Based on species utilization practices common at that time larger old growth incense cedars were not harvested. Again, this is consistent with what was observed on site and noted in the tree lists generated post Rim Fire. Some harvest took place again in the mid 1970’s when the stand was thinned to generate round wood posts and poles. When the property was acquired in 1986 by the predecessor to Hardin Flat, LLC, the stands were lightly salvaged and pre-commercially thinned.

The Rim Fire of 2013 burned through the property and the property owners harvested the dead and dying fire damaged trees under an Emergency Notice (4-13EM-020-TUO). An additional salvage operation was conducted in 2016 to harvest dead and dying trees which had been weakened/ and or killed by drought and insect related mortality (4-16EX-729-TUO). In addition to the harvest of dead and dying trees, the property owners entered into a California Forest Improvement Program contract with the California Department of Forestry and Fire Protection (Manly 2017 14-GHG-CFIP-01-0054) to encourage survival and growth of

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ponderosa pine seedlings that had regenerated after the Rim Fire. As part of the CFIP process, the landowner developed a management plan for planted areas and for areas where natural regeneration was occurring.

The Department of Forestry and Fire Protection advised the current owners, Hardin Flat, LLC, that based on the transfer of the property to the LLC the new owners would have to advise the Department whether or not the new owners were interested in having the acreage remain as part of the NTMP. The current property owners have advised the Department that they would like to opt out of the NTMP and have the Hardin Flat parcel removed from the NTMP. This withdrawal from the NTMP is also necessary the use of the parcel, while consistent with the zoning of the property, is not consistent with the provisions of the Forest Practice Act and associated regulations for NTMPs. The owner is also required to cancel the existing CFIP contract and is in the process of so advising the Department.

IV.1.4 Fire History

Sierra Nevada forested landscapes are grouped by Barrett et al, 2010, into distinct fire regimes which are a combination of fire frequency, predictability, intensity, seasonality, and characteristics of fire within a particular ecosystem. For purposes of evaluating the fire history and fire regimes, this system was utilized by the Stanislaus National Forest and described in the Environmental Impact Statement for the Rim Fire Recovery (R5-MB-270). As part of the analysis in the EIS, the fire regime for the lands included in Under Canvas Project and this THP were classified along with adjacent Forest Service lands. The lands included in this THP fall within an area characterized as Fire Regime I. Fire Regime I is described as 0-35 years in frequency with low (surface fires most common) to mixed severity (less than 75 % of the dominant overstory vegetation replaced).

Exclusion of fire from Sierra Nevada Forests has resulted in significant changes to the vegetation and has resulted in significant departures from historic fuel structure, tree density, and species composition. Stands are less open with higher levels of surface fuels and include a substantial understory component which contributes to high ladder fuel levels.

The 2013 Rim Fire impacted the project area to varying degrees. Fire severity on the project area ranged from low to severe. On the area within the project boundary, fire behavior west of the Class II watercourse on the northeast facing slope was generally moderate. In this area the primary impacts were to understory and surface fuels with light to moderate impact to the overstory. In the southwest facing exposure of the project to the east of the class II watercourse, fire behavior was severe, and resulted in loss of surface vegetation, understory, and overstory trees.

IV.1.5 Overstory Vegetation

Overstory vegetation on the project area is a mixed conifer forest type. Overstory species include a mix of Douglas-fir, incense cedar, ponderosa pine, sugar pine, and black oak. Based on ring counts of cut trees the age of dominant overstory trees is approximately 100-120 years.

With the exception of the area east of Watercourse 1, overstory stands within the project area experienced low to moderate fire intensity. Fire impacts resulted in light mortality to the overstory trees. Understory vegetation and sapling and pole size conifers experienced significant mortality. Post fire salvage logging removed dead or dying merchantable trees. Trees less than 14" in diameter which did not meet

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merchantability specifications were left standing. Since the Rim Fire and associated salvage harvesting, there has been additional mortality in overstory trees. In order to assess the potential threats to the planned recreational use from standing and dead trees Under Canvas secured the services of a Certified Arborist.

The arborist, Alley Tree Service, conducted an inspection of the project area between March 9, 2019 and April 30, 2019. A total of 511 dead or dying standing trees were assessed and determined to pose a safety threat or fire risk. These trees have been designated for removal.

Also, during the course of this inspection, data on live trees was collected including species, DBH and estimated total height. Data sheets are included in Section 5 of this THP. Data on live trees located within the project development area was summarized to create a stand and stock table.

Of the 80 acres included in the conversion, the project development and fuel treatment footprint covers approximately 55 acres of which an estimated 45 acres has an overstory canopy of trees. Within this 45 acres, a total of 1352 trees were identified with a total basal area of 4165 sq.ft. Average basal area per acre of overstory trees greater than 9” in diameter is estimated to be approximately 93 sq.ft./acre. Live tree stem counts and total basal area by diameter class and species is summarized in the following table.

Stand Summary Data-Total Trees by Species and Diameter and Total Basal Area

DBH	PP	SP	IC	DF	BO	WF	Total#	Total BA
8-11	12	11	6	31	1	0	61	35.09
12-18	101	51	114	182	9	0	457	593.43
19-25	76	36	101	178	17	5	413	1,105.51
26-32	67	25	50	105	15	0	262	1,161.28
33-39	18	18	34	38	7	2	117	775.59
40+	1	0	29	8	4	0	42	494.10
Totals	275	141	334	542	53	7	1,352	4,165.00

The data indicated a basal area species mix of 18% ponderosa pine, 9% sugar pine, 37% Douglas-fir, 31% incense cedar, 5% California Black Oak, and less than 1% white fir. Sixty-eight percent of the basal area on the project area is in trees 24” and greater in diameter. The Alley Tree report is included in Section V of the THP.

IV.1.6 Fuel Model Type

Current fuel model conditions reflect Fire Behavior Fuel Model 10 as described in Anderson 1982 “Aids to Determining Fuel Models for Estimating Fire Behavior”. Sample plots were established in the western portion of the project area to determine the fuel loading associated with down fuels over 3” in small end diameter and 4’ in length. Plots were placed in this portion of the project area based on observed high levels of surface fuels and the planned location of tent platforms and other infrastructure. Based on a sample of 10 plots, dead and down fuels > 3” in diameter ranged from 3 to 53 tons per acre and averaged approximately 19 tons per acre. While fuels less than 3” in diameter were not measured, it was noted there is a significant quantity of slash from the salvage logging mixed in with the larger fuels. Quantity of fuels between 1 and 3

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inches is estimated to contribute an additional 3 to 10 tons per acre of fuel load. Surface litter and fuel bed is estimated to be less than 3" in depth and consists primarily of limbs and slash from salvage harvest operations. These fine fuels cover approximately 10% to 20% of the surface. Live fuels post Rim Fire are generally less than 1 foot in height and cover approximately 40% of the surface area. Based on measured and observed fuel levels, fires are expected to burn with greater intensity than would be typical of this Fuel Model Type (Rim Fire EIS, 2013, Table 3.05-10). Without fuel reductions, rate of spread and flame length are likely to exceed the upper limits of control by direct attack methods.

IV.1.7 Planned Treatment to reduce Fuel Loading and Reduce Hazard to Guests.

Within the area covered by the planned development of recreational facilities, a fuel reduction prescription will be utilized. The same fuel reduction prescription will be utilized on areas of the conversion where treatment is needed to ensure guest safety and reduce fire risk. A total of 55 acres will receive fuel treatment. The intent of this treatment is to reduce the size and distribution of surface fuels to a level that would lead to fire behavior which would facilitate direct attack by firefighters. Project activities will be planned and implemented to retain all live green trees > 9" dbh outside of the road right-of-way, and remove dead standing trees and down logs less than 20" diameter on the small end. Green trees > 9" DBH to be retained in this area have been tagged by an arborist with numbered aluminum tags. Untagged green trees which are less than 9" in DBH and >20' tall will also be retained. Standing dead and dying trees to be removed will be marked by the arborist or the RPF in red glo paint

Surface and ladder fuels will be treated to reduce total fuels > than 3" in diameter and 4' to achieve a post-treatment level in these fuels of less than 5 tons per acre. This target will include retention of down logs greater than 20" on the small end and 20' in length. All other fuels greater than 3" in small end diameter and less than 20" in diameter on the small end will be chipped on site as part of the mastication process or removed to disposal areas on the project and chipped on site or chipped and/or hauled to a biomass facility. Down material less than 3" in diameter will be masticated to achieve a minimum post treatment standard that results in 80% of the material being less than 18" in length and at least 60% being less than 12" in length. In addition, mastication will remove live and dead brush throughout 85% of the treatment area and will also remove live ladder fuels from within the dripline of residual trees. Areas where live brush and/or seedlings, saplings, and poles will be retained will be identified by the ESA biologist or by the RPF prior to the start of operations. Post treatment depth of surface fuels shall be less than 3" over 80% of the treatment area.

For guest safety and fire considerations, all snags and dead and dying trees <26" in DBH are proposed for treatment within the project area. Snags noted on the project area are generally less than 18" in DBH and have deteriorated significantly since being killed during the 2013 Rim Fire. It is likely that a significant number of these snags will fall within the next five years. A small number of snags greater than 26" were noted on the project site along with a number of large old black oaks. These snags and black oaks will be retained unless removal is determined to be necessary based on guest safety considerations.

V. Assessment of Project Impacts

V.1.1 Project Impact Assessment Methodology

For purposes of assessing potential for significant adverse impacts associated with timber operations the following potential impacts were evaluated. The project would potentially have adverse impacts if:

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1. The project resulted in a significant impact to forest productivity.
2. The project resulted in a significant loss of soil productivity due to loss of soil through accelerated rates of erosion or soil compaction.
3. The project would adversely impact wildlife habitat.
4. The project would adversely impact sensitive species.
5. The project would increase fuel loads and increase fire severity on the project area.

V.1 Evaluation of Potential Project Impacts

V.1.1 Potential for Adverse Impacts to Forest Productivity: Removal of live trees will be limited to trees within the road right of way and those trees which the arborist determined pose a hazard to guests. Snags have been marked by the arborist and those snags <26” in dbh will be removed from the project site. Snags for the most part are trees that were damaged by the Rim Fire but not salvaged.

Impacts to forest productivity due to green tree removal will be minimal. To determine the number of healthy trees to be removed, all trees that fell within the staked right of way and clearing limits were tallied and measured. A total of 45 trees will be removed. This represents less than 3% of the total number of live trees on the project area.

V.1.2 Mitigation of Impacts: Given the limited tree removal, impacts to forest productivity attributable to the project are unlikely and no mitigation was determined to be necessary to mitigate impacts to forest productivity that will occur with tree removal associated with conversion activities.

V.1.3 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

V.2 Potential adverse impact to soil productivity due to loss of soil through accelerated rates of erosion or soil compaction.

V.2.1 Assessment of Potential Adverse Impacts of Mastication Timber Operations on Soil Productivity: Observations of existing site conditions did not indicate gully or rill erosion development on the burned and salvaged areas. Vegetation on the project site has rebounded significantly as well. Transport of sediment from areas disturbed during the 2013 Rim Fire and subsequent salvage logging likely moderated significantly the year following the Rim Fire. Vegetation reoccupied these disturbed sites quickly and lessened the potential for overland flows that could lead to overland flows and erosion. Development of vegetation also likely accelerated the breakdown of hydrophobic soil layers, particularly where grasses reoccupied most of the more heavily impacted near stream areas. Vegetation recovery and ground cover in the six years since the Rim Fire has restored ground cover and eliminated areas of exposed soils.

Use of heavy equipment for salvage logging or tree removal has the potential to 1) increase compaction, 2) reduce infiltration rates and 3) increase movement of sediment. Impacts occur in areas of the logged sites that are subject to multi-pass trips by heavy equipment while skidding logs to landings (Demirtas, 2017). Areas outside of skid roads generally are not significantly impacted during operations. Mastication operations differ from conventional harvesting operations in two significant ways. First, the heavy equipment is not used to move logs to landing areas for chipping. This eliminates the need for multi-pass

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skid trails. Second, the mastication equipment will create a cushion of treated material over which machinery will operate. This further reduces the potential for soil compaction, provides for soil cover, and reduces the potential for sediment movement on the site.

Mastication was selected as the preferred treatment method based on the efficacy of achieving goals relative to post treatment fire behavior (Jain et.al.,RMRS-GTR-292, 2012). Given the current condition and distribution of the fuels on the project area, options for skidding and removal are limited. Mastication operations will be focused on treating existing down logs and snags less than 20” in diameter. Treated material will remain onsite. Existing live conifers and resprouting black oak clumps will also be retained to the extent feasible. Other live vegetation consisting of bear clover and a mixture of whiteleaf manzanita, Greenleaf manzanita, and deerbrush, while not specifically targeted, will be reduced 60 to 80% through mastication operations. Mastication is expected to result in a soil cover created by masticated material that will protect the underlying soil from displacement by raindrops. Masticated material will also create a rough surface that will promote infiltration of water.

Given the nature of the treated material on the ground surface and the natural permeability of soils on the project area, it is unlikely that surface flows that would contribute to rilling or gulying would develop. The treated material would also cushion the soil and would minimize the potential for equipment compaction of the soil surface. Further, reducing the size of fuels will retain nutrients on site and will contribute to more rapid decomposition and reincorporation of nutrients and carbon into the soil. (Jain, et. al RMS-GTR-292, 2012). The primary negative impact relative to mastication will be the short-term potential for the deeper layer of fine materials to create a fuel bed that would increase smoldering fires. These types of fires can lead to higher soil temperatures through exposure to longer duration of heat. This potential impact would be relatively short lived (5-8 years) and benefits of this treatment outweigh the negatives. In addition, the likelihood of a significant fire developing in the Rim Fire footprint over the next 5 to 8 year period on Forest Service Lands adjacent to the project area are minimal given implementation of the Rim Fire Restoration actions and treatments (Rim Fire Recovery EIS, 2014, pages 162-164).

V.2.2 Mitigations of Potential Adverse Impacts: Impacts to soils are not likely under the treatment proposed. Multi-pass skid trails will not be needed to achieve fuel treatment goals and treated material will provide a layer of treated material that will minimize exposed soil. Where soil is exposed the treatment will reduce the potential for movement of displaced sediment across the treated area through entrainment of sediment in areas which are covered by treated material.

V.2.3 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

V.3 Potential for Adverse Impacts of Mastication Timber Operations on Wildlife Habitat, Special status wildlife species, riparian habitat, bats, and Riparian Habitats

The following discussion reflects the information and analyses of potential impacts by ESA wildlife biologists in addition to observations of the RPF. The discussion is focused on adverse project impacts primarily related to the Timber Harvesting Plan and Timberland Conversion. A more detailed discussion of potential project impacts and mitigations can be found in the EIR for this project.

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V.3.1 Potential for Adverse Impacts of Mastication Timber Operations on Wildlife Habitat

V.3.1.1 Current wildlife habitat conditions: As was discussed previously, understory vegetation throughout the project area was significantly impacted by the 2013 Rim Fire. Post fire species composition of undertory vegetation consists of brush dominated by bear clover (*Chamabatia foliosa*) and a mixture of grasses. Both whiteleaf manzanita (*Arctostaphylos viscidica*) and green leaf manzanita (*Arctostaphylos patula*) were also noted as scattered individual plants throughout the project area along with a component of deerbursh (*Ceanothus intergerimus*) which dominated the southeast portion of the slopes adjacent to the Class II watercourse.

Overstory vegetation is a mixture of conifer species and black oak. Tree heights of dominant trees are generally 95' to 100'. Canopy density is light to moderate and is estimated to average around 40% canopy closure in areas west of the Class II watercourse. Age of dominant trees based on ring counts of stumps is estimated to be 90 to 110 years.

Mature mixed conifer forests such as those located on the project area provide habitat for a variety of wildlife species. These mature forests are also valuable to a variety of cavity nesting birds. Mature oaks such as those present on the project also produce important mast crops that are an important food source for many birds and mammals.

Large mammals known or expected to occur in the project vicinity include coyote (*Canis latrans*), black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*), mountain lion (*Puma concolor*), and bobcat (*Lynx rufus*). Smaller mammals include the golden-mantled ground squirrel (*Callospermophilus lateralis*), California ground squirrel (*Otospermophilus beecheyi*), western gray squirrel (*Sciurus griseus*), several species of chipmunks (*Tamias* spp.), deer mouse (*Peromyscus maniculatus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and porcupine (*Erethizon dorsatum*). Reptiles expected to occur in the project site include western fence lizard (*Sceloporus occidentalis*) and northern alligator lizard (*Elgaria coerulea*), while amphibians include Sierran treefrog (*Pseudacris sierra*). A wide variety of bird species would potentially utilize habitat types in the project site for nesting and foraging. These include Stellar's jay (*Cyanocitta stelleri*), mountain quail (*Oreortyx pictus*), Lewis's woodpecker (*Melanerpes lewis*), northern flicker (*Colaptes auratus*), olive-sided flycatcher (*Contopus cooperi*), western wood-pewee (*Contopus sordidulus*), and raptors such as red-tailed hawk (*Buteo jamaicensis*) and sharp-shinned hawk (*Accipiter striatus*).

In addition, ESA biologists concluded that the project site and surrounding area could potentially be used by a variety of wildlife species for dispersal and seasonal migration. The project site is located in an area of "connections with implementation flexibility" according to the CDFW's Essential Habitat Connectivity natural landscape blocks (CDFW, 2020e). This category includes areas that have been identified as having connectivity importance, but have not been identified as channelized areas, species corridors, or habitat linkages at this time. Similarly, the site and the surrounding area were not identified as an area of Essential Habitat Connectivity in the County's 2018 EIR for the General Plan Update Tuolumne County, 2018a). Further, the Tuolumne County Deer Herds and Migration Map prepared in support of the General Plan Update's EIR shows the nearest deer migration route for the Yosemite Migrant Deer Herd as occurring approximately one mile west of the project site (Tuolumne County, 2018b).

V.3.1.2 Planned modifications of Wildlife Habitat on the Project Area: Overstory trees within the project area will be retained except where they fall within the road right-of-way. As discussed

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previously, understory conifers <9” dbh were killed over a significant portion of the project area during the Rim Fire. The resulting forest structure consists predominantly of an overstory of large conifers with an understory consisting predominantly of bear clover, grasses and regenerating brush and conifers

Treatment of fuels will include mastication dead woody material and brush to reduce fuel loads. Bear clover is the dominant ground cover in the main portion of the project area. Coverage of bear clover ranges from 20 to 60% with plants approximately 6” to 12” in height. Grass cover is more variable with grass present throughout the project area and dominant on the southwest slope east of the Class II watercourse.

Bear clover sprouts vigorously from rhizomes when the top of the plant is removed and will quickly reoccupy treated sites. It is anticipated that bear clover sprouting and reoccupation of previously occupied areas on the treated project area will begin within 1 month of treatment. Grasses will recover a bit more slowly with a return to current levels of site occupancy by the spring of the year following the mastication treatment. Other brush species such as whiteleaf manzanita and green leaf manzanita will recover significantly slower. Black oak sprouts are scattered throughout the project area and should be avoided in order to allow sprouts which initiated after the Rim Fire to continue to grow and become part of the post-fire stands that develop in more open areas.

Also, as discussed previously, the Rim Fire did result in almost complete mortality of mature brush and saplings and pole sized trees. Given the importance of these habitat elements to migratory songbirds, retention of areas of regenerating brush within the fuel treatment areas is recommended.

Additionally, snags and dying trees are proposed for mastication within the project area. Large snags are of particular importance and should be retained on the project area where safety considerations allow. A total of 511 snags or dying trees were marked for removal by Davey Tree’s Certified Arborist. Snags noted during site visits on the project area are generally less than 18” in DBH and have deteriorated significantly since being killed during the Rim Fire. It is likely that a significant number of these snags will fall over the next five years. A small number of snags greater than 36” were noted on the project site along with a number of large old black oaks.

V.3.1.3 Potential for adverse impacts to Wildlife Habitat: Large snags and decadent black oaks are valuable wildlife habitat resources, develop slowly, and are hard to replace on the landscape. Wildlife use of snags is related to the internal and external characteristics of the snag (Jain, et. al. 2012). While it is recognized that the project footprint is relatively small and the presence of large snags on the project site is relatively low, the significant value of large snags to a variety of wildlife species should be recognized (Forestland Steward, 2010). In addition, large woody debris on site can provide important habitat to wildlife species (Peterson, et.al, 2009).

Another key element contributing to quality of wildlife habitat is presence of black oak. Given the impact of the Rim Fire, mortality of mature black oaks was high and black oak stocking is primarily from sprouting. Without specific measures to protect oak sprouts, sprouts would be susceptible to loss during mastication operations. Given the value of black oak to wildlife species protection of oak sprout clumps is clearly warranted. To avoid potential impacts to sprouting black oak the following mitigation will be incorporated into the operational limitations to be conducted under this Conversion Timber Harvesting Plan and project EIR.

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V.3.1.4 Mitigations to Avoid Potential Adverse Impacts: Given the value of larger snags and black oak, the following mitigations will be incorporated into this Timber Harvesting Plan.

Mitigation TO-1- Snags > 26" dbh and all living black oak trees > 8" in dbh and 20' in height shall be retained unless a determination is made by a certified arborist in consultation with the project biologist that removal is absolutely necessary to protect life and property.

Mitigation TO-2-Removal of dead black oaks >15" in dbh within the masticated areas or those black oaks marked for retention by the RPF within the road right of way shall be avoided and the road alignment adjusted to avoid individual black oak trees which meet the diameter retention threshold.

Mitigation TO-3-Mastication shall avoid black oak sprouts. Dead standing black oak boles > 3' in height and less than 15" in DBH shall be masticated while avoiding black oak sprouts, if present.

It is also recognized that understory vegetation is important to a number of wildlife species for cover, perching, nesting and foraging (Peterson, et.al., 2009). Impacts from the Rim Fire have resulted in significant reduction of understory vegetation. In the six year period since the Rim Fire, understory is developing over most of the site. Mastication operations have the potential to set back development of understory throughout the project area. While this may be appropriate within the immediate vicinity of roads and camping infrastructure, retention of pockets of developing understory is warranted to minimize impacts. To ensure retention of areas of developing understory the following mitigations will be applicable to mastication operations conducted under the timber harvesting plan.

Mitigation TO-4- The mastication treatment shall avoid designated understory retention areas as flagged on the ground by the project wildlife biologist or Registered Professional Forester. Retention areas shall be focused on creating minimum patch sizes of 15' in diameter and, where available, shall be placed in areas with a mix of brush species, grasses and conifer seedlings.

Mitigation TO-5- Retain all down stem material > 20" in small end diameter outside bark and greater than 20' in length on site up to a maximum of three pieces per acre. Down logs which meet this description may be moved to other areas within the project area as necessary to achieve fire reduction and guest safety objectives.

With implementation of these mitigation measures, adverse impacts to existing habitat associated with the mastication operations are unlikely.

V.3.1.5 Significance After Mitigation: Implementation of **Mitigation Measures TO-1, TO-2, TO-3, TO-4 and TO-5** would minimize potential direct and indirect impacts on wildlife habitats during timber harvesting operations and construction activities to a less-than-significant level.

V.3.1.6 Required Mitigation-Measures TO-1, TO-2, TO-3, TO-4 and TO-5.

V.3.2 Assessment of Potential Adverse Impacts of Mastication Timber Operations on Special Status Wildlife Species.

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V.3.2.1 Identification of potentially impacted special status species: Special-status species are legally protected under the state and federal Endangered Species Acts or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]);
- Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (61 FR 40, February 28, 1996);
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);
- Animal species of special concern to CDFW;
- Animals fully protected under Fish and Game Code (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]);
- Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as “rare or endangered” even if not on one of the official lists (State CEQA Guidelines, Section 15380); and
- Plants considered under the CNPS and CDFW to be “rare, threatened or endangered in California” (California Rare Plant Rank [CRPR] 1A, 1B, and 2 in CNPS, 2020).

A list of special-status species that have the potential to occur within the vicinity of the project site was compiled by ESA biologists based on data contained in the CNDDDB (CDFW, 2020a), the USFWS list of federal endangered and threatened species that occur in or may be affected by the proposed project (USFWS, 2020a), and the CNPS Inventory of Rare and Endangered Plants (CNPS, 2020). A list of special-status species, their general habitat requirements, and an assessment of their potential to occur within and adjacent to the project site is provided in the following table.

The “Potential to Occur” categories are defined as follows:

Unlikely: The project site and surrounding area does not support suitable habitat for a particular species and/or the project site is outside of the species known range; or, species-specific protocol-level surveys were conducted on the project site for the species and the results were negative;

Low Potential: The project site and/or adjacent area provides only limited amounts and low quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project vicinity;

Medium Potential: The project site and/or adjacent area provides suitable habitat for a particular species; and

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High Potential: The project site and/or adjacent area provide ideal habitat conditions for a particular species and/or known populations occur in the within the project site and adjacent area.

REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
Fish			
<i>Hypomesus transpacificus</i> Delta smelt	FT/SE/--	Found in the Sacramento-San Joaquin delta, Suisun Bay, Carquinez Strait, and San Pablo Bay.	Unlikely. No suitable habitat within the project site. Project site outside of geographic range.
Amphibians			
<i>Anaxyrus canorus</i> Yosemite toad	FT/CSC/--	In the vicinity of wet meadows in the central High Sierra, 6,400 to 11,300 feet in elevation. Primarily montane wet meadows; also in seasonal ponds associated with lodgepole pine and subalpine conifer forest.	Unlikely. No suitable habitat within the project site. Project site outside of elevation range of the species.
<i>Hydromantes brunus</i> limestone salamander	--/ST,CFP/--	Limestone outcrops in foothill-pine-chaparral belt along the Merced River and its tributaries, from 800 to 2,600 feet in elevation. California buckeye is an indicator of optimal habitat. Seeks cover in limestone caverns, talus, rock fissures, and surface objects.	Unlikely. No suitable habitat within the project site. Project site outside of elevation range of the species.
<i>Rana boylei</i> Foothill yellow-legged frog	--/SCT,CSC/--	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying.	Unlikely. No suitable habitat within the project site. Drainages onsite are ephemeral, seasonally dry, and have no in-stream vegetation to provide cover and breeding habitat.
<i>Rana draytonii</i> California red-legged frog	FT/CSC/--	Breeds in slow moving streams, ponds, and marshes with emergent vegetation and an absence or low occurrence of predators.	Unlikely. No suitable habitat within the project site. Drainages onsite are ephemeral, seasonally dry, and have no in-stream vegetation to provide cover and breeding habitat.
<i>Rana sierrae</i> Sierra Nevada yellow-legged frog	FE/ST/--	Streams, lakes, and ponds in montane riparian habitats. Always encountered within a few feet of water. Tadpoles may require 2–4 years to complete their aquatic development.	Unlikely. No suitable habitat within the project site. Perennial water features are not present within the project site.
Reptiles			
<i>Emys marmorata</i> western pond turtle	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	Unlikely. No suitable habitat within the project site. Perennial water features are not present within the project site.

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
Birds			
<i>Accipiter gentilis</i> northern goshawk	--/CSC/--	Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Medium. The project site provides suitable habitat for this species.
<i>Empidonax traillii</i> willow flycatcher	--/SE/--	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters, from 2,000 to 8,000 feet. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	Unlikely. No suitable habitat within the project site.
<i>Falco peregrinus anatum</i> American peregrine falcon	--/CFP/--	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, and mounds as well as human-made structures. Nest consists of a scrape or depression or ledge in an open site.	Unlikely. No suitable habitat within the project site.
<i>Haliaeetus leucocephalus</i> Bald eagle	BEPA/SE, CFP/--	Found at lakes, reservoirs, river systems, and coastal wetlands. The breeding range is generally in mountainous areas near lake or river margins, where they find large trees (usually conifers) with open branches for nesting.	Low. The South Fork Tuolumne River is approximately 0.6-mile south of the project site. Marginal nesting trees within the project site.
<i>Strix nebulosa</i> great gray owl	--/SE/--	Occurs within old growth red-fir, mixed conifer, and lodgepole pine habitats above 4,500 feet. Most occurrences along the Tuolumne River and the Merced River in Yosemite Valley. Requires large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy micro-climate.	Unlikely. No suitable habitat within the project site.
<i>Strix occidentalis occidentalis</i> California spotted owl	--/CSC/--	Mixed conifer forest, often with an understory of black oaks and other deciduous hardwoods. Canopy closure greater than 40%. Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water.	Medium. The project site provides suitable habitat for this species.

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
Mammals			
<i>Antrozous pallidus</i> Pallid bat	--/CSC/--	A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. The species is most common in open, dry habitats with rocky areas for roosting. Roosts in buildings, caves, tree hollows, crevices, mines, and bridges.	Medium. Mature trees in the project site may provide suitable roosting habitat, and open areas within and adjacent to the project site provide suitable foraging habitat.
<i>Aplodontia rufa californica</i> Sierra Nevada mountain beaver	--/CSC/--	Dense growth of small deciduous trees and shrubs, wet soil, and an abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	Unlikely. No suitable habitat within the project site.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--/CSC/--	Found throughout California in a wide variety of habitats. Roost in caves, mines, tunnels with minimal disturbance but can also be found in abandoned open buildings or other human made structures. Extremely sensitive to human disturbance.	Unlikely. No suitable habitat within the project site.
<i>Euderma maculatum</i> spotted bat	--/CSC/--	Forages over water and along washes within a wide variety of habitats including grasslands, deserts, and mixed conifer forests. Roosts on rock crevices in caves or on cliffs.	Medium. Suitable foraging habitat present within the project site. Suitable roost sites are absent.
<i>Eumops perotis californicus</i> western mastiff bat	--/CSC/--	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral etc. Isolated occurrences in northern California. Roosts primarily in crevices within cliffs and canyons, occasionally in buildings. Primarily feeds on moths. Maternity colonies active May through July.	Medium. Suitable foraging habitat present within the project site. Suitable roost sites are absent.
<i>Lasiurus blossevillii</i> western red bat	--/CSC/--	Forages in a wide range of habitats but prefers habitat edges and mosaics with large trees that have open understories. Roosts primarily in trees.	Medium. Suitable roosting habitat is present in the mixed conifer forest. Suitable foraging habitat is present in areas of open understory of mixed conifer forest.
<i>Pekania pennanti</i> fisher – West Coast DPS	FP/ST,CSC/--	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs, and rocky areas for cover and denning. Needs large areas of mature dense forest.	Unlikely. No suitable habitat within the project site.

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
<i>Vulpes vulpes necator</i> Sierra Nevada red fox	FC/ST/--	Historically found from the Cascades down to the Sierra Nevada. Found in a variety of habitats from wet meadows to forested areas. Use dense vegetation and rocky areas for cover and den sites. Prefer forests interspersed with meadows or alpine fell-fields.	Unlikely. No suitable habitat within the project site.
Invertebrates			
<i>Bombus crotchii</i> Crotch bumble bee	--/SCE/--	Crotch bumble bee is nearly endemic to California, historically ranging across southern California, from the coast and coastal ranges, through the Central Valley, and to the adjacent foothills. This species inhabits open grassland and scrub habitats. Like all bumble bees, this species requires floral resources, and undisturbed nest sites and overwintering sites.	Unlikely. No suitable habitat within the project site. Project site outside of elevation range of the species.
<i>Bombus occidentalis</i> Western bumble bee	--/SCE/--	Formerly found in much of California, the Western bumble bee is now much reduced in abundance and mostly restricted to high elevation meadows or coastal environments. Western bumble bees nest, forage, and overwinter in meadows and grasslands with abundant floral resources. Like all bumble bees, this species requires floral resources, and undisturbed nest sites and overwintering sites.	Unlikely. No suitable habitat within the project site.
Plants			
<i>Agrostis humilis</i> mountain bent grass	--/--/2B.3	Meadows, seeps, and alpine boulder and rock fields in subalpine coniferous forest. Sometimes on carbonate soils. 8,750 – 10,500 feet. Blooms July to September.	Unlikely. No suitable habitat within the project site. Project site outside of elevation range of the species.
<i>Allium tribracteatum</i> three-bracted onion	--/--/1B.2	Volcanic slopes in coniferous forest and chaparral. 3,600 – 9,850 feet. Blooms April to August.	Unlikely. No suitable habitat within the project site.
<i>Allium yosemitense</i> Yosemite onion	--/--/1B.3	Rocky, metamorphic, or granitic soils in broadleafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. 1,750 – 7,200 feet. Blooms April to July.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	--/--/1B.2	Open grassy or rocky slopes in chaparral, cismontane woodland, and grasslands. Often on serpentine soils. 295 – 5,085 feet. Blooms March to June.	Unlikely. No suitable habitat within the project site.

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
<i>Brasenia schreberi</i> watershield	--/--/2B.3	Freshwater marshes and swamps. 100 – 7,200 feet. Blooms June to September.	Unlikely. No suitable habitat within the project site.
<i>Carex limosa</i> med sedge	--/--/2B.2	Freshwater bogs, fens, marshes, swamps, meadows, and seeps in montane coniferous forest. 3,900 – 8,850 feet. Blooms June to August.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Carex viridula</i> subsp. <i>viridula</i> green yellow sedge	--/--/2B.3	Freshwater bogs, fens, marshes, and swamps. Also found in North Coast mesic forests. 0 – 5,250 feet. Blooms June to November.	Unlikely. No suitable habitat within the project site.
<i>Cinna bolanderi</i> Bolander's woodreed	--/--/1B.2	Streambanks and other mesic sites such as meadows and seeps in upper montane coniferous forest. 5,500 – 8,000 feet. Blooms July to September.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Clarkia australis</i> Small's southern clarkia	--/--/1B.2	Open, rocky sites in Sierra Nevada yellow pine forest. 2,625 – 6,800 ft. Blooms May to August.	Unlikely. No suitable habitat within the project site.
<i>Clarkia biloba</i> subsp. <i>australis</i> mountain bent grass	--/--/1B.2	Chaparral and woodlands of the Sierra Nevada Foothills. Sometimes on serpentine. 985 – 4,790 ft. Blooms May to July.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Clarkia lingulata</i> Mariposa clarkia	--/--/1B.1	Chaparral and cismontane woodland. 1,300 – 1,500 feet. Blooms May to June.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Diplacus pulchellus</i> yellow-lip pansyflower	--/--/1B.2	Vernally mesic, often disturbed sites on clay soils. Meadows and seeps within lower montane coniferous forest. 2,000 – 6,500 feet. Blooms April to June.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Eriophyllum congdonii</i> Congdon's woolly sunflower	--/--/1B.2	Rocky, metamorphic soils in chaparral, cismontane woodland, lower montane coniferous forest, and grasslands. 1,650 – 6,250 feet. Blooms April to June.	Unlikely. No suitable habitat within the project site.
<i>Eriophyllum nubigenum</i> Yosemite woolly sunflower	--/--/1B.3	Gravelly, granitic soils in chaparral and montane coniferous forest. 5,000 – 9,000 feet. Blooms May to August.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Erythranthe filicaulis</i> slender-stemmed monkeyflower	--/--/1B.2	Vernally mesic sites such as meadows and seeps in woodland and coniferous forest. 2,950 – 5,750 feet. Blooms April to August.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Erythronium taylorii</i> Pilot Ridge fawn lily	--/--/1B.2	Metamorphic, rocky soils on cliffs in lower montane coniferous forest. 4,400 – 4,600 feet. Blooms April to May.	Unlikely. No suitable habitat within the project site.

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
<i>Erythronium tuolumnense</i> Tuolumne fawn lily	--/--/1B.2	Broadleaf upland forests, chaparral, cismontane woodland, coniferous forests 1,675 – 4,475 feet. Flowering period: Mar–June.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Horkelia parryi</i> Parry's horkelia	--/--/1B.2	Open chaparral on lone formation and limestone soils. 260 – 3,510 feet. Blooms April–September.	Unlikely. No suitable habitat within the project site.
<i>Hulsea brevifolia</i> short-leaved hulsea	--/--/1B.2	Granitic, volcanic, gravelly, or sandy soils in coniferous forest. 4,900 – 10,500 feet. Blooms May to August.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Lewisia congdonii</i> Congdon's lomatium	--/--/1B.3	Granitic and metamorphic soils on rocky, mesic sites in chaparral, woodland, coniferous forest, and grassland. 1,650 – 9,200 feet. Blooms April to June.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Lomatium congdonii</i> Congdon's lomatium	--/--/1B.2	Serpentine soil in chaparral, cismontane woodland. 985 – 6,890 feet. Blooms Mar–Jun.	Unlikely. No suitable habitat within the project site.
<i>Lupinus spectabilis</i> shaggyhair lupine	--/--/1B.2	Serpentine soil in chaparral and woodland of the Sierra Nevada foothills. 855 – 2,700 ft. Blooms Apr–May.	Unlikely. No suitable habitat within the project site.
<i>Mielichhoferia shevockii</i> Shevock's copper moss	--/--/1B.2	Found on metamorphic rock, usually acidic, usually vernal mesic, sometimes carbonate. 0 – 6,450 feet.	Unlikely. No suitable habitat within the project site.
<i>Orthotrichum holzingeri</i> Holzinger's orthotrichum moss	--/--/1B.3	Usually on rocks in and along streams, rarely on tree limbs. 2,350 – 5,900 feet.	Unlikely. No suitable habitat within the project site.
<i>Plagiobothrys torreyi</i> var. <i>torreyi</i> Yosemite popcornflower	--/--/1B.2	Meadows and seeps in lower montane coniferous forest. 3,950 – 4,500 feet. Blooms April to June.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Potamogeton ephedrus</i> Nuttall's ribbon-leaved pondweed	--/--/2B.2	Marshes and swamps and assorted shallow freshwater habitats. 1,200 – 7,125 feet. Blooms June to September.	Unlikely. No suitable habitat within the project site.
<i>Potamogeton robbinsii</i> Robbin's pondweed	--/--/2B.3	Deep water in lakes, marshes, and swamps. 5,000 – 10,800 feet. Blooms July to August.	Unlikely. No suitable habitat within the project site.
<i>Rhynchospora californica</i> California beaked rush	--/--/1B.1	Bogs, fens, marshes, swamps, meadows, and seeps in coniferous forests. 150 – 3,300 feet. Blooms May to July.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.
<i>Rhynchospora capitellata</i> brownish beaked rush	--/--/2B.2	Mesic sites such as meadows, seeps, marshes, and swamps in coniferous forest. 150 – 6,500 feet. Blooms July to August.	Unlikely. Suitable habitat is present within the project site. However, species not observed during focused botanical surveys conducted in 2019.

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name Common Name	Listing Status USFWS/ CDFW/CNPS	General Habitat	Potential to Occur in the Project Site or Adjacent Area
<i>Schoenoplectus subterminalis</i> water bulrush	--/--/2B.3	Montane lake margins. 2,450 – 7,400 feet. Blooms June to September.	Unlikely. No suitable habitat within the project site.

STATUS CODES:

FEDERAL (U.S. Fish and Wildlife Service):

- BEPA = Bald Eagle Protection Act
- FE = Listed as Endangered by the Federal Government
- FT = Listed as Threatened by the Federal Government
- FP = Proposed for Federal Listing
- FC = Candidate for Federal Listing

STATE (California Department of Fish and Wildlife):

- SE = Listed as Endangered by the State of California
- ST = Listed as Threatened by the State of California
- SCE = Candidate for State Listing (Endangered)
- SCT = Candidate for State Listing (Threatened)
- CSC = California species of special concern
- CFP = California fully protected bird species

California Native Plant Society (CNPS):

- Rank 1A = Plants presumed extirpated in California and either rare or extinct elsewhere
- Rank 1B = Plants rare, threatened, or endangered in California and elsewhere
- Rank 2A = Plants presumed extirpated in California but common elsewhere
- Rank 2B = Plants rare, threatened, or endangered in California but more common elsewhere
- Rank 3 = Plants about which more information is needed
- Rank 4 = Plants of limited distribution

CNPS Code Extensions

- .1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 = Fairly threatened in California (20-80% occurrences threatened)
- .3 = Not very threatened in California (less than 20% of occurrences threatened or no current threats known)

SOURCE: CDFW, 2020a; USFWS, 2020a; CNPS, 2020

Conclusions regarding habitat suitability and species occurrence are based on the analysis of existing literature and databases described previously and known habitats occurring within the project site and regionally.

In addition to the NDDDB database queries, ESA botanists conducted focused botanical surveys. The surveys were conducted by botanist Joshua Boldt on May 9 and July 16, 2019. Conditions at the time of the surveys were typical for spring (May 2019) and summer (July 2019) in Tuolumne County. The surveys conducted in May and those conducted in July each encompassed the entirety of the study area, meaning the entire study area was surveyed once in the spring and once in summer. The timing of the surveys corresponded to the flowering season of all species with at least moderate potential to occur in the study area. All surveys were conducted on foot by walking systematic or meandering transects affording complete visual coverage of the study area. The survey was floristic in nature, meaning that every plant taxon that occurred in the floristic survey area at the time of the survey was identified to the taxonomic level necessary to determine rarity and listing status. Plant taxa not identified in the field were collected and identified in the laboratory at a later date. All plants were identified using *The Jepson Manual: Vascular Plants of California (Second Edition)* (Baldwin et al., 2012). The surveys followed the procedures described in the California Department of Fish and Wildlife’s *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2018). Plant nomenclature follows *The Jepson Manual: Vascular Plants of California (Second Edition)* (Baldwin et al., 2012) as revised by the Jepson eFlora (Jepson Flora Project,

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2020). Common names of plant species are derived from the Jepson Manual or Calflora (2020). Results of the surveys are summarized in the above table. No special status plant species were identified during the botanical surveys. Located in a reforested area and near a underburned older forest with views to the north of the Middle Fork of the Merced River, Foresta, and Yosemite National Park

Database queries identify 51 special-status plant and wildlife species records. Of these, 45 species were eliminated from further consideration based upon a lack of suitable habitat in the project site, the project site being outside the known range of the species, or protocol-level surveys were conducted on the project site for the species and the results were negative. Six special-status species have medium potential to occur in the project site or adjacent area. These species are described in further detail below. No special-status species have high potential to occur in the project site or adjacent area.

Northern Goshawk (*Accipiter gentilis*)

Status. California species of special concern

General Distribution. Northern goshawks occupy temperate and boreal forests throughout the northern hemisphere. In California, they breed in the north Coast Ranges through the Sierra Nevada, Klamath, Cascade, and Warner Mountains. They are year-round residents throughout all or most of their California range, although in winter some individuals remain on or near breeding territories while others migrate short distances to winter elsewhere. Throughout their range, they inhabit moderately dense coniferous forests broken by meadows and other openings. Within the Sierra Nevada, northern goshawks breed from approximately 2,500 feet in the ponderosa pine forests through approximately 10,000 feet in red fir and lodgepole pine forests, and throughout eastside pine forests on the east slope. Additionally, northern goshawks nest in aspen stands occurring within shrub vegetation types on the eastern slope of the Sierra Nevada and throughout the Great Basin.

Habitat Requirements. Throughout their range, whether at sea level or in alpine settings, northern goshawks nest in mature and old-growth forests with more than 60% closed canopy. Goshawks often build nests near breaks in the canopy, such as a forest trail, jeep road, or opening created by a downed tree, and prefer sites with a creek, pond, or lake nearby. Northern goshawks forage in mature and old-growth forests that have relatively dense canopies and open understories but also hunt among a variety of vegetative cover, including meadow edges. Goshawks hunt from tree perches, scanning the ground and lower canopy for prey. As such, an open understory improves the chances of detection and capture of prey.

Status in the Project Site. Suitable nesting habitat for northern goshawk occurs within the mixed conifer forest on and adjacent to the project site. In addition, the project site and surrounding area supports foraging habitat for this species. There are no records of northern goshawk from the CNDDDB within five miles of the project site (CDFW, 2020a). This species was not observed during the reconnaissance-level biological surveys conducted for the proposed project.

California Spotted Owl (*Strix occidentalis occidentalis*)

Status. California species of special concern

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General Distribution. The California spotted owl is continuously distributed throughout the forests of the western Sierra Nevada mountains, from Shasta County south to the Tehachapi Pass. There is a gap in the distribution south of the Sierras, and California spotted owls again occur in southern and central coastal California. Just north of Lassen Peak to south of the Pit River, the range of California spotted owl transitions into that of the northern spotted owl. The owl resides in forest habitats at elevations of below 1,000 feet along the coast to as high as 8,500 feet inland. The Sierra Nevada offers the only extensive, nearly continuous habitat for the California spotted owl and is of critical importance for protecting this subspecies.

Habitat Requirements. California spotted owls generally inhabit older forests that contain structural characteristics necessary for nesting, roosting, and foraging. Nests are typically found in areas of high canopy cover, with a multi-layered canopy, old decadent trees, a high number of large trees, and coarse downed woody debris. Within an owl territory, spatial heterogeneity to some degree is important for foraging habitat. The California spotted owl is strongly associated with areas of mature and old forest with thick canopy that contains many dense, old, live, and dead trees and fallen logs. Spotted owls prey mainly on small to medium-sized mammals, primarily rodents in the Sierra Nevada. It mostly consumes northern flying squirrels (*Glaucomys sabrinus*) in the higher elevations (conifer forests) and woodrats (*Neotoma* spp.) at lower elevations (burned mixed-conifer, oak woodlands, and riparian forests) and throughout southern California. Downed woody debris in higher-elevation forests of the Sierra Nevada is strongly associated with underground fungi, which are important food for spotted owl prey species, such as northern flying squirrels.

Status in Project Site. Suitable nesting habitat for California spotted owl occurs within the mixed conifer forest on and adjacent to the project site. In addition, the project site and surrounding area supports foraging habitat for this species. There are 14 records of California spotted owl “activity centers¹” from the CNDDDB within five miles of the project site, the most recent from 2010 (CDFW, 2020a). This species was not observed during the reconnaissance-level biological surveys conducted for the proposed project.

Pallid Bat (*Antrozous pallidus*)

Status. California species of special concern

General Distribution. The pallid bat is found from southern British Columbia and Montana to central Mexico and Cuba, and east to Texas, Oklahoma, and Kansas. Throughout California, the species inhabits primarily low to mid elevations, although it has been found up to 11,000 feet in the Sierra Nevada. Habitats range from desert to coniferous forest and broadleaved woodlands.

Habitat Requirements. This species is quite versatile in its choice of roosting sites and has been documented using tree hollows (both oak and ponderosa pine), rock crevices, caves, abandoned mines, and other anthropogenic structures such as buildings and bridges. This species is gregarious and roosts in nursery colonies of typically between 30 and several hundred individuals. The pallid bat feeds primarily on large, flightless arthropods such as scorpions, Jerusalem crickets, cicadas, wolf spiders, and centipedes. Large cerambycid beetles are also major prey items.

Status in Project Site. Suitable roosting habitat for pallid bat occurs within the mixed conifer forest on and adjacent to the project site. In addition, the project site and surrounding area supports foraging habitat for

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this species. There are four records of pallid bat from the CNDDDB within five miles of the project site, the most recent from 1999 (CDFW, 2020a). This species was not observed during the reconnaissance-level biological surveys conducted for the proposed project.

Spotted Bat (*Euderma maculatum*)

Status. California species of special concern

General Distribution. Although considered one of North America's rarest mammals, the spotted bat is widely distributed throughout much of the western United States, with its range extending as far north as southern British Columbia and as far south as Durango, Mexico. In the Sierra Nevada, spotted bats are widely distributed in habitats ranging from desert scrub to montane coniferous forest, with acoustic detections at elevations up to 9,800 feet.

Habitat Requirements. Limited information suggests that spotted bats do not roost in colonies and roost predominantly in crevices in caves or on cliffs. Surveys in the Sierra Nevada suggest that they are most abundant in areas with fractured rock. The spotted bat is capable of long distance and rapid flight, thus foraging ranges can be large. In montane habitats, the spotted bat forages over meadows, along forest edges, or in open coniferous woodland. Spotted bats feed primarily on large moths.

Status in Project Site. Suitable foraging habitat for spotted bat occurs within the mixed conifer forest on and adjacent to the project site. There is no suitable roosting habitat for this bat species in the project site or adjacent area. There is a single record of spotted bat from the CNDDDB within five miles of the project site. This occurrence was recorded in 1999 (CDFW, 2020a). This species was not observed during the reconnaissance-level biological surveys conducted for the proposed project.

Western Mastiff Bat (*Eumops perotis californicus*)

Status. California species of special concern

General Distribution. The subspecies of western mastiff bat that occurs in North America, *E. p. californicus*, ranges from central Mexico across the southwestern United States (parts of California, southern Nevada, Arizona, southern New Mexico and western Texas). The western mastiff bat is found along the west side of the Sierra Nevada, primarily at low to mid-elevations but has been detected up to 9,800 feet in the summer.

Habitat Requirements. Western mastiff bats are found in a variety of habitats, from desert scrub and chaparral to montane coniferous forest. Its presence is determined by the availability of significant rock features offering suitable roosting habitat. This species may forage in flocks, and can forage considerable distances from their roosting sites. Foraging habitats include dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, agricultural areas, and high-elevation meadows surrounded by mixed-conifer forests. The diet of western mastiff bats consists primarily of moths but also includes beetles, crickets, and katydids.

Status in Project Site. Suitable foraging habitat for western mastiff bat occurs within the mixed conifer forest on and adjacent to the project site. There is no suitable roosting habitat for this bat species in the

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project site or adjacent area. There are four records of western mastiff bat from the CNDDDB within five miles of the project site, the most recent from 1999 (CDFW, 2020a). This species was not observed during the reconnaissance-level biological surveys conducted for the proposed project.

Western Red Bat (*Lasiurus blossevillii*)

Status. California species of special concern

General Distribution. The western red bat is broadly distributed from southern British Columbia in Canada, through much of the western United States, through Mexico and Central America, to Argentina and Chile in South America. In California, the majority of records are from the coastal areas from the San Francisco Bay Area south, plus the Central Valley and bordering foothills, with a limited number of records from southern California extending as far east as western Riverside and central San Diego Counties. There are a few records from higher elevations and the east side of the Sierra Nevada. Winter populations of both sexes are concentrated along the central and southern coast. Western red bats (most likely males or nonreproductive females) have been documented at elevations up to 8,200 feet in the Sierra Nevada.

Habitat Requirements. Western red bats roost on the underside of overhanging leaves, primarily in trees, and less often in shrubs. Roost sites are often in edge habitats adjacent to streams or fields. Preferred roost sites are protected from above, open below, and located above dark ground-cover. Red bats forage on a number of insect taxa and fly at both canopy height and low over the ground. The most important prey are moths, crickets, beetles, and cicadas.

Status in Project Site. Suitable roosting habitat for western red bat occurs within the mixed conifer forest on and adjacent to the project site. In addition, the project site and surrounding area supports foraging habitat for this species. There is a single record of western red bat from the CNDDDB within five miles of the project site. This occurrence was recorded in 1999 (CDFW, 2020a). This species was not observed during the reconnaissance-level biological surveys conducted for the proposed project.

Common Raptor Species

Common raptor species, such as the red-tailed hawk (*Buteo jamaicensis*), are not considered special-status species because they are not rare or protected under the federal or state Endangered Species Acts. However, nests of these species are protected under the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the California Fish and Game Code. Common raptor species may nest in trees located within the project site or in adjacent areas.

Common Migratory Birds

A large number of common bird species are migratory and are afforded protection under the MBTA. Occupied nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest.

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V.3.2.2 Assessment of the potential for adverse impacts to special status species: ESA biologists utilized the following criteria in determining if the proposed project could potentially result in a significant impact on the environment if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
2. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
3. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
4. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The ESA biological impact analysis focuses on foreseeable changes to the baseline condition and compares those changes to the significance criteria. Potential impacts are analyzed the using information presented above regarding habitats present in the project site or adjacent area, and the potential occurrence of special-status species.

V.3.2.3 Assessment of Potential impact due to loss of nesting habitat for special-status bird species, birds protected under provisions of the Migratory Bird Treaty Act, and other sensitive and/or protected bird species:

Habitats within and adjacent to the project site may support nesting birds, including two special-status species, northern goshawk (*Accipiter gentilis*) and California spotted owl (*Strix occidentalis occidentalis*), as well as more common migratory birds and raptors. Based on the latest project design plans, of the approximately 80-acre site, development would occur on about 55 acres of the site, with approximately 25 acres left fully undisturbed. The development area would include those areas identified for project facilities and fuel treatment areas. Within the development area, direct ground disturbing impacts from road construction and construction of camp facilities would occur on approximately 7.45 acres of mixed conifer forest and approximately 0.87 acre of previously disturbed habitat.

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Due to the recent wildfire history of the project site, much of the mixed conifer forest community in the project site is disturbed and does not support plant densities and diversity typical of undisturbed examples of this community type. Live trees would only be removed where necessary for construction of the project facilities. Typically, tent placement would not require tree removal, although any trees deemed to be a hazard to project facilities, guests, or employees would be removed. Davey Tree Service conducted an arborist inspection of the project site between March 9, 2019 and April 30, 2019, and a total of 511 dead standing trees (also referred to as “snags”) within the development area were assessed and determined to pose a safety threat. These trees are designated for removal. Approximately 1,307 live trees within the developed portion of the site would remain, as would substantial quantities of live trees on the undeveloped portions of the site.

Development of the proposed project could potentially result in the removal of trees and other vegetation which may serve as perching or nesting sites for special-status species and migratory birds, including raptors. Direct impacts on nesting raptors or migratory birds or their habitat such as removal of trees could result in substantial lowered reproductive success or habitat loss, thereby potentially adversely affecting local population levels. Additionally, human disturbances and noise from construction activities have the potential to cause nest abandonment and death of young or loss of reproductive success at active nests located near project activities. Raptor or bird species could be adversely affected if active nesting, roosting, or foraging sites are either removed or exposed to a substantial increase in noise or human presence during project activities.

The potential for adverse impacts would be reduced if construction activities occur during the non-breeding season (i.e., from September 1 through January 31). During the non-breeding season, it is anticipated that any migratory birds or raptors using trees as perching sites for foraging would vacate the site upon the initiation of construction activities. Further, disturbance of active nest sites which results in nest abandonment, loss of young, or reduced health and vigor of eggs and/or nestlings would have potentially significant adverse impacts. The direct removal of vegetation that supports nesting birds which result in killing of nestlings or fledgling bird species, or the loss of rookeries, would also be a potentially significant impact that would require mitigation. Because the presence or absence of special-status bird species had not been established with formal surveys, the following mitigations will be applicable to activities conducted under this Timber Harvesting Plan and to all activities associated with project development.

V.3.2.4 Mitigations of Potential Adverse Impacts-To avoid potential adverse impacts to special status birds and their habitat the following mitigations will be incorporated into this Timber Harvesting Plan.

Mitigation Measure TO-6 -Vegetation mastication operations, road construction, and other project related grading and tree removal, shall occur outside of the nesting season that encompasses all birds (September 16 through January 31), to the extent feasible. If vegetation removal begins during the nesting season (February 1 to September 15), a qualified biologist shall conduct a preconstruction survey for active nests in suitable nesting habitat within 500 feet of the construction area for nesting raptors and migratory birds (¼ mile for northern goshawk and California spotted owl). Areas that are inaccessible due to private property restrictions shall be surveyed using binoculars from the nearest vantage point. The survey shall be conducted by a qualified biologist no more than seven days prior to the onset of timber operations or construction. If no active nests are identified during the pre-construction survey, no further mitigation is necessary. If timber operations or construction activities begin prior to February 1, it is assumed that no

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birds would nest in the project site during active construction or timber harvesting activities and no pre-construction surveys are required. If at any time during the nesting season timber harvesting or construction stops for a period of two weeks or longer, pre-construction surveys shall be conducted prior to resuming timber operations or construction activities.

If active nests are found during the survey, the project proponent shall implement mitigation measures to ensure that the species would not be adversely affected, which would include establishing a no-work buffer zone as, approved by CDFW, around the active nest.

Measures shall include:

1. For trees with active nests, the project proponent shall conduct any tree removal activities required for project construction outside of the migratory bird breeding season (February 1 through August 31).
2. If active nests are found on or within 500 feet of the project site (¼ mile for northern goshawk and California spotted owl), then the project proponent shall establish no disturbance buffers for active nests of 250 feet for migratory bird species, 500 feet for non-listed raptor species, and ¼-mile for northern goshawk and California spotted owl, until the breeding season has ended, or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Depending on the conditions specific to each nest, and the relative location and rate of the timber harvesting or construction activities, it may be feasible for timber harvesting or construction to occur as planned within the buffer without impacting the breeding effort. Nests that are inaccessible due to private property restrictions shall be monitored using binoculars from the nearest vantage point. Timber harvesting or construction activities shall be halted at any time if, in the professional opinion of the biologist, activities are affecting the breeding effort.
3. Depending on conditions specific to each nest, and the relative location and rate of timber harvesting and construction activities, it may be feasible for timber harvesting and/or construction to occur as planned within the buffer without impacting the breeding effort. In this case (to be determined on a case-by-case basis), the nest(s) shall be monitored by a qualified biologist during timber harvesting or construction within the buffer. If, in the professional opinion of the monitor, the project would impact the nest, the biologist shall immediately inform the timber operator or construction manager and the project proponent shall notify CDFW. The timber operator or construction manager shall stop activities within the buffer until the nest is no longer active. Completion of the nesting cycle shall be determined by a qualified biologist. If timber operations or construction begins outside of the migratory bird breeding season (February 1 through August 31), then the project proponent is permitted to continue timber operation and construction activities throughout the breeding season.

V.3.2.5 Significance After Mitigation: Implementation of **Mitigation Measures TO-6** would minimize potential direct and indirect impacts on special status birds during timber harvesting operations and construction activities to a less-than-significant level.

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V.3.3 Assessment of the potential for implementation of the proposed project to result in impacts to special-status bat species: ESA biologists determined that forest habitats within the project site provide suitable roosting and foraging habitat for special-status bat species, including pallid bat (*Antrozous pallidus*), spotted bat (*Euderma maculatum*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus blossevillii*). These and other bat species could use trees with suitable cavities, crevices, exfoliating bark and/or bark fissures on and near the project site for roosting.

V.3.3.1 Assessment of potential impacts of proposed operations on special status bats-

The proposed project could result in the removal of trees potentially used for roosting by special-status bats or other modifications to bat habitat. In addition, construction-related activities would temporarily elevate noise levels in areas on and surrounding the construction zone. Special-status bat species may be adversely affected if roosting sites are physically disturbed or are exposed to a substantial increase in noise or human presence during project activities. If construction activities occur during the bat breeding season (April 1st to August 31st), disturbance to roosting sites could have a significant effect on special-status bat species if active maternity roosts are present.

V.3.3.2 Mitigations of Potential Adverse Impacts- Because project implementation could adversely affect these species, this impact would be considered potentially significant. Implementation of pre-construction surveys consistent would reduce potential impacts to special-status bats to less than significant. The following mitigation measure will be included in the THP to provide operational guidance applicable to all timber operations:

Mitigation Measure TO-6a: For construction activities expected to occur during the breeding season of special-status bat species (April 1 to August 31), a field survey shall be conducted by a qualified biologist to determine whether active roosts are present onsite or within 100 feet of the project boundaries. Areas off the project site that are inaccessible due to private property restrictions shall be surveyed using binoculars from the nearest vantage point. Field surveys shall be conducted early in the breeding season before any construction activities begin, when bats are establishing maternity roosts but before pregnant females give birth (April through early May). If no roosting bats are found, then no further mitigation is required. If roosting bats are found, then disturbance of the maternity roosts shall be avoided by halting construction until the end of the breeding season or a qualified bat biologist excludes the roosting bats in consultation with CDFW. If construction activities begin prior to April 1, it is assumed that no bats would roost in the project site during active construction activities and no pre-construction surveys are required. If at any time during the roosting season construction stops for a period of two weeks or longer, pre-construction surveys shall be conducted prior to construction resuming.

V.3.3.3 Significance After Mitigation: Implementation of **Mitigation Measures TO-6a** would minimize potential direct and indirect impacts on maternity roosting bats within the project site by requiring preconstruction surveys to identify any maternity roosting sites within 100 feet of project activities, and if found, observance of no-disturbance zones around those sites. This would reduce impacts to maternity colonies during construction activities to a less-than-significant level.

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V.3.4 Implementation of the proposed project would not result in a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

V.3.4.1 Assessment of potential impacts-The CDFW's *California Natural Communities List* (CDFW, 2019d) ranks vegetation alliances in California according to their degree of rarity imperilment (as measured by rarity, trends, and threats). All alliances are listed with a G (global) and S (state) rank. Alliances with state ranks of S1-S3 are considered of special concern by the CDFW, and all associations within them are also considered to be highly imperiled. The following vegetation alliances found within the project site are considered of special concern by CDFW and should therefore be considered a sensitive natural community under CEQA regulations:

- *Scirpus micorcarpus* (52.113.00) Small-fruited bulrush marsh

Project activities which would disturb areas where these alliances occur would potentially have adverse impacts.

V.3.4.2 Planned project activities-The wet area where this vegetation alliance is located has been designated for protection as part of the Timber Harvesting Plan. Road construction and mastication activities will avoid this area and an Equipment Exclusion Zone (EEZ) has been flagged by the RPF on the ground to delineate the boundary of the protection zone. Under the provisions of the THP and associated Forest Practice Regulations, no equipment will be operated in the zone.

V.3.4.3 Mitigations of Potential Adverse Impacts As designed, the proposed project would avoid any direct impacts to this community. Therefore, there is **no impact**.

V.3.4.2 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

V.3.5 Implementation of the proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

V.3.5.1 Background: The project site and surrounding area could potentially be used by a variety of wildlife species for dispersal and seasonal migration. However, there are no known wildlife movement corridors on or in the vicinity of the project site. The project site is located in an area of "connections with implementation flexibility" according to the CDFW's Essential Habitat Connectivity natural landscape blocks (CDFW, 2020e). This category includes areas that have been identified as having connectivity importance, but have not been identified as channelized areas, species corridors, or habitat linkages at this time. Similarly, the site and the surrounding area were not identified as an area of Essential Habitat Connectivity in the County's 2018 EIR for the General Plan Update Tuolumne County, 2018a). Further, the Tuolumne County Deer Herds and Migration Map prepared in support of the General Plan Update's EIR shows the nearest deer migration route for the Yosemite Migrant Deer Herd as occurring about one mile west of the project site (Tuolumne County, 2018b).

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V.3.5.2 Planned project activities Electric power for the camp would be provided by a local utility company, but most uses would be met using low voltage solar systems. Lighting for the lobby tent, common areas, and guest tents would be low voltage solar lighting. Each tent would include a solar “porch” light on the exterior of the tent, located under the rain fly and pointed downwards. This would prevent upward and outward light spill from these lights. Each tent would also include five small ground-level solar landscaping lights (each less than two volts).

All lighting would meet International Dark-Sky Association (IDA) dark sky standards, would be limited to needed areas, would be limited to necessary brightness, would minimize blue light emissions including LED fixtures with color temperatures no greater than 3000 Kelvins, and would be down-shielded and pointed downwards.

V.3.5.3 Assessment of Potential for adverse impacts: A substantial portion of the site (25 acres) would remain wholly undeveloped and undisturbed, and that portion of the site that would be developed would be occupied by low density development, with less than 10 percent of the site directly impacted by roadways, tent sites, or other infrastructure. Accordingly, substantial portions of the site would remain undeveloped and would essentially continue to function as open space that could facilitate wildlife movement if it were to occur. In addition, similar habitat types are abundant in the local area, particularly on National Forest lands that adjoin the site to the west, south, and east.

Night lighting can disrupt the circadian rhythms of many wildlife species. The introduction of nighttime lighting at the project site could deter some wildlife species from using habitat directly surrounding the project site if lighting is overly bright or if spill-over is excessive. However, light spill-over from the project site would be minimal. Most lighting requirements would be met using low voltage solar systems. For instance, lighting for the lobby tent, common areas, pathways, and guest tents would be low voltage solar lighting. Each tent would include a solar “porch” light on the exterior of the tent, located under the rain fly and pointed downwards. This would prevent upward and outward light spill from these lights, and these lights would be necessarily dim to ensure that guests would not be disturbed by excessive light. Each tent would also include five small ground-level and downward-directed solar pathway lights (each less than two volts).

All lighting would meet International Dark-Sky Association (IDA) dark sky standards. IDA-compliant lighting is designed to decrease energy consumption, limit effects of lighting on human health, and limit disruptions to the ecosystem and wildlife (IDA, 2020). In accordance with IDA standards, onsite lighting would be limited to needed areas, would be limited to necessary brightness, would minimize blue light emissions including LED fixtures with color temperatures no greater than 3000 Kelvins, and would be down-shielded and pointed downwards. Based on these design features, the overall lighting on the site would be minimal, and potential impacts to wildlife resulting from nighttime lighting would not be substantial. The introduction of nighttime lighting at the project site may deter some wildlife species from using habitat directly surrounding the project site. However, there is abundant similar habitat directly adjacent to the project site, and potentially affected individuals have the ability to move readily and relocate to similar or better habitat. Light spill-off from the project site would be minimal. Potential impacts to movement of wildlife due timber harvesting activities and camp construction would not be significant as wildlife species would have the ability to move around the site. Also, given the type of lighting to be utilized, impacts to

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circadian rhythms resulting from nighttime lighting are not considered substantial, and impacts would be less than significant.

V.3.5.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

V.3.6- Implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

V.3.6.1 Background: The protection of clusters of native trees and vegetation and outstanding individual native and non-native trees is encouraged in Tuolumne County General Plan Policy 16.A.6. In addition, the Tuolumne County Wildlife Handbook states that a project would have a significant impact on biological resources if it resulted in a net loss of the habitat value of a Second Priority Habitat. The mixed conifer forests on the project site are not considered a Second Priority Habitat by the Tuolumne County Wildlife Handbook, and there is no defined oak woodland habitat on the project site, although black oak trees occur sporadically throughout the project site. As prescribed by the Timber Harvest Plan, no oak trees greater than eight inches in diameter would be removed and oak clumps would be retained during the course of timber operations and subsequent development activities. Therefore, there would be **no impact** to priority habitats or protected trees.

The zoning designation for the western half of the project site is Commercial Recreation (C-K), and the zoning for the eastern half is Commercial Recreation/Open Space (C-K/O-1). The bulk of the project's development would occur on the western C-K portion of the site, though some roadways, tent sites, and the leach field would also be constructed on the C-K/O-1 portion of the site. As defined in the County's Zoning Code, the O-1 district is intended to preserve and protect areas of valuable wildlife habitat consistent with the wildlife policies of the General Plan. Specified uses are allowed within the O-1 district with issuance of a use permit if those uses do not conflict with the wildlife habitat values of the property. Those uses include general recreation with no buildings, vegetation removal, placement of utilities and sewage systems, and roads and bridges where access through another district is not feasible (County Code Chapter 17.15). In the case of the proposed project, no buildings are proposed in the C-K/O-1 portion of the site; just non-permanent tent decks and a mobile bathroom unit. Ingress and egress to and from the site running solely through the C-K portion of the site is not feasible, since fire department requirements call for two points of ingress and egress to and from the project site, so at least one point of access would necessarily need to pass through the C-K/O-1 district. Based on these considerations, issuance of a use permit for development within the C-K/O-1 district would be allowed if it could be shown that the use would not conflict with the wildlife habitat values of the parcel.

V.3.6.2 Assessment of Project Impacts: In the case of the proposed project, no buildings are proposed in the C-K/O-1 portion of the site; just non-permanent tent decks and a mobile bathroom unit. Ingress and egress to and from the site running solely through the C-K portion of the site is not feasible, since fire department requirements call for two points of ingress and egress to and from the project site, so at least one point of access would necessarily need to pass through the C-K/O-1 district. Based on these considerations, issuance of a use permit for development within the C-K/O-1 district would be allowed if it could be shown that the use would not conflict with the wildlife habitat values of the parcel.

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Potentially valuable wildlife habitat on the project site includes wetlands, ephemeral drainages, nesting bird habitat, and potential bat roosting habitat. Each of these features is present on the C-K/O-1 portion of the project site, and the project would be in conflict with the requirements of the O-1 use if it were to significantly impact those features. However, as noted previously under the discussions for Impacts 3.4-1 through 3.4-4, all project-related impacts to these resources would be less than significant: 1) the seasonal wetland and the seep on the site would be wholly avoided; 2) the ephemeral drainages on the site would also be avoided, with the exception of 0.003 acre of impacts resulting from installation of culverted crossings at three locations, but those impacts would be mitigated through preservation or creation of on-site wetlands at a ratio of 1:1 or more; 3) impacts to nesting bird and bat roosting habitat would be avoided through pre-construction surveys and avoidance of nests and roosting sites if any are found. Based on these considerations, the potentially valuable wildlife habitat on the site would not be significantly affected.

V.3.6.3 Planned Mitigations for Protection of native oaks-Although black oak trees occur sporadically throughout the project site, no oak trees > 15” in diameter will be removed (Mitigation TO-2) and oak sprouts will be retained (Mitigation TO-3) during the course of timber operations and subsequent development activities. There are no oak woodland areas located on the project area that would require protection under the Tuolumne County Ordinance Code, the Tuolumne County General Plan, or the Tuolumne County Wildlife Handbook would be removed by implementation of the project.

Mitigation TO-2-Removal of black oaks >15”in dbh within the fuel treatment areas and in or those black oaks marked for retention by the RPF within the road right of way shall be avoided and the road alignment adjusted to avoid individual black oak trees which meet the diameter retention threshold.

Mitigation TO-3-Fuel treatment and mastication shall avoid black oak sprout clumps. Dead standing black oak boles > 3’ in height and less than 15” in DBH shall be masticated while avoiding black oak sprouts, if present.

V.3.6.4 Significance After Mitigation: With the requirements for retention of oaks as specified in **Mitigations TO-2** and **TO-3** potential adverse impacts will be less than significant.

V.3.7-Implementation of the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (No Impact)

The proposed project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be **no impact**.

Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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VI. Water and Hydrology Resources

VI.1.1 Environmental Setting and Existing Conditions-The project site is located within the Big Creek planning watershed (CalWater 2.2.1 identifier 6536.800201.) The Big Creek watershed is 14,197 acres in size and is tributary to, and includes a segment of the Lower South Fork of the Tuolumne River. The planning watershed is bounded to the south by Pilot Ridge and to the north by Crocker Ridge. The Lower South Fork Tuolumne River lies approximately 0.6 miles to the south of the project site and is part of the Upper Tuolumne River Watershed. The South Fork Tuolumne River drains a small portion of the western edge of Yosemite National Park. The headwaters begin between White Wolf and Yosemite Valley at elevations between 8,000 feet and 8,500 feet. The South Fork Tuolumne River exits the park at an elevation of 4,500 feet, just north of Hogdon Meadow and upstream of its confluence with the main Tuolumne River. The confluence of the Middle Fork and South Fork of the Tuolumne River occurs approximately five miles downstream of the proposed project.

Based on a review of data on water quality summarized in the Rim Fire EIS, surface water quality in the region is generally considered very good. There are no known listed impairments for the South Fork of the Tuolumne River indicated on the 2006 CWA Section 303(d) List of Water Quality Limited Segments. The Big Creek Planning Watershed does not include any 303(d) listed segments. Most of the water from the Tuolumne River is usable for human consumption with disinfection alone, although additional treatment is required by law (Tuolumne-Stanislaus IRWM Plan, August 2013).

In addition to the field surveys conducted by the RPF, ESA project biologists also conducted an assessment of streams and other features as part of the EIR. An aquatic resources delineation was conducted for the project site by ESA in June 2018 and January 2019 (ESA, 2019). The aquatic resources delineation identified 0.728 acre of potentially jurisdictional waters of the U.S. within the project site that are expected to be subject to regulation under Section 404 of the CWA. These same features may also be protected under state regulations, including the Forest Practice Act and associated regulations, Porter-Cologne Act and California Fish and Game code. Aquatic resources within the project site consist of seasonal wetland, seep, and ephemeral drainage. Aquatic community and habitat were classified using the *Classification of Wetlands and Deepwater Habitats of the United States (Cowardin Classification)* (Federal Geographic Data Committee, 2013). Potentially jurisdictional features within the project site are summarized in the following table titled Aquatic Resources. The aquatic resources delineation has not yet been verified by the United States Army Corps of Engineers (USACE) and should be considered preliminary until verification in writing is received from the USACE.

AQUATIC RESOURCES

Aquatic Resource Type – Cowardin Classification	Total Acres
Wetlands	
Seasonal Wetland	
Seasonal Wetland – Palustrine Emergent Wetland (Seasonally Flooded)	0.096
Seep	
Seep – Palustrine Emergent Wetland (Seasonally Flooded)	0.013

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AQUATIC RESOURCES

Aquatic Resource Type – Cowardin Classification	Total Acres
Other Waters of the U.S.	
Ephemeral Drainage	
Ephemeral Drainage – Riverine Intermittent	0.619
Total Area of Jurisdictional Features:	0.728

SOURCE: ESA, 2019

In addition to the potentially jurisdictional waters of the U.S. within the project site, a swale dominated by upland vegetation was noted in the southwestern part of the project site. While this feature does not meet the definition of a water of the U.S. under the Clean Water Act, this feature meets the definition of a Class III watercourse and will be provided protection under provisions of the Forest Practice regulations. The swale identified by the ESA biologists has been designated watercourse 3 on the Timber Harvest Plan maps. Please refer to the table in the Regulatory Setting discussion below for specific protection measures applicable to this watercourse.

One perennial class II watercourse and three Class III watercourses have been identified on the project area. In addition one wet area (seep) has been identified on the western side of the Class II watercourse. The wet area is the same feature seep/wetland identified by ESA in their survey of the project area. Road construction on the project area and equipment operations associated with mastication of standing and down dead fuels have the potential to impact watercourses and wet areas on the project area through delivery of sediment from compacted soil surfaces, removal of riparian vegetation, increased stream flows, damage to streambanks or channels, deposition of woody material into stream channels and increased water temperature. Existing Forest Practice regulations require identification of watercourses and application of prescriptive regulatory protection measures to avoid these impacts.

Within the project area three watercourses have been identified and measures for protection have been described consistent with the requirements of 14 CCR 956.5 Table 1. In addition, one wet area located adjacent to watercourse 1 on the plan area has been identified. This wet area is the same feature identified by ESA biologists during their survey of aquatic resources. Watercourse identification and protection measures are described as follows here and in item 26 of Section II of the harvest plan.

Forest Practice Watercourse Classifications and Protection Measures

Watercourse description and protection measures to be applied: (14 CCR 956.5)		
Watercourse Map Designation	Slope Class	Water Class
1	<30	II
Protection Measures		
<ol style="list-style-type: none"> 1) A minimum 50' WLPZ will be flagged prior to plan submittal to meet requirements of 956.6 (e) "B", 956.2 (a), 956.4 (b) 2) Existing canopy is less than 50% and no live trees within the WLPZ will be harvested to meet the requirements of 956.5 (e) "E", 956.3(f) 3) Except at the watercourse crossing, 100% of the existing live tree canopy covering the ground will be maintained to meet the requirements of 965.5 (e) "E" 		

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4) Heavy equipment shall not be used for timber felling or yarding of dead trees within the WLPZ to meet the requirements of 956.4 (d) and 956.5 (e) "I"		
5) Standing snags > 18" in DBH and down logs > 18" on the small end and 20' in length will be retained		
Watercourse Map Designation	Slope Class	Water Class
1a	<30	III
<u>Protection Measures</u>		
1) A minimum 25' Equipment Limitation Zone (ELZ) will be flagged on the ground prior to plan submittal to meet or exceed the requirements of 956.5 (e) "C"		
2) No harvesting activities will be conducted in the ELZ to meet or exceed requirements of 956.5 (e) "F"		
3) Use of an existing rocked road segment that runs parallel to the watercourse will be permitted on a temporary basis during the project construction phase with use subject to mitigations TO-7 described below.		
4) No live trees will be harvested within the ELZ to meet the requirements of 956.5 (e) "F"		
5) 100 % of the existing understory vegetation between the edge of the existing road and watercourse channel will be retained.		
Watercourse Map Designation	Slope Class	Water Class
2	<30	III
<u>Protection Measures</u>		
1) A minimum 25' Equipment Exclusion Zone (EEZ) will be flagged on the ground prior to plan submittal to meet or exceed the requirements of 956.5 (e) "C"		
2) No harvesting activities will be conducted in the EEZ to meet or exceed requirements of 956.5 (e) "F"		
3) No live trees will be harvested within the EEZ to meet the requirements of 956.5 (e) "F"		
4) 100 % of the existing understory vegetation will be retained to meet the requirement of 956.5 (e) "I"		
Watercourse Map Designation	Slope Class	Water Class
3	<30	III
<u>Protection Measures</u>		
1) A minimum 25' Equipment Exclusion Zone (EEZ) will be flagged on the ground prior to plan submittal to meet or exceed the requirements of 956.5 (e) "C"		
2) No harvesting activities will be conducted in the EEZ to meet or exceed requirements of 956.5 (e) "F"		
3) No live trees will be harvested within the EEZ to meet the requirements of 956.5 (e) "F"		
4) 100 % of the existing understory vegetation will be retained to meet the requirement of 956.5 (e) "I"		
<u>Wet Area 1</u>		
<u>Protection Measures</u>		
5) A minimum 25' Equipment Exclusion Zone (EEZ) will be flagged on the ground prior to plan submittal to meet or exceed the requirements of 956.5 (e) "C"		
6) No harvesting activities will be conducted in the EEZ to meet or exceed requirements of 956.5 (e) "F"		
7) No live trees will be harvested within the EEZ to meet the requirements of 956.5 (e) "F"		
8) 100 % of the existing understory vegetation will be retained to meet the requirement of 956.5 (e) "I"		

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VI.1.2 Significance Criteria

Operational impacts to water and hydrology would be considered significant if implementation of the proposed project would:

1. Result in discharge of sediment to the watercourses to federal waters or waters of the state.
2. Result in increased flows that would lead to instream bank erosion.
3. Result in significant adverse changes to water chemistry.
4. Result in increased water temperature.
5. Result in significant changes to federally protected wetlands through direct removal, filling, hydrological interruption, or other means.

VI.1.3 Assessment of operational impacts from road construction potential to have a potentially significant adverse impact through discharge of sediment to the watercourses or federal waters or waters of the state.

VI.1.3.1 Background: Logging roads are generally acknowledged to be the principal source of accelerated erosion from timber operations in the western United States. Road surfaces create compacted areas with little or no infiltration capacity. Road surfaces are also devoid of protective vegetative material. Consequently, road surfaces are subject to displacement and transport of fine materials for direct impact from precipitation. Also, movement of water off of compacted surfaces can generate concentrated overland flow. Erosion where flow from the road surfaces is directed onto fills or where road cuts intercept upslope runoff is a potential source of sediment delivery to streams and watercourses.

Likewise, stream crossings, if poorly designed and constructed are prone to increase potential for delivery because the crossing often involves modification of the stream channel and banks (Kattelman, 1996). These potential impacts can be mitigated through road engineering and construction practices that minimize cuts and fill, utilize less erodible surfacing material, avoid unstable area, avoid steep slopes, include road design and drainage features that minimize concentration of flows from the road surfaces.

Even though soils within the project site are characterized as having a low erosion potential, sediments and other pollutants could potentially result in degradation of receiving water quality in the South Fork Tuolumne River and downstream creeks at levels above applicable water quality standards.

VI.1.3.2 Planned operations and practices to avoid sediment delivery from roads:

Potential for overland flow from road construction will be minimized through compliance with road construction requirements of the Forest Practice Rules. Road construction will not involve significant cuts and fills (>3') except at the two crossings of watercourse 3. The road will be crowned or outsloped with a rocked road surface to facilitate dispersal of water from the road and minimize erosion of the road surface. While the road surface itself will be essentially impermeable, runoff from the road surface will not be concentrated and water which moves off of the road surface will be intercepted by mulch created by the fuel mastication treatments. Road design also will consider upslope drainage and provide for movement of water from upslope areas through culverts which will route water underneath the road prism. Additionally, the crossing of watercourse 1 will be designed as a bridge to minimize disturbance to the stream channel and banks. Crossing of Class III watercourses will be designed to accommodate a 100 year storm return interval.

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VI.1.1.3 Assessment of potential for adverse impacts due to sediment discharge from road construction: The project will cross one perennial Class II watercourse and two Class III watercourses. Protection measures applicable to these watercourses are described in Section II, Item 26, of the Timber Harvesting Plan and are included in the above table. Given road design and drainage features it is unlikely that the water discharged from the road surface drainage would exceed the infiltration capacity of the underlying soil. The project proposes to cross the perennial Class II watercourse (Watercourse 1) with a bridge. The road will also cross through a seep located immediately to the west of the Class II watercourse crossing. The bridge design for the Class II Watercourse crossing and drainage sizing calculations for the three culvert crossings of Class III watercourses were determined by DAX Engineering. The culvert sizing analysis and bridge design is included in Section VI. All crossings will be designed to accommodate a 100-year storm flow event. Crossing locations are shown on the THP map.

VI.1.1.4 Identified potential sources of sediment that could lead to an adverse impact: One existing rocked road is located within the Equipment Limitation Zone of Watercourse 1a. The rock used for the road surface is coarse textured drain rock and contains no fine material that could be displaced from the road surface. Further, the roughness of the road surface effectively traps fine materials which move onto the road surface. Based on observations of the existing conditions this road in its current condition does not contribute significant sediment to the watercourse. The watercourse segment potentially impacted includes the origin of the watercourse and approximately 800' of the watercourse length downstream of the origin.

VI.1.1.5 Mitigations: Based on observed conditions, while there are indicators of the capacity of this watercourse segment to transport sediment, the likelihood of this watercourse to transporting significant quantities of sediment is very low. Planned use of the road located within the ELZ include initial access for equipment used in the early construction phase of the project and longer term use of the road as an emergency evacuation route in the event that evacuation could not take place over Under Canvas Way and Hardin Flat Road. Maintaining the current rocked surface will be needed post construction to mitigate the ongoing potential for adverse impacts attributable to the road location. Additional road drainage in the form of rocked rolling dips will also provide further mitigation for avoidance of sediment inputs. To avoid impacts associated with use of this ELZ road segment during construction and post construction phases of the project the following mitigation will be implemented.

Mitigation TO-7: During the winter operating period the rocked road segment identified on the THP map shall be maintained in its current condition. Prior to the beginning and during the winter period, the rock road surface shall be restored to its pre-project condition thru placement of angular 1" minus road rock to achieve a depth of 4" or greater. Two rocked rolling dips shall be installed and surfaces rocked at locations indicated by the RPF or project engineer prior the beginning of the first winter after construction activities are initiated.

V.1.1.6 Significance After Mitigation With compliance with the above mitigation, the Forest Practice Regulations and road construction implementation in conformance with the engineering design provided by DAX Engineering (See Section VI), impacts to watercourses from project associated sediment delivery are unlikely.

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VI.2.1 Potential of operational impacts of machine mastication of dead standing and surface fuels to have a significant adverse impact through discharge of sediment to the watercourses or federal waters or waters of the state

VI.2.1.1 Assessment of potential for adverse impacts due to Mastication Fuel Treatment: The proposed fuel treatment is expected to generate a masticated mulch layer ranging from 3 to 5 inches in depth across 60% of the project area. The post operations area of exposed mineral soil is anticipated to be less than 10%. Research by Hatchet et.al (2004) in the Tahoe Basin examined excavator treated sites involving mastication treatment where bare mineral exposure was less than 10%. Researchers noted minimal soil compaction associated with the treatment and concluded that erosion impacts would be slight to insignificant. Hatchet attributed the reduced potential for soil compaction and erosion impacts to the thick layer of organic material that is left behind. Page-Dumrose et.al. reached a similar conclusion based on a literature review of research done by Han et.al. (2006) and similar research done by Mogheddas and Stephens (2008). She concluded that leaving thinning residue will minimize soil compaction, maintain soil organic matter, increase nitrogen cycling, and promote mycorrhizae development. Similar research by Stewart et, al. (2011) concluded thinning operations where management practices retain logging slash on site in combination with other best management practices such as stream buffers and limits on harvesting when soils are wet are expected to have minimal impact on sediment delivery potential to watercourses.

VI.2.1.2 Potential project related impacts and proposed mitigations: Based on a review of current information, mastication operations as part of the fuel reduction activities are unlikely to impact surface erosion or flows. Post treatment conditions will result in a mulch cover on treated areas that will minimize raindrop displacement of bare soil and contribute to surface roughness that will minimize the potential for development of rills or sheet erosion. To maintain the filtration capacity of buffers established adjacent to watercourses, equipment operations will be prohibited within the Watercourse and Lake Protection Zone (WLPZ). Mastication equipment use will also be prohibited, with one exception, from entering the Equipment Exclusion Zones (EEZ). All protection zones for identified watercourses have been flagged on the ground. Also, as per the requirements of the Forest Practice Regulations, timber operations will be limited to dry rainless periods until after April 1st to ensure that soils are not excessively wet when mastication operations are conducted.

VI.2.1.3 Significance of Potential Impacts: With compliance with Forest Practice Regulations and provisions in the timber harvesting plan, impacts to watercourses from project associated sediment delivery are unlikely

VI.2.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

VI.3.1 Operational impacts to water and hydrology would be considered significant if implementation of the proposed project would result in increased flows that would lead to instream bank erosion.

VI.3.1.1 Background: Watercourses on the project drainages are tributary to an unnamed stream which flows south approximately 0.6 miles to the South Fork of the Tuolumne River. Watercourses

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on the plan and project area have drainage areas of 1 square kilometer or less and would generally meet the definitions of a headwater stream (McDonald and Coe, 2007). Headwater streams are further defined by hillslope runoff processes which are influenced by climate, geology, slope, aspect and channel gradients. Delivery from hillslopes in small headwater drainages typically occurs as surface flows, subsurface stormflows or groundwater (Dunne and Leopold, 1978, Noventry and Olem 1994). Connectivity of headwater streams from surface flows and subsurface storm flows generally occur during precipitation events. During dry periods, hydrologic connectivity is typically limited to wet convergent areas and riparian zones immediately adjacent to stream channels.

Headwater watercourses are recognized by many researchers as the dominant source of runoff to downstream areas and drivers of in-channel processes. Changes in peak flows at the headwater scale are influenced by hillslope processes and will also be influenced in the downstream direction by dispersion, dilution and desynchronization (MacDonald and Coe, 2007). Management activities conducted in headwater streams can, and do, influence these factors, particularly in headwater drainages that are unstable geologically and/or located on steep slopes with unstable soils. Road construction and timber harvesting activities that increase the amount of run-off from compacted surfaces, lead to slope failures, or expose soil on steep slopes to erosional forces can all influence flows. These factors generally are recognized to lead to increased flows during low to moderate precipitation events during fall and winter. Where trees are removed, increases in summer flows have also been observed (Bartholow, 2000).

V1.3.1.2 Watercourse Descriptions: All of the watercourses on the Timber Harvesting Plan area are headwater drainages. Each is described below:

Watercourse 1 is a Class II watercourse within the project area with predominant flow during the summer months generated by the seep and associated springs located to the west of the watercourse. The channel gradient within the section of the watercourse located within the project is a relatively steep transport stream reach. Stream bank stability is provided by vegetation consisting primarily of grasses, brush, and conifer roots. Rock armoring of the channel is limited. Conifers which provided root systems that contributed to streambank stability within the stream section below the crossing and south to the project boundary were killed during the Rim Fire. Upstream of the proposed bridge crossing, conifer survival was greater and roots from conifers established on streambanks continue to contribute to streambank stability. The stream channel appears to be stable given current flow regimes. Wood inputs from trees killed during the Rim Fire will benefit channel stability in the near term. Root systems of grasses, and woody plants will continue to provide for streambank stability in the segment of the stream where overstory conifers were killed.

Watercourses 1a, 2 and 3 are class III watercourses which flow only in response to precipitation events. All have defined channels particularly on steeper reaches.

V1.3.1.3 Project Related Disturbances and Mitigations: With the exception of the bridge crossing, disturbance due to use of mechanized equipment within the stream channel and within the near stream areas adjacent to watercourse 1 will be avoided. Operations will also be excluded from areas within 50-75' of the watercourse. While Under Canvas Way will cross this watercourse, the crossing has been designed to avoid impacts to streambanks and channel with installation of a bridge. Channel capacity and

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flow regimes will not be impacted. Near stream areas will not be operated. Filtration capacity to buffer the watercourse from surface flows from upslope operations and management activities will be maintained.

Disturbance to watercourse 1a will be limited to use of a road within the Equipment Limitation Zone. The road segment which parallels the watercourse has been surfaced with drain rock spread on the road surface as part of the project test well development. The road surface is stable and the watercourse channel will not be modified. Flows within this segment are minimal and channel development in some segments of the upper parts of the watercourse is absent.

Neither the road within the ELZ or runoff from surface flows appear to have contributed to post Rim Fire impacts to the watercourse channel, with the exception of a small headcut at map point 5 . In addition to use of the road within the ELZ, fuel reduction and mastication operations will take place on areas to the south of the road. No mastication operations will take place within the ELZ or within in the area to the north of the road segment. The existing head cut will be stabilized as part of the timber operations and mitigation TO-7a will be included in section II of the THP:

Disturbance to watercourse 2 will be limited to installation of a 36”culvert at the intersection of Under Canvas Way and Hardin Flat Road. The culvert will be sized to a 100 year storm return interval and impacts to peak flows are not anticipated as no other disturbance to the watershed directly above this watercourse will occur.

Disturbance to watercourse 3 will consist of road construction and installation of 2 culverts at map points 3 and 4. While the upper portion of this watercourse shows development of a bed and bank with evidence of sediment transport, the lower portion of the channel is poorly defined and it appears that this watercourse does not generate sufficient flows below map point 5 to impact watercourse 1. It appears that flows and sediment are effectively dispersed across the flat area to the west of map point 5. At this point the watercourse discharges onto an existing internal road and landing that was used in the past for timber operations. There is no culvert at this location but the road and landing have been armored with drain rock as part of the well testing that was conducted for this project. The addition of drain rock to the road surface will armor the area and will also enhance sediment capture at this point. Sediment generated during peak flows will be dispersed across the road and landing surface and discharged onto areas which will allow water from the upslope area to infiltrate into the soil without creating a channelized surface flow to Watercourse 1.

V1.3.1.4 Potential Impacts on stream flows from road construction: Overland flow that would lead to increased flows in watercourses due to road construction activities will be avoided through compliance with road engineering and design features as specified in the engineering report by DAX Engineering, and general construction requirements of the Forest Practice Rules. As referenced previously, the road will be crowned or outsloped with a rocked road surface to facilitate dispersal of water from the road surface and minimize concentration of flows from the road surface. While the road surface itself will be impermeable, runoff from the road surface will not be concentrated. Water which moves off of the road surface will be intercepted by mulch created by the fuel mastication treatments. The crossing of watercourse 1 will be designed as a bridge to minimize disturbance to the stream channel and banks. Crossing of Class III watercourses will be designed to accommodate a 100 year storm return. The bridge design and drainage sizing calculations for the three culvert crossings of Class III watercourses and were designed by DAX Engineering. The culvert sizing analysis and bridge design is included in the DAX Hydrologic and

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Hydraulic Drainage Report in Section VI of this Timber Harvesting Plan. All crossings will be designed to accommodate a 100-year storm flow event. Crossing locations are shown on the THP map

Given road design and drainage features it is unlikely that the water discharged from the road surface drainage would exceed the infiltration capacity of the underlying soil.

VI.3.1.5 Potential Impacts to Stream Flows from Mastication Fuel Treatments:

Mastication operations will be focused on treating existing down logs and snags less than 26” in diameter with material treated to remain onsite. Other live vegetation consisting of bear clover and a mixture of whiteleaf manzanita, greenleaf manzanita, and deerbursh, while not specifically targeted, will be reduced 60 to 80% during treatment of down woody materials present on the site. Material to be treated will result in a soil cover created by masticated material that will protect the underlying soil from displacement by raindrops and create a rough surface that will promote increase of infiltration of water

To maintain the filtration capacity of buffers established adjacent to watercourses, equipment operations will be prohibited within the Watercourse and Lake Protection Zone (WLPZ) on the Class II segment of Watercourse 1. Equipment will also be prohibited, with one exception, from entering the Equipment Exclusion Zones (EEZs) that have been flagged on the ground for Class III watercourses on the project area. The exception provided will allow felling by equipment with a felling head attached to an excavator to remove dead trees and downed trees from within the EEZ of Watercourse III, provided that the felled trees can be reached by the felling head without the body of the excavator entering the WLPZ or EEZ.

VI.3.1.6 Mitigation of Potential Impacts: With compliance with Forest Practice Regulations and road construction in conformance with the engineering design provided by DAX Engineering (See THP Section V), impacts to watercourses from project associated sediment delivery are unlikely. It is recommended that the existing headcut discussed previously be stabilized. While sediment delivery potential appears to be minimal, the site is easily accessed and warrants inclusion of the following mitigation.

Mitigation TO-7a: The headcut at map point 6 will be stabilized as part of the Timber Operations. Stabilization will require placement of 6” or greater rock to armor the channel for a distance of 10’ above and 10’ below the existing headcut. Six inch (6”) or greater rock shall also be placed on sidewalls of the headcut. Prior to placement of rock the channel shall be lined with drain cloth or similar material to prevent flows from undercutting the rock that will be placed in the channel. Channel cross section created by placement of drain cloth and rock shall be capable of passing a 100 year storm interval event.

VI.3.1.7 Significance of Potential Impacts: With compliance with provisions in the Timber Harvesting Plan, applicable Forest Practice Regulations and Mitigation TO-7, impacts to watercourse flows during large storm events are likely to be less than significant.

VI.4.1- Operational impacts to water and hydrology would be considered significant if implementation of the proposed project would result in significant adverse changes to water chemistry.

VI.4.1.1 Background and Watercourse Description: Watercourse 1 on the project area is a perennial stream. Flows are supported in the late fall, early spring, and winter by inputs from Watercourses

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1a, 2, and 3 during precipitation events. Precipitation at this elevation includes rain and/or snow. Late spring and summer flows are supported by inputs of groundwater from the wet area/seep located to the west of the watercourse. Late summer flows are minimal and were visually estimated by the RPF in late August of 2019 to be less than 2 gallons per minute. Inputs of slash and other organic material would have the potential to elevate levels of phosphates, nitrates, and nitrites that could impact water quality in the stream reach. Utilization of forest chemicals including the use of fertilizers, pesticides, or herbicides is not anticipated during project construction or operation.

VI.4.1.2 Evaluation of Potential Impacts from Operations: Current protection measures applicable to provisions in the Timber Harvesting Plan and Forest Practice Regulations include prohibitions against deposition of organic material including limbs, foliage, and boles of trees into watercourses. There are also provisions and requirements for immediate removal of accidental depositions of these materials should they occur. The harvesting plan also prohibits operation of equipment within the Watercourse and Lake Protection Zone (WLPZ) except at the crossing of watercourse 1 and also requires retention of existing trees, understory vegetation, and woody material providing ground cover.

VI.4.1.3 Potential for Impacts-Given the protection measures applicable to timber operations near streams, it is unlikely that road construction, fuel reduction operations, or project construction related activities would result in deposition of materials into the perennial watercourse that would adversely impact water chemistry. Further, given that there are no plans for use of pesticides or herbicides, no impacts to water chemistry would be anticipated from these sources.

VI.4.1.4 Significance of Potential Impacts: With compliance with Forest Practice Regulations and construction in conformance with the engineering design provided by DAX Engineering (See Section V), impacts to watercourses from project associated changes in water chemistry are unlikely.

VI.4.1. Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

VI.5.1 Operational impacts to water and hydrology would be considered significant if implementation of the proposed project would result in increased water temperature.

VI.5.1.1 Background: Timber harvesting activities have been shown to have the potential to increase stream temperatures where streamside canopy is decreased. The magnitude of temperature increase is generally proportional to the decrease in riparian shade (MacDonald and Coe, 2007). Most regulatory approaches, including the provisions of California's Forest Practice Act and regulations use buffers on the stream and limit canopy removals to address this potential. Although retention of riparian vegetation can help protect against temperature changes, substantial warming has been observed in streams with both unthinned and partial retention buffers (Moore, et.al, 2005). Stream orientation, groundwater inputs, potential for topographic shading, and shading provided by brush and other vegetation will also influence the stream temperature response to forest management activities. Groundwater inputs can also influence stream temperature. Groundwater is typically cooler than surface water in the channel during the daytime and warmer in the winter and can act to moderate seasonal and diurnal stream temperatures (Webb and Zhang, 1999). In general, small streams are cooler and exhibit less diurnal variability when shaded

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and/or the stream receives a large proportion of observed in-channel flow from groundwater sources (Zimny, et.al. 2008).

VI.5.1.2 Project Watercourse Conditions and Potential Impacts Watercourse 1 is the only watercourse on the project area with stream flows. Summer flows in the portion of the channel within the project area appear to be largely attributable to ground water inputs from the wet area/seep located on the west side of the watercourse. The Rim Fire impacted overstory conifer canopy within the project area including the section of the stream immediately to the south of the bridge crossing. The channel is relatively deeply incised in relation to the channel width which provides significant topographical shading. Understory vegetation is dense with significant shading to the channel from deerbrush, willows, and choke cherry. A minimum 50' buffer (WLPZ) has been established on each side of the stream. With the exception of construction of the road crossing no timber operations will take place within the WLPZ, and all existing overstory and understory vegetation will be retained, except in the immediate area of disturbance associated with bridge construction.

VI.5.1.3 Significance of Potential Impacts: Given the current dominant groundwater sourcing for flows within this section of the watercourse, vegetative cover, topographic and vegetative shading, and operational limitations contained in the Forest Practice regulations, adverse impacts to watercourse temperature are unlikely.

With compliance with Forest Practice Regulations and construction in conformance with the engineering design provided by DAX Engineering (See Section VI), impacts to watercourse temperature are unlikely

VI.5.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

VI.6.1 Construction of the proposed project would be significant if construction activities result in a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

VI.6.1.1 Background and regulatory framework: The project site supports wetlands and other waters of the U.S. subject to USACE jurisdiction under Section 404 of the CWA. Section 404 of the CWA requires that a permit be obtained from the USACE prior to the discharge of dredged or fill materials into any "waters of the United States," which includes wetlands. Section 404 permits generally require mitigation to offset losses of these habitat types. These features may also be protected under state regulations, including the Porter-Cologne Act, the California Fish and Game code, and the Forest Practice Act and associated regulations.

VI.6.1.2 Identified need for mitigation: To avoid impacts to Waters of the United States, ESA has recommended the following mitigations. Operations conducted under this THP and as part of the project implementation will adhere to the following mitigations:

Mitigation Measure TO-8: The project proponent shall demonstrate that there is no net loss of wetlands and other waters of the U.S. and state protected waters/wetlands. To ensure this, wetland mitigation shall

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be developed as a part of the permitting process as described above. Mitigation shall be provided prior to construction related impacts on the existing waters/wetlands. The exact mitigation ratio would be determined in consultation with the USACE, CDFW, and/or RWQCB based on the type and value of the waters/wetlands affected by the project, but the project shall compensate for impacted waters/wetlands at a ratio no less than 1:1. Compensation shall take the form of preservation or creation in accordance with USACE and/or CDFW mitigation requirements, as required under project permits. Preservation and creation would occur offsite through purchasing credits at a USACE, CDFW, and/or RWQCB-approved mitigation bank.

VI.6.1.3 Significance After Mitigation: With compliance with Forest Practice Regulations and implementation of Mitigation Measure **TO-8**, there would be no net loss of wetlands and other waters of the U.S. and state protected waters/wetlands. Thus, impacts to wetlands and other waters of the U.S. and state protected waters/wetlands from implementation of the proposed project would be mitigated to a less-than-significant level.

VII. Aesthetics

VII.1 Background: This 80-acre project site consists of undeveloped land that was previously used for forestry and logging. Land uses on private ownerships adjacent to the project site include scattered private residences, recreation facilities, and open space. The nearest residence is located approximately 1,300 feet southeast of the project site. The west, east and south boundaries of the project area are adjacent to public lands administered by the Stanislaus National Forest and reflect a history of forest management. Most recent activities have been conducted by the Forest Service as part of Rim Fire Recovery.

Much of the project site and surrounding area were burned by the Rim Fire in 2013, and the effects of the fire are visually evidenced by the numerous dead, damaged, and downed trees on the project site and adjacent areas. These fire-damaged elements of the landscape exist within an otherwise healthy and recovering natural landscape.

The project site and immediate vicinity are relatively undisturbed by development, with the exception of SR-120 and Hardin Flat Road, which extends from SR-120 generally in a southeastern direction along the eastern edges of the project site. Views into the interior of the project site from SR-120 and Hardin Flat Road are largely partially obscured by trees and other vegetation, and topography.

The project site is located within a rural setting where lighting is minimal. Scattered rural residential land uses and passing vehicles generate the primary sources of nighttime light and daytime glare in the project vicinity.

VII.2 Assessment of potential impacts: California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view. Two segments of Highway 120 have been

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designated as Scenic Highways. One segment includes a 10 mile section from the intersection of State Route 49 near Chinese Camp to State Route 49 near Moccasin. The other segment includes the segment of 120 from the east boundary of Yosemite National Park to its intersection with Highway 395 near Lee Vining. The segment of 120 that passes to the north of the project is not included in the current State Scenic Highway system.

The project site will be briefly visible to travelers on Highway 120 and the Hardin Flat Road. The project development will be located approximately ¼ mile south of SR 120 and existing trees will partially screen the view of tents and other infrastructure. Highway 120 travelers will also have brief views of the developed project from Hardin Flat Road, although the view will be largely screened by existing topography and trees. The most visible impact to travelers, will be lighting associated with tents and other infrastructure associated with the project.

Lighting for the proposed project would be designed and operated to minimize glare, light trespass, sky glow, and over-lighting. Lighting for the lobby tent, common areas, and guest tents would be low-voltage solar lighting. All light fixtures and the use would be International Dark Sky Association (IDA) compliant, while still providing safety and guidance for guests. Incorporated lighting standards would specify that lights would only be on when needed and would only light those areas that require it; lighting would be no brighter than necessary; light-emitting diode (LED) fixtures would utilize color temperatures no greater than 3000 Kelvins to minimize the production of blue light, and all light fixtures would be shielded and pointed downwards. In addition, the nearest offsite receptors to potential project light sources on the site are residences located 1,300 feet to the southeast and 1,400 feet to the north. There is substantial vegetation and topographic variance lying between the potential light sources and the sensitive receptors. Views of the project facilities and of any light emanating from the project would be blocked by these existing natural features.

In addition, the proposed project would not include building materials such as reflective glass and polished surfaces to a degree that could create glare that could result in a public hazard or a substantial annoyance to nearby receptors. Further, implementation of the proposed project would not create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area, and this impact would be less than significant.

VII.3 Significance of Potential Impacts: While the proposed project would result in a noticeable change to the visual character of the project site, the introduction of tented camp sites and associated low-profile supporting facilities that would be largely screened from public view by existing forests and topographic features and would not substantially degrade the existing visual character or quality of public views of the site and its surroundings from travelers on Highway 120 or Hardin Flat Road.

VII.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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VIII. Public Services

VIII.1 Background: The following analysis was prepared by ESA and pertinent excerpts from that analysis are presented below. The full analysis is included in the EIR.

VIII.1.1 Fire and Emergency Services: The Tuolumne County Fire Department (TCFD) provides fire protection and emergency medical services to the project site. The TCFD is administered by CAL FIRE under a cooperative agreement with the County. TCFD is headquartered in Sonora and includes 13 fire stations, with 8 stations within unincorporated Tuolumne County.

Groveland Station 78 is the nearest fire station to the project site and is located at 18930 Main Street in Groveland, approximately 14 miles to the west of the project site. Station No.78 staffs five part-time fire fighters and maintains shifts of 2 firefighters on duty 24 hours a day, seven days a week. Groveland Station currently serves approximately 3,451 residents and in 2018 responded to 509 emergency calls.

According to the Tuolumne County General Plan EIR, the TCFD response time for urban areas is 9 minutes, suburban areas have a response time of 10 minutes, rural areas have a response time of 14 minutes, and remote areas have a response time dependent directly on travel distance (Tuolumne County, 2018a).

Emergency and non-emergency medical transport services for Tuolumne County are provided by the Tuolumne County Ambulance Service. The Ambulance Service employs 60 full-time and part-time Paramedics and Emergency Medical Technicians (EMTs). The Tuolumne County Ambulance Service receives approximately 8,000 calls per year (Tuolumne County, 2018a).

VIII.1.2 Police Services: Police protection to the project site is provided by the Tuolumne County Sheriff's Office (TCSO). The TCSO station nearest to the project site is located at 28 North Lower Sunset Drive in Sonora, approximately 25 miles northwest of the project site. The TCSO currently has a total of 138 authorized positions, including 63 Patrol Deputies and 38 Adult Detention Deputies.

The TCSO station is staffed seven days a week, 24 hours a day by 13 dispatchers. TCSO's average response time is 12 minutes and 3 seconds and in 2018, TCSO received 41,181 patrol calls for service, conducted 3,910 traffic stops, issued 801 total citations and logged 9,348 deputy initiated incidents.

In addition to the Patrol division, the County Jail, Emergency Dispatch Center, and Coroner's Office, the TCSO provides services such as investigations, narcotics, boat patrol, courts security, records, swat, search and rescue, and K-9 services.

Tuolumne County is also within the California Highway Patrol (CHP) Central Division, which provides additional traffic enforcement along the state highways and County Roadways. The County's CHP area office is located at 18437 Fifth Avenue, in Jamestown, approximately 26 miles northwest of the project site. The CHP issue traffic citations for traffic violations and provide other services to support overall safety to the residents of Tuolumne County.

VIII.3 Parks-There are three County parks within a twenty-mile radius of the project site:

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- *Westside Memorial Park* is located at the intersection of Bay Street and Main Street in the City of Tuolumne, approximately 17 air miles northwest of the project site. Westside Memorial Park features a skate park, several picnic areas, a gazebo, and open lawn for informal play. Parking is on-street only, and the park is surrounded on all sides by commercial buildings.
- *Eproson Park* is located in downtown Twain Harte, off of Meadow Lane, approximately 20 air miles northwest of the project site. Eproson Park features a baseball field, concession stand, skate park, and bocce courts. The park has several picnic areas, a playground, a community garden, an outdoor stage, and public restrooms. The park includes a private parking lot and is surrounded on two sides by residences (Twain Harte, 2019).
- *Mary Laveroni Community Park* is a 2.3-acre park located approximately 14 miles west of the project site. The park features several picnic areas, a playground, a youth center, and public restrooms. The park includes a private parking lot and is directly adjacent to the City of Groveland to the west.

Travel time and road distance would likely preclude use of Westside Memorial Park and Eproson by guests staying at the Under Canvas facility.

In addition to the local county parks, the Stanislaus National Forest and Yosemite National Park, provide opportunities for hiking, water skiing, horseback riding, rafting, camping, snowmobiling, boating, snow skiing, fishing, and other outdoor activities.

Yosemite National Park-Yosemite National Park, located approximately 6 miles west of the project site. The National Park includes approximately 1,200 square miles of mountainous terrain, 95 percent of which is designated as Wilderness. The National Park is managed by the National Park Service and bounded on the southeast by the Sierra National Forest and the Northwest by the Stanislaus National Forest. Each year over five million visitors visit the National Park to partake in various recreational opportunities such as hiking, horseback riding, bicycling, camping, fishing, scenic driving, and wildlife viewing (NPS, 2019).

Stanislaus National Forest-The Stanislaus National Forest encompasses 898,099 acres on the western slope of the Sierra Nevada. The National Forest includes approximately 1,000 miles of hiking trails, approximately 3,000 miles of roads, 78 lakes, and over 800 miles of rivers and streams including the Tuolumne River. Each year there are approximately 1.7 million visitors to the National Forest, which offers year-round recreational opportunities such as bicycling, camping, fishing, hiking, horseback riding, hunting, picnicking, scenic driving, water sports, and winter sports (USDA, 2019).

VIII.4 Significance criteria for assessment of potential for significant adverse impacts: The following assessment criteria were utilized ESA analysts to evaluate the potential for implementation of the proposed project could have a significant impact on the environment. Additional detail relative to this analysis can be found in the EIR. In general ESA analysts considered an adverse impact was possible if the impact would:

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

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- Fire Protection
 - Police Protection
 - Parks
- 2) 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.
- 3) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

VIII.5 Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

VIII.5.1 Fire Services: Most of the project site was severely burned during the 2013 Rim Fire. Post Rim Fire much of the Stanislaus National Forest lands adjacent to the site have undergone roadside hazard tree removal, timber salvage, fuels management, and reforestation activities since to remove excess dead and downed wood that resulted from the fire. While timber salvage and reforestation have taken place on the project development area, significant quantities of downed wood and standing snags remain on the Under Canvas project site. These conditions present a substantial fire hazard from a fuels management perspective. Consequently, any development on the site will include removal of dead and dying trees and fuel treatment to ensure user safety and reduce fire risk.

In addition to the fuel reduction activities that would be undertaken as part of this THP, the Under Canvas project site would be subject to ongoing fuel and vegetation management treatments as prescribed in the project's Wildfire Mitigation Plan described in Project EIR.

The project site is a private inholding within the Stanislaus National Forest, with surrounding National Forest System lands immediately adjacent to the west, south, and east. As is the case with all private land parcels in the vicinity, the site is located within a State Responsibility Area (SRA) for fire protection responsibility. The surrounding federal lands of the Stanislaus National Forest are designated as a Federal Responsibility Area (FRA). Through an agreement with the U.S. Forest Service (USFS), wildfire protection on SRA lands in the area is provided by the USFS. Such arrangements are common in areas where relatively small and scattered private inholdings are present within much larger areas of federal land.

Wildland firefighting resources in the area are a mix of federal, state, and local resources. As stated previously, the USFS is responsible for providing wildfire protection to the project site through a cooperative agreement with CAL FIRE. The USFS maintains a fire station at the Groveland Ranger District office at Buck Meadows, which is located approximately 9.2 road miles west of the project site off of State Route 120 (SR-120). Resources at the facility include a Type 3 wildland firefighting engine and crew (Engine 42), as well as an Interagency Hotshot Crew (Groveland Interagency Hotshot Crew). Other resources at the facility include a water tender (Water Tender 42) and several patrol/utility vehicles (Stanislaus National Forest, 2020). The USFS and Yosemite National Park also jointly maintain a cooperative Type 3 engine

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(Engine 346) at Hodgdon Meadow on Yosemite National Park, approximately 7.8 road miles from the project site.

The Tuolumne County Fire Department (TCFD) is responsible for providing structural fire protection and emergency medical services to the project site, though it also has wildland firefighting resources and can provide wildland fire protection as needed. The TCFD is administered by CAL FIRE under a cooperative agreement with the County. TCFD is headquartered in Sonora and includes thirteen fire stations, with eight stations within unincorporated Tuolumne County. The nearest TCFD firefighting resources are located at Fire Station 78 in Groveland, approximately 17 road miles west of the project site on SR-120.² Resources at the station include two Type 1 fire engines, one Type 2 engine, and one Type 3 engine (Tuolumne County, 2020). Station 78 staffs five part-time fire fighters and maintains shifts of two firefighters on duty for 24 hours a day, seven days a week. The station currently serves approximately 3,451 residents and in 2018 responded to 509 emergency calls.

According to the Tuolumne County General Plan EIR, TCFD does not use the National Fire Protection Association standard for fire protection services that requires 1-2 firefighters per 1,000 residents because this standard does not fit TCFD's personnel resources and service population. TCFD response time for urban areas is nine minutes, suburban areas have a response time of 10 minutes, rural areas have a response time of 14 minutes, and remote areas have a response time dependent directly on travel distance (Tuolumne County, 2018a).

The TCFD has mutual aid agreements with the Twain Harte Fire Protection District (FPD), Tuolumne City FPD, Columbia FPD, Sonora Fire Department, Groveland Community Services District, Strawberry FPD and the Tuolumne Rancheria Fire Department (Tuolumne County, 2018). In addition to these agreements, both CAL FIRE (and by extension, the TCFD) and the USFS have entered into various cooperative and fire assistance agreements with the U.S. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and Bureau of Indian Affairs. Based upon these and other interagency agreements, most large wildfire events in the region are responded to by multiple agencies operating under the varying levels of the incident command structure, which is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective. Emergency and non-emergency medical transport services for Tuolumne County are provided by the Tuolumne County Ambulance Service. The Ambulance Service employs 60 full-time and part-time Paramedics and Emergency Medical Technicians (EMTs). The Tuolumne County Ambulance Service receives approximately 8,000 calls per year (Tuolumne County, 2018a).

VIII.5.2 Assessment of potential for significant adverse impacts: Along with the THP and Wildfire Mitigation Plan, an Emergency Operation Plan will also be developed for the proposed project. The Wildfire Mitigation Plan would be subject to review and approval by applicable emergency services providers. The Under Canvas project would also be required to develop an Emergency Operation Plan. The Emergency Operations Plan includes, among other components, an annual training program for all employees, covering the Emergency Operation Plan and issues such as response to fire, fire extinguisher and firehose use, first aid and emergency medical response; an orientation briefing for guests concerning potential hazards and what to do in the event of an emergency incident; provision of a site fire and emergency

² Groveland is a cooperative fire department with all three agencies participating; TCFD, CAL FIRE, and the Groveland Community Services District.

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alert system to notify site occupants in the event of an emergency; and a site evacuation plan, defining routes of ingress and egress, rally points, and protocols for disabled guests and/or guests without their own transport.

The USFS is responsible for providing wildfire protection to the project site through a cooperative agreement with CAL FIRE. The USFS maintains a fire station at the Groveland Ranger District office at Buck Meadows, which is located approximately 9.2 road miles west of the project site off of State Route 120 (SR-120). The USFS and Yosemite National Park also jointly maintain a cooperative fire station at Hodgdon Meadow on Yosemite National Park, approximately 7.8 road miles from the project site.

The Tuolumne County Fire Department (TCFD) is responsible for providing structural fire protection and emergency medical services to the project site, though it also has wildland firefighting resources and can provide wildland fire protection as needed. The nearest TCFD firefighting resources are located at Fire Station 78 in Groveland, approximately 17 road miles west of the project site on SR-120.

The project will be required to be consistent with applicable Tuolumne County General Plan policies, including Policy 9.A.1, which requires the active involvement of fire protection agencies within Tuolumne County in land use planning decisions; Policy 9.E.3, which requires new development to be consistent with State and County regulations and policies regarding fire protection; Policy 9.G.1, which requires the County to determine the impact proposed development will have on the provision of fire protection services and maintain the established level of service as outlined in the current Tuolumne County Fire Department Service Level Stabilization Plan; and Policy 9.H.2 which requires the County to enforce the provisions found in Title 15 of the Tuolumne County Ordinance Code and the California Fire Code for built-in fire suppression equipment in all new development in order to improve fire safety and offset the need for increased fire department staffing and equipment.

The TCFD has reviewed the project and has confirmed that the project as-designed will meet its requirements for fire prevention. As mentioned previously, CAL FIRE has also determined that the fuel modifications proposed for the project would represent an improved condition that would help protect communities and critical infrastructure along the SR-120 corridor, and that the modifications are consistent with its Tuolumne-Calaveras Unit Pre-Fire Management Plan. Fire and emergency response times to the site would continue to be dependent on travel distance from the nearest available resource to the site, as is the case currently in the more rural areas of the County. Consistent with the findings of the County's General Plan Update EIR, TCFD has indicated that fire protection services can be provided to the project without the need for additional personnel or new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Consequently, project adherence to the requirements of the THP, Wildfire Mitigation Plan, Emergency Operation Plan, and applicable County policies related to fire protection, combined with the TCFD's confirmation that it can provide fire protection services to the project without the need for additional personnel or new or physically altered fire protection facilities, would ensure that this impacts related to the provision of fire protection services would be **less than significant**.

VIII.5.3 Conclusions regarding potential for significant adverse impacts on Fire services: The TCFD has reviewed the project and has confirmed that the project as-designed will meet its

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requirements for fire prevention. As mentioned previously, CAL FIRE has also determined that the fuel modifications proposed for the project would represent an improved condition that would help protect communities and critical infrastructure along the SR-120 corridor, and that the modifications are consistent with its Tuolumne-Calaveras Unit Pre-Fire Management Plan. Fire and emergency response times to the site would continue to be dependent on travel distance from the nearest available resource to the site, as is the case currently in the more rural areas of the County. Consistent with the findings of the County's General Plan Update EIR, TCFD has indicated that fire protection services can be provided to the project without the need for additional personnel or new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Consequently, project adherence to the requirements of the THP, Wildfire Mitigation Plan, Emergency Operation Plan, and applicable County policies related to fire protection, combined with the TCFD's confirmation that it can provide fire protection services to the project without the need for additional personnel or new or physically altered fire protection facilities, would ensure that this impacts related to the provision of fire protection services would be **less than significant**.

VIII.5.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

VIII.6 Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

VIII.6.1 Police services: Police protection to the project site is provided by the Tuolumne County Sheriff's Office (TCSO). The TCSO station nearest to the project site is located at 28 North Lower Sunset Drive in Sonora, approximately 44 road miles northwest of the project site. The TCSO currently has a total of 138 authorized positions, including 63 Patrol Deputies and 38 Adult Detention Deputies. TCSO does not use a level of service ratio because of the large geographic area of the County (Tuolumne County, 2018a).

The TCSO station is staffed seven days a week, 24 hours a day by 13 dispatchers. TCSO's average response time is 12 minutes and 3 seconds and in 2018, TCSO received 41,181 patrol calls for service, 3,910 traffic stops, 801 total citations and 9,348 deputy initiated incidents. In 2019, TCSO responded to 28 incidents along the 10-mile stretch of the SR-120 corridor between Rainbow Pools and the boundary with Yosemite National Park.

In addition to the Patrol division, the County Jail, Emergency Dispatch Center, and Coroner's Office, the TCSO provides services such as investigations, narcotics, boat patrol, courts security, records, SWAT, search and rescue, and K-9 services.

Tuolumne County is within the California Highway Patrol (CHP) Central Division, which provides additional traffic enforcement along the state highways and County Roadways. The County's CHP area office is located at 18437 Fifth Avenue, in Jamestown, approximately 41 road miles northwest of the project

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site. The CHP issues traffic citations for traffic violations and provides other services to support overall safety to the residents of Tuolumne County. The Tuolumne County Sherriff Department's (TCSD) station nearest to the project site is located at 28 North Lower Sunset Drive in Sonora, approximately 25 air miles northwest of the project site. The TCSD currently has a total of 135 authorized positions, including 63 Patrol Deputies and 38 Adult Detention Deputies.

VIII.6.2 Assessment of potential for significant adverse impacts: Construction of the project could result in accidents or emergency incidents that would require police services. However, construction activities would be short-term and limited in scope, and would not require the need for new police personnel or facilities.

Operation of the project also could result in accidents or emergency incidents requiring police services. However, these are expected to be similar in frequency and nature to that which already occurs in the vicinity. In addition, the project would be consistent with applicable Tuolumne County General Plan policies, including Policy 9.D.4, which requires new development to be designed so as to discourage criminal activity and Implementation Program 9.D.h, which requires the active involvement of the Tuolumne County Sheriff's Office in the review of land development applications and incorporation of law enforcement recommendations as conditions of land use entitlements.

The TCSO has reviewed the project and has confirmed that police protection services can be provided to the project without the need for additional personnel or new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. Response times to the site would continue to be dependent on travel distance from the nearest available resource to the site, as is the case currently in the more rural areas of the County.

Consequently, project consistency with applicable County policies related to fire police protection, combined with the TCSO's confirmation that it can provide police protection services to the project without the need for additional personnel or new or physically altered police facilities, would ensure that this impacts related to the provision of police protection services would be **less than significant**.

VIII.6.3 Conclusions regarding potential for significant adverse impacts on Fire services: The TCSO has reviewed the project and has confirmed that police protection services can be provided to the project without the need for additional personnel or new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. Response times to the site would continue to be dependent on travel distance from the nearest available resource to the site, as is the case currently in the more rural areas of the County.

Consequently, project consistency with applicable County policies related to fire police protection, combined with the TCSO's confirmation that it can provide police protection services to the project without the need for additional personnel or new or physically altered police facilities, would ensure that this impacts related to the provision of police protection services would be **less than significant**.

VIII.6.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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VIII.7 Assessment of the potential to 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 by construction of the Under Canvas Project.

VIII.7.1 Parks: The proposed project would develop 99 luxury camp sites to meet expanding demand for lodging facilities in the region. The proposed campsites and associated facilities would be open to the public to provide additional recreation for County residents and the area's tourist population.

VIII.7.2 Assessment of potential for significant adverse impact: The proposed project has been designed to provide visitors with recreational opportunities within the designated campground areas. The proposed project would provide on-site facilities for its guests and would not significantly increase the usage or the physical deterioration of surrounding recreational areas or facilities. The proposed project is intended to accommodate visitors and tourists that are already in the project vicinity.

VIII.7.3 Conclusions regarding potential for significant adverse impacts on Recreation facilities: Implementation of the proposed project would not be anticipated to result in substantial adverse physical impacts associated with the provision of new or physically altered park or recreation facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives, and this impact would be less than significant.

VIII.7.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

IX. Cultural Resources

The cultural resource evaluation included here was prepared by ESA archaeologists. To the extent that information is available regarding cultural resources, additional background information and analysis can also be found in the EIR.

IX.1 Environmental Setting and background research: ESA staff conducted a review of online maps and aerial photography and reviewed literature in ESA's Northern California cultural resources library. Staff members at the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University Stanislaus conducted a records search on June 1, 2018 (File No. 10723-O). The review included the project site and a 0.5-mile radius. Previous surveys, studies, and site records were accessed. Records were also reviewed in the Historic Property Data File that contains information on sites of recognized historical significance including those evaluated for listing in the National Register of Historic Places, the California Register of Historical Resources (California Register), the California Inventory of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

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CCIC records indicate that two built environment historic-period resources have been previously recorded within 0.5 miles of the project site, but none within the project site. The Golden Rock Water Ditch (CA-TUO-001751H) is a historic-era water supply ditch constructed between 1855 and 1860 that diverted part of the South Fork Tuolumne River to serve mining, irrigation, and drinking water needs for the district. This site is located approximately 0.5 miles south of the project site. The second site, Big Oak Flat Road (CA-TUO-003146H) was originally constructed in the 1870s and is located adjacent to the northern boundary of the project site.

Results of the CCIC records search also identified five previously recorded archaeological resources within 0.5 mile of the project site, none of which are in the project site. One of these resources, P-55-007892, was recorded approximately 250 feet southwest of the project site. This site is a dirt roadbed of indeterminate age. The four other resources consist of:

1. P-41-000307 (CA-TUO-3554/H), a multi-component archaeological site containing a Native American obsidian and chert lithic scatter and a historic-era glass and ceramic scatter located approximately 0.25 miles southeast of the project site;
2. P-41-002574 (CA-TUO-1583), a Native American archaeological site consisting of two bedrock mortar outcrops located 0.5 miles north of the project site;
3. P-41-002579 (CA-TUO-1588), a Native American archaeological site containing bedrock mortars, obsidian lithic artifacts, and two steatite artifacts located 0.5 miles northwest of the project site; and
4. P-41-007893 (CA-TUO-5067), a Native American archaeological site containing bedrock mortars, obsidian lithic artifacts, and groundstone artifacts located 0.2 miles northeast of the project site.

Additionally, the CCIC has record of 29 previous cultural resources studies that have been conducted within 0.5 mile of the project site. Two of these studies included small portions of the project site.

None of the ethnographic literature reviewed for this project described or depicted any ethnographic place names in or in close proximity to the project site. Levy (1978: Fig 2) depicts the closest place names as *Pigliku* and *Sala*, approximately 10 miles west of the project site in the vicinity of Groveland.

On May 30, 2018, ESA contacted the Native American Heritage Commission (NAHC) by email to request a records search of their Sacred Lands File (SLF) and a list of Native American representatives with cultural affiliation to the project area and vicinity. ESA received a response from the NAHC on June 14, 2018 stating that the SLF has no record of any resources in the project site. The reply also included a list of two Native American representatives affiliated with the project area. The County is also currently conducting outreach to relevant California Native American tribes, pursuant to PRC § 21080.3.1.

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IX.2 Cultural Survey: On June 11, 2018, an ESA archaeologist conducted an archaeological pedestrian survey of the project site. Intensive pedestrian survey methods were used, consisting of walking parallel transects and inspecting the surface for cultural material or evidence thereof. Transects were spaced no more than 10-15 meters apart in areas subject to proposed project ground disturbance; transects in portions of the project site not subject to ground disturbance were spaced at 30-meter intervals. Due to the steep terrain, transects were oriented perpendicular to slope. Where present, flat areas, drainages, and bedrock outcrops were subjected to more intensive scrutiny.

A modern, unfinished cabin and a modern woodshed were observed within the project site, but no historic-period built environment resources were identified within the project site as a result of the field survey.

Two potentially historic-period roads were identified during survey. The first road is a dirt track accessed from Big Oak Flat Road north of the project site across from Forest Route 1S03. The dirt track proceeds from the northwestern corner of the project site in a southeasterly direction approximately 2,000 feet along the southern bank of a stream drainage. The road serves as access for the modern woodshed and has been used for logging access after the 2013 Rim Fire. The dirt track is first recorded on a 1990 U.S. Geological Survey (USGS) topographic map (USGS, 1990) and does not appear on earlier maps or aerial photographs.

The second road identified during the survey is an overgrown road cut originating near the center of the project site that proceeds downslope north-northeast along the east bank of an intermittent drainage and connects with the dirt track near the modern wood shed. The road cut is approximately 700 feet long, 10-12 feet wide at the base, 14-16 feet wide at the top of the cut, and 16-32 inches deep. Several runoff control swale-and-berm water bars cross the road cut at oblique angles, spaced irregularly and oriented to deliver stormwater into the intermittent drainage to the west. No information regarding the construction date or purpose of the road cut segment was identified during the study. The road does not appear on any historic topographic maps or aerial photographs.

IX.3 Assessment of the potential for adverse impacts: The study concludes that the project would not affect any significant archaeological resources. Although no significant archaeological resources were identified, no subsurface investigations were conducted and there remains the potential that archaeological resources could be encountered during project-related ground-disturbing activities. If any such resources were encountered and found to qualify as a historical resource or unique archaeological resource for CEQA purposes, project-related impacts to the resources could be significant. A significant impact would also occur if the project would disturb any human remains, including those interred outside of formal cemeteries. There is no indication that the project site has been used for burial purposes in the recent or distant past. While it is unlikely that human remains would be encountered in the project site, damage to human remains would be a potentially significant impact.

IX.4 Mitigations to avoid potential adverse impacts: **Mitigation Measure T0-10** will be implemented in the event of discovery of unidentified archaeological cultural resources. This mitigation requires work to halt and the resources to be thoroughly documented and treated appropriately. Implementation of this mitigation measure would ensure that impacts on archaeological resources remain at a **less-than-significant** level. **Mitigation Measure T0-9**, which will be implemented in the event of discovery of unidentified tribal cultural resources, requires work to halt and the resources to be thoroughly

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documented and appropriately treated. Implementation of this mitigation measure would ensure that impacts on tribal cultural resources remain at a **less-than-significant** level.

Mitigation Measure TO-9: If prehistoric or historic-era archaeological resources are encountered, all construction activities within 100 feet of the find shall halt and Tuolumne County (County) shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. An archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology (qualified archaeologist) shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with Public Resources Code (PRC) § 21083.2 and CEQA Guidelines § 15126.4, with a preference for preservation in place.

Consistent with CEQA Guidelines § 15126.4(b)(3), preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the County. Treatment of unique archaeological resources shall follow the applicable requirements of PRC § 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

Mitigation Measure TO-10: In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Tuolumne County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American (PRC § 5097.98), who in turn would make recommendations to the County for the appropriate means of treating the human remains and any associated funerary objects [CEQA Guidelines § 15064.5(d)].

IX.5 Significance After Mitigation: Implementation of these mitigation measures would ensure that potential impacts on tribal cultural resources remain at a **less-than-significant** level.

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X. Transportation

The analysis of potential impacts on transportation patterns and use which is discussed below has been taken from discussions and analysis included in the draft EIR prepared by ESA for Under Canvas. The full discussion and analysis of impacts can be found in Chapter 3.8 of the draft EIR. Excerpts from the EIR are included here to provide reviewers of this Timber Harvesting Plan information regarding ESA's analysis of potential impacts of the project on Transportation and Transportation facilities.

X.1 Background: The project site is currently undeveloped, and contains no established roadways or other transportation facilities. Existing public roadways in the vicinity include State Route 120 (SR-120), which fronts the project site along its northern boundary, and Hardin Flat Road, which generally fronts the project site along its eastern boundary. Other unimproved dirt tracks are present on Stanislaus National Forest lands to the west and east, and provide access to Forest lands for purposes of recreation and forest management activities.

SR-120 is a two-lane rural expressway that serves as the primary recreational route for tourists visiting Yosemite National Park. SR-120 in the vicinity of the project site is classified as an Other Principal Arterial, and is a High Emphasis interregional roadway. Although the highway allows for bicycle use, bike and pedestrian facilities are not provided, nor planned for, on this highway segment (California Department of Transportation [Caltrans], 2011). The average annual daily traffic (AADT) on SR-120 in the vicinity of the project site is approximately 3,900 vehicles (Caltrans, 2017).

Hardin Flat Road is a single-lane paved roadway that begins from SR-120 near the northeast corner of the project site. The roadway travels generally southwards and eastwards, and provides access to several private recreational campgrounds and other private land parcels in Hardin Flat alongside the South Fork of the Tuolumne River and surrounding areas. The road eventually reconnects with SR-120 about five miles east of where it left the highway. Hardin Flat Road is generally maintained at a paved width of 20 feet. The roadway is not classified in the Tuolumne County General Plan (arterial, collector, etc.), and therefore falls within the Local Roads category. Local roads are all those County roads not classified under the Arterial or Collector categories. The local road system primarily provides direct access to residential property and other areas which are not directly served by the collector or arterial system, and are not intended for use in long distance travel. Local roads make up a major portion of the County's Road System, accounting for approximately 404 miles (Tuolumne County, 2018a).

Site development activities would be preceded by a timber salvage program, concurrent with implementation of a hazardous fuel reduction effort to make the site accessible and safe for use. Following this preliminary site preparation, construction of the campground facility itself would commence. The site plans are based on minimal site disturbance based on seasonal occupancy. Few permanent or "hard" facilities would be present. Tent pads would require minimal excavation, and most project facilities (guest tents, lobby tent, kitchen and bathroom facilities) would be hauled into the site on a seasonal basis. Owing to the low-impact and temporary nature of the project elements, the number of construction trips required would be substantially lower than that needed for a more traditional development project. Accordingly, the number of trips added to the area roadway system during construction would be negligible, especially when considered as a ratio against existing traffic levels.

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In its operational phase, the project would not result in significant impacts to level of service (LOS) along SR-120 or Hardin Flat Road.³ SR-120 in the vicinity of the project currently operates at LOS C (Caltrans, 2011). As noted previously, the project trips would generate a total of approximately 260 vehicle trips per day. These project-generated vehicle trips would represent about 6.7 percent of average daily traffic volumes on SR-120 in the area of the project site, which is within the range of typical daily variation in traffic levels that might be expected on these facilities. These considerations indicate that roadway operating conditions would remain substantially similar to current conditions and the LOS would not deteriorate. In addition, the number of average daily trips indicated above does not take into account any trip reductions that would be realized by the project's provision of a YARTS transit stop at the project's frontage with Hardin Flat Road. While it would require speculation to predict the ratio of project guests that would avail themselves to YARTS service to visit Yosemite National Park or other locations in lieu of driving their own personal vehicles, it is reasonable to assume that the number of guests and employees that would do so could be substantial, with a subsequent reduction in daily trips realized beyond the low level of trips already discussed. Utilization of YARTS service by project guests would also lessen the number of personal vehicle trips into popular areas, such as Yosemite National Park.

X.2 Impact Assessment Background Analysis: At the time the transportation analysis was conducted for the Initial Study prepared for the project, site-specific trip generation rates were not available. The Institute of Transportation Engineers (ITE) Trip Generation Manual, which would normally be consulted to determine appropriate trip generation rates, does not have trip generation data/rates that fit with the unique characteristics of the Under Canvas product. For this reason, the trip generation characteristics for Yosemite Under Canvas were provided by Under Canvas based on their qualitative observations at similar existing (i.e., operational) facilities. Under Canvas estimated that peak period traffic generated by the project would occur between 7:30 and 10:30 a.m. and 5:00 and 10:00 p.m. During these periods, Under Canvas estimated that there could be up to 25 vehicles per hour leaving in the morning and up to 25 vehicles per hour arriving in the evening.

In the summer of 2019, ESA was contracted by Under Canvas to develop site specific trip generation estimates for typical Under Canvas camp sites. The reason for this effort was to provide more precise trip generation rates for the project. The results of this effort are documented in a memorandum titled, *Trip Generation for Under Canvas*, which was finalized on September 24, 2019 and is provided as **Appendix I** to the EIR.

X.3 Impact Analysis Criteria: The following criteria were utilized to determine to evaluate if implementation of the proposed project could have a significant impact on the environment. For purposes of the analysis conducted by ESA concluded that project would have the potential for a significant adverse impact if the project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

³ LOS is a qualitative measure of traffic operating conditions. LOS A through F are assigned to an intersection or roadway segment, with LOS A indicating very good operations with little congestion and LOS F indicating poor operations with heavy congestion.

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- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

X.4 Impact Analysis and Mitigation

X.4.1: Implementation of the project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (*Less than Significant*)

X.4.1.1 Background: In the summer of 2019, ESA was contracted by Under Canvas to develop site specific trip generation estimates for typical Under Canvas camp sites. The reason for this effort was to provide more precise trip generation rates for the project. The results of this effort are documented in a memorandum titled, *Trip Generation for Under Canvas*, which was finalized on September 24, 2019 and is provided in **Appendix I** of the EIR.

The Yosemite Area Regional Transportation System (YARTS) offers a public transit service during the summer months (seven days a week from May through September) along SR-120, and travels from Sonora through Jamestown, Groveland, Buck Meadows, Hardin Flat, and the Yosemite Valley. If traveling east, the route leaves SR-120 and turns south onto Hardin Flat Road, passing alongside the project site's eastern boundary, and then proceeds to Hardin Flat before rejoining SR-120 via Yosemite Lakes Road. The nearest current stop to the project site is at the Yosemite Lakes Campground at Yosemite Lakes Drive in Hardin Flat, about 1.1 miles down Hardin Flat Road from the project site. Based on its published schedule for 2020, YARTS operates hourly headways in the AM hours during the peak season (May 25 through August 31), with eastbound AM stops at Yosemite Lakes Campground at 8:47, 9:47, and 10:47; and westbound PM stops at 4:59, 5:29, and 6:29 (published schedule for 2020) (YARTS, 2020).

In its 2018 Short Range Transit Plan (YARTS, 2018), YARTS noted that in July, 2017, the busiest month of service, the overall load factor on the Route 120 line was 56 percent on weekdays and 47 percent on weekends. The busiest weekday runs were the eastbound run departing Sonora at 6:40 AM (75 percent load factor), while the busiest westbound run was the 4:00 departure from Yosemite Valley (61 percent load factor). Only one run had reservations reaching the maximum allowed reservation (Run 1 on Labor Day).

X.4.1.2 Analysis of potential adverse impacts: In its operational phase, the project would not result in significant impacts to level of service (LOS) along SR-120 or Hardin Flat Road. SR-120 in the vicinity of the project currently operates at LOS C (Caltrans, 2011). The project trips would generate a total of approximately 260 vehicle trips per day. These project-generated vehicle trips would represent about 6.7 percent of average daily traffic volumes on SR-120 in the area of the project site, which is within the range of typical daily variation in traffic levels that might be expected on these facilities. These considerations indicate that roadway operating conditions would remain substantially similar to current conditions and the LOS would not deteriorate. In addition, the number of average daily trips indicated above does not take into account any trip reductions that would be realized by the project's provision of a YARTS transit stop at the project's frontage with Hardin Flat Road.

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While it would require speculation to predict the ratio of project guests that would avail themselves to YARTS service to visit Yosemite National Park or other locations in lieu of driving their own personal vehicles, it is reasonable to assume that the number of guests and employees that would do so could be substantial, with a subsequent reduction in daily personal vehicle trips realized beyond the low level of trips already discussed. Utilization of YARTS service by project guests would also lessen the number of personal vehicle trips into popular areas, such as Yosemite National Park.

The Tuolumne County Board of Supervisors has determined that projects may contribute cumulatively to the significant adverse impacts on the County's circulation system. As a condition of approval for all project types (with limited exceptions), Tuolumne County Ordinance Code Chapter 3.54 requires that all new development contribute to transportation improvements and maintenance through payment of fees. The TIMF for the project would be calculated using the recreational project type rate. The recreational project type TIMF rate is currently \$885 per parking space (Tuolumne County, 2018b). Because the project would not operate every day of the year, the TIMF would be prorated for the number of days per year that the facility would be operational. The project would be conditioned to pay all applicable TIMFs prior to issuance of a Certificate of Occupancy from the Building and Safety Division of the Community Development Department.

The project would conform to applicable policies in the County's General Plan. The project would not result in a worsening of LOS performance criteria for SR-120 and other area roadways (Policies 4.A.1 and 4.A.6); the project would pay fees to offset its impacts to the area's transportation system (Policy 4.A.5); the project's internal roadways and intersections with public roadways would be designed in accordance with applicable standards to provide safe and efficient access to, through, and from the site (see Section 2.4.2 of this EIR, *Access and Internal Circulation*) (Policy 4.A.2); the project would integrate YARTS transit into its design by providing turnout facilities and a bus stop at the project frontage along Hardin Flat Road (see Section 2.4.2 of this EIR, *Access and Internal Circulation*) (Policies 4.B.1 and 4.C.6); and provision of transit access to and from the site would enable such use in an emergency evacuation (Policy 4.C.7).

X.4.1.3 Significance of Potential Impacts: Based upon each of these considerations, as well as the payment of applicable TIMF fees as a condition of project approval, the impacts of the project with respect to conflicts with an adopted transportation policy or plan would be **less than significant**.

With respect to the project's impact to YARTS transit services, in its 2018 Short Range Transit Plan (YARTS, 2018), YARTS noted that in July, 2017, the busiest month of service, the overall load factor on the Route 120 line was 56 percent on weekdays and 47 percent on weekends. The busiest weekday runs were the eastbound run departing Sonora at 6:40 AM (75 percent load factor), while the busiest westbound run was the 4:00 departure from Yosemite Valley (61 percent load factor). Only one run had reservations reaching the maximum allowed reservation (Run 1 on Labor Day). The Plan concluded that existing ridership figures did not indicate a strong need for additional capacity. Nevertheless, there is the potential that the project's contribution to YARTS ridership, together with other proposed projects along the SR-120 corridor, could occasionally result in an increase in ridership demand that could exceed seating capacity on several runs per season. Based upon this consideration, this impact would be considered **potentially significant**. Implementation of **Mitigation Measure 3.8-1** would reduce potential impacts to YARTS service to **less than significant**.

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X.4.1.4 Mitigation(s) to Avoid Significant Adverse Impacts:

EIR Mitigation Measure 3.8-1: During periods of peak visitation, Under Canvas staff shall coordinate with the Yosemite Area Regional Transportation System (YARTS) to identify transit runs where transit demand may exceed capacity. On those dates, and for those runs where such an exceedance is expected, Under Canvas staff will recommend alternative departure times for guests to help avoid overcrowding during the identified runs

X.4.2 Impact: Implementation of the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). (*Less than Significant*)

X.4.2.1 Background: ESA contracted with Wood Rodgers to complete a vehicle miles traveled (VMT) analysis for the project. In the absence of an adopted County policy regarding VMT analysis and thresholds, the methodology used to analyze VMT for the project is based on threshold guidance provided in the Governor’s Office of Planning and Research’s (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR, 2018), and the best and most current VMT data available as calculated by the Tuolumne County Regional Travel Demand Model (RTDM). OPR’s recommended threshold for residential, office, and retail uses provides that any project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. For other land uses, OPR recommended that lead agencies utilize the thresholds noted above, but noted that lead agencies may also develop thresholds of their own, so long as those thresholds consider the overall purpose and intent of SB 743, which was to reduce VMT. In the absence of an adopted County threshold, this analysis uses OPR’s threshold for residential, office, and retail uses, as outlined above.

Net change in Countywide VMT due to the project was calculated for Year 2020 and Year 2040 scenarios by comparing the “Without Project” and “With Project” total VMT generated by County land uses using the RTDM. The VMT analysis was performed for annual average weekday daily conditions, which reflects the assumptions that the project would only operate seven months out of the year and would experience an average occupancy of approximately 85 percent. Furthermore, project-generated VMT was adjusted to reflect the location of the project site adjacent to the proposed YARTS bus stop at the project entrance. The annual average VMT is summarized below.

ANNUAL AVERAGE VMT SUMMARY

2020 Without Project Total VMT Generated by County Land Uses	3,374,574
2020 With Project Total VMT Generated by County Land Uses	3,376,495
2020 Net Change in Total VMT Generated by County Land Uses	+1,921
2040 Without Project Total VMT Generated by County Land Uses	3,806,308
2040 With Project Total VMT Generated by County Land Uses	3,808,235
2040 Net Change in Total VMT Generated by County Land Uses	+1,927

NOTES: All data is estimated from the Tuolumne County Regional Travel Demand Model, standard Tuolumne County post-processing methodologies, and YARTS ridership data from Tuolumne County.

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A detailed analysis of project VMT is provided in Appendix I of the EIR.

X.4.2.2 Analysis of Potential Significant Adverse Impacts: As part of the Tuolumne County SB 743 VMT Study, which is currently being developed, the County was divided into nine subareas based on proximity and travel characteristics. The project is located in the East County subarea. The methodology used to evaluate whether the project would result in a significant VMT impact first estimated the existing average total campground VMT per campsite in the East County subarea of Tuolumne County using the RTDM. Second, a VMT per campsite threshold of 15 percent below the existing subarea average was selected, with the intent of encouraging new campgrounds in the region, such as the project, to generate lower VMT per visitor, since providing lodging opportunities closer to area attractions such as Yosemite National Park would have the effect of lessening VMT to and from those attractions. The 15 percent-below threshold is consistent with guidance provided by OPR with respect to residential, office, and retail projects (OPR, 2018).

X.4.2.3 Determination of Significance: The existing average VMT per campsite in the East County subarea was estimated to be approximately 48.4 VMT per site. The project's VMT per campsite was estimated to be approximately 38.2 VMT per site, or approximately 21 percent less than the East County subarea average. Therefore, the project's total VMT per campsite would be more than 15 percent below the existing subarea average, and the impact would therefore be **less than significant**.

X.4.2.4 Mitigations: No additional mitigation was determined to be necessary

X.4.3 Impact Road Design and safety: Implementation of the project would not substantially increase hazards due to a geometric design or incompatible uses. (*Less than Significant*)

X.4.3.1 Background: The project would not involve redesign or reconfiguration of existing roadways. Primary access to the site would be taken from Hardin Flat Road, at a point approximately 800 feet south of Hardin Flat Road's intersection with SR-120.

X.4.3.2 Analysis of Potential Adverse Impacts: The distance between the project entrance and SR-120, together with the low traffic volumes generated by the project, would ensure that no backups onto SR-120 would occur. The project would not introduce any new types of vehicles, turning movements, or other features that would differ substantially from that which is already occurring.

X.4.3.3 Determination of Significance: Based on each of these considerations, impacts from the project would be **less than significant**.

X.4.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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X.4.4 Impacts to emergency access: Implementation of the project would not result in inadequate emergency access. (*Less than Significant*)

X.4.4.1 Background: The project proponent has committed to specific project design features that would assist in meeting the requirements of effective emergency access and evacuation, if needed. Suitable site ingress and egress would be available on the east side of the site from SR-120 via Hardin Flat Road, as well as a secondary point of access from adjacent federal lands on the northwestern side of the site. Internal roadways would be designed to accommodate large pieces of firefighting equipment such as water tenders, semi transports with dozers, and fire engines. All site roadways would be constructed to have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet. For dead-end roadways in excess of 150 feet in length, a turnaround area for fire apparatus would be provided.

X.4.4.2 Analysis of Potential Adverse Impacts: These and other features would enable firefighters and other emergency responders to effectively access the site in the event of an emergency. These features would also enable an efficient exit of employees and guests in the event of an evacuation. Further, the project would implement an Emergency Operations Plan, which would be subject to review and approval by applicable emergency services providers. The plan would include, at a minimum:

- A Training and Exercise Plan, to be implemented annually with all employees, covering the Emergency Operation Plan and issues such as response to fire, fire extinguisher and firehose use, first aid and emergency medical response, site evacuation, and dealing with problem guests.
- An orientation briefing for guests concerning potential hazards and what to do in the event of an emergency incident.
- Provision of a site fire and emergency alert system to notify site occupants in the event of an emergency.
- A site evacuation plan, defining routes of ingress and egress, rally points, and protocols for disabled guests and/or guests without their own transport.
- Establishment and maintenance of temporary refuge areas if evacuation is not possible.
- Establishment of a helicopter landing site, which could also be utilized for other facility functions requiring an unobstructed and open space.
- Basic fire and first aid training would be provided to all employees, with at least one employee onsite at any given time with advanced first aid training (EMT or similar).

X.4.4.3 Determination of Significance: Each of these features would ease access to and evacuation from the site in the event of an emergency. Based on each of these considerations, and with implementation of standard procedures and regulations regarding development review and oversight by applicable agencies, this impact would be **less than significant**.

X.4.4.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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XI. Wastewater Treatment, Groundwater, Solid Waste Disposal, Electricity, and Other Services.

The analysis of potential impacts on transportation patterns and use which is discussed below has been taken from discussions and analysis included in the draft EIR prepared by ESA for Under Canvas. The full discussion and analysis of impacts can be found in Chapter 3.5 of the EIR. Excerpts from the EIR are included here to provide reviewers of this Timber Harvesting Plan information regarding ESA's analysis of potential impacts of the project on wastewater disposal, planned use of groundwater, solid waste and Electricity.

XI.1 Wastewater impact assessment: Implementation of the proposed project would potentially have a significant impact if operation of the wastewater treatment facility would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

XI.1.1 Background: The project site is currently undeveloped and does not contain any wastewater treatment or disposal facilities, and there are no municipal wastewater systems in the vicinity of the site. Therefore, wastewater would be treated onsite through the use of a septic tanks for storage and settling, and two leach field for disposal. To inform the design of the wastewater treatment system, a registered environmental health specialist investigated the site soil conditions for leach field suitability and prepared wastewater treatment plans (Don Myers 2019a, b). The soil profile examination revealed soils suitable for a leach system to at least 13 feet of depth, which is sufficient to comply with the Tuolumne County Code Chapter 13.08.

Based on the results of the investigation, detailed plans have been prepared for the design and installation of the system that includes septic tanks, and two leach fields and associated piping (Don Myers 2019b). The locations of the leach fields are shown in Figure 2-3. Both wastewater reports are provided in Appendix G of the EIR.

The wastewater daily flow would be divided between two less-than-10,000 gallons per day (gpd) wastewater systems. Details of the system layout and system components are provided in the wastewater plans in Appendix G of the EIR (Don Myers 2019b). For all domestic strength wastewater (biological oxygen demand [BOD] less than 250 milligrams per liter [mg/l]), primary treatment would occur using a code-compliant septic tank. After primary treatment, a pump package with duplex pumping (with lead/lag configuration) would pressure dose the gravel loaded leach system. Wastewater resulting from food handling and preparation produces high strength wastewater. Therefore, the food facility wastewater would be treated with a grease interceptor, post-grease interceptor septic tank, followed by a moving bed biofilm reactor (MBBR). The treatment process would reduce the BOD to less than 250 mg/l prior to dispersal. Effluent dispersal would use a duplex pumping system (with lead/lag configuration) to a pressure dosed gravel loaded leach system. The maximum daily wastewater flow rates are estimated to be about 8,280 gpd for the domestic wastewater system and 3,561 gpd for the food service wastewater (Dax Consulting 2020).

To prevent conflicts with wastewater treatment and the wastewater system, chemical sanitizing dishwashers would not be allowed. If a mechanical dishwasher is utilized it shall be a high heat type unit. All efforts necessary should be utilized to prevent grease digesting cleaning chemicals, and harsh or high strength chemicals from entering the wastewater system.

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XI.1.2 Analysis of Potential Adverse Impacts: To evaluate impacts from wastewater treatment and disposal, and as described above, a water treatment and disposal investigation was conducted that included evaluating the onsite soil conditions for the suitability of onsite treatment and disposal (Don Myers 2019a). Based on the results of the investigation, detailed plans have been prepared for the design and installation of the system that includes septic tanks, and two leach fields and associated piping (Don Myers 2019b). In addition, the County has established requirements for the permitting, construction, operation, and inspection of onsite wastewater treatment and disposal systems. The proposed project would be required to comply with the County regulations, which describe requirements for the permitting, location, materials, and flow rates of onsite wastewater treatment and disposal systems.

XI.1.3 Determination of Significance: The end result of the regulations would be that wastewater would be treated to levels such that the water quality standards and waste discharge requirements would not be violated, and impacts would be **less than significant**.

XI.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XI.2 Groundwater impact assessment: Implementation of the proposed project would be significant if use of groundwater from on-site wells substantially decreases groundwater supplies or interferes substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

XI.2.1 Background: Water supply for the proposed project would be from onsite groundwater wells. As described in the EIR, total expected maximum daily water use is estimated to be 7,755 gallons per day (gpd) for those days when the campground is fully occupied.

Onsite Wells 1 and 2 are capable of providing 40 gpm with a negligible drawdown to onsite Well 3, located about 1,256 feet from Well 1. The estimated project daily water use of 7,755 gpd equals 5.4 gpm, well within the capability of Wells 1 and 2. In addition, the campground would only operate seven months of the year, further reducing the demand on groundwater supplies.

XI.2.2 Analysis of Potential Adverse Impacts: To evaluate groundwater resources at the project site, a hydrogeological investigation was conducted that included the installation, aquifer pump testing, and chemical testing of three onsite groundwater wells. The onsite Wells 1, 2, and 3 are shown on "Project Site Plan" map included in Section IV of this Timber Harvesting Plan (see also WRA 2020 in Appendix G of the EIR). Groundwater at the site occurs in a fractured bedrock aquifer and is recharged from rainfall and snowmelt, runoff from offsite upslope areas, and underflow from upgradient offsite areas. The volume of recharge within the local drainage basin is estimated to range from 25 to 80 acre-feet per year. Because the aquifer occurs in fractured bedrock, the presence and flow of groundwater and the area affected by pumping follows the pattern of bedrock fractures, as opposed to expanding radially outward in all directions as with a sand aquifer. Consequently, the location of the wells was determined based on an onsite fracture pattern study to place wells in the optimal locations. Separate ten-day-long pump tests were conducted in Wells 1 and 2, and all three wells were monitored for their response to pumping. Pressurized (artesian) groundwater conditions were seen in all onsite wells, as indicated by the static water depths being

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shallower than the shallowest first-encountered water depth. Well construction details and aquifer pumping test results are summarized below.

WELL CONSTRUCTION AND AQUIFER TEST DETAILS

	W-1	W-2	W-3
Total Boring Depth	1,000	980	1,000
Total Well Depth	1,000	600	1,000
Depth to Fractured Bedrock Intervals that Produce Groundwater	115-116 195-196 305-306	119-120 132-134 138-139 159-182 182-183 295-266	119-120 208-209 385-395 535-536 580-581 664-668
Surface Conductor Casing	121	113	119
Screen Interval Depth	No screen	40-280	No screen
Pumping rate in gallons per minute	40	40	Not tested
Shallowest Encountered Water Depth	115	119	119
Static Water Depth	12.5	84	46.2
Maximum Drawdown	28.6	18.2	Not tested

NOTES:
 All depths in feet below ground surface
 Drawdowns measured in feet
 SOURCE: WRA 2020

Constant rate aquifer pump tests lasting ten days each were conducted on one well at a time to avoid potential interference between the wells. Water levels were monitored in all three wells during each pump test. Each well was pumped at a rate of 40 gallons per minute (gpm), which is twice the estimated pumping rate anticipated to support the proposed project.

During the aquifer pump tests, the water level in Well 3 decreased 0.88 feet during the Well 1 pump test and 0.97 feet during the Well 2 pump test. Well 3 is located about 1,256 feet from Well 1 and about 660 feet from Well 2. The negligible effect (less than one-foot drawdown) on Well 3 indicates that the effect of pumping Wells 1 and 2 is largely limited to the project site.

A separate proposed hotel project (Terra Vi) located north and across the highway is being studied for a possible hotel site that would also use groundwater as its water supply. The applicants of the proposed hotel site declined to coordinate pump tests and declined to provide their report. However, they did share some pump test data consisting of groundwater levels in two of their wells, named TV-1 and TV-2, before, during, and after their pump tests. The hotel project data was included in the hydrogeologic report in Appendix G. The consultant for the hotel site started their aquifer pump test about 2 days before the Well 2 pump test started and continued their testing until one day before the Well 2 pump test ended. The pumping rates for their Wells TV-1 and TV-2 were 27.4 and 25.4 gpm, respectively, less than the pumping rate for the onsite Wells 1 and 2. However, the maximum drawdown in the hotel wells was 152.69 and 166.68 feet, respectively, over an order of magnitude larger than the drawdown on the Under Canvas site wells. This indicates that the hotel site has less available localized groundwater water supply relative to the Under Canvas site.

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At the beginning of the hotel pump tests, the groundwater level in Well 1 decreased by about one foot and recovered its level once the hotel pump tests ended (see Figure 15 in Appendix G). Groundwater levels in Wells 2 and 3 appear to have been unaffected. This indicates that the pumping of wells on the proposed hotel site could affect Well 1, assuming that the hotel project pumps at the same rate as during their pump test. However, this also indicates that the affect is negligible (about one foot in Well 1 and none in Wells 2 and 3), suggesting that the cumulative effect of pumping both sites at the same time would not adversely affect each site's groundwater supply. In addition, given that the effect on Wells 1, 2, and 3 are negligible, any other existing wells located more than about 1,256 feet from the onsite wells (i.e., the distance from Well 1 to Well 3), would experience a negligible affect from the combined pumping of wells on the Under Canvas and the proposed hotel site.

XI.2.3 Determination of Significance: The aquifer pumping tests indicated that the areal extent of pumping impact would be largely contained within the project site. Furthermore, the 40 gpm pumping rate used during the aquifer pumping tests is twice the amount needed and proposed for the project. Therefore, the extent of areal extent where groundwater levels would decrease would be even smaller.

As discussed in the hydrogeologic report (WRA 2020, provided in Appendix G of the EIR), the aquifer pumping tests for onsite Well 2 and the two Terra Vi site wells (TV-1 and TV-2) were conducted at the same time, with the Terra Vi aquifer pumping tests starting about one day prior to the Well 2 aquifer pumping test (see Figure 14 in WRA 2020 in Appendix G of the EIR). Thus, the aquifer pumping tests were conducted in such a manner to quantify the cumulative impact of both sites being operational at the same time. Prior to beginning the Well 2 aquifer pumping test, Well 1, the well closest to the Terra Vi site, experienced a water level drawdown of about a one foot due to the Terra Vi pumping test; no drawdown was observed in Wells 2 and 3 (see Figure 15 in WRA 2020 in Appendix G). This indicates that the pumping of the Terra Vi wells has a negligible effect on the proposed project site.

The nearest other existing water supply wells are assumed to be at nearby rural residences. The closest residences are at 30350 Sawmill Mountain Road located about 1,800 feet northwest of Well 1 and two residences on Hardin Flat Road located about 2,000 feet to the southeast. Both residences are farther than the observed effect from the 40 gpm aquifer pumping tests and the extent of offsite pumping effects would be even less under actual operational pumping conditions, which are not expected to exceed 20 gpm during peak use periods. Therefore, the impact to nearby water supply wells would be less than significant.

A drawdown on one foot or less is considered negligible because well pumps are set in wells at depths well below pumping water levels to prevent exposing the pump to air that could damage the pump. A decrease of one foot or less of drawdown would not expose the pump. Further, the commencement of the aquifer pumping test on Well 2 and the later pumping test on Well 1 did not produce observable drawdowns in the two Terra Vi wells. Therefore, the aquifer pumping tests results indicate that the proposed project and the Terra Vi project would be able to operate simultaneously without adversely affecting each other's operations. Finally, because the proposed project would operate at 20 gpm, not the 40 gpm used for the aquifer pumping tests and not operate in the winter, the cumulative impact would be even smaller. Therefore, the project would not combine to result in a significant adverse impact to groundwater supply. (**less than significant**).

XI.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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XI.3 Solid Waste Disposal impact assessment: Implementation of the proposed project that would generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals could potentially have a significant adverse impact.

XI.3.1 Background: To evaluate impacts associated with solid waste disposal, solid waste disposal estimates for project operations were estimated based on the following:

- Campsites = 99 (from Project Description)
- Persons per campsite = 2.5 (from Project Description)
- Operations = 7 months (mid-March to mid-October; from Project Description)
- Pound per day per person = 4.4 (USEPA 2016)
- Cubic yards per pound = 800 (CalRecycle 2018)

From these estimates, the proposed project would generate about 290 cubic yards of solid waste per year.

XI.3.2 Analysis of Potential Adverse Impacts: Project construction would generate solid waste from excavation activities, roadway materials, and general waste. The construction of the campground would result in minimal changes to the existing topography and is not anticipated to generate significant quantities of solid waste. The operation of the campground would generate an estimated 890 cubic yards of solid waste per year. Solid waste would be brought to the Big Oak Flat Transfer Station located in Groveland, followed by disposal at the Highway 59 Disposal Site.

XI.3.3 Determination of Significance: The Highway 59 Disposal Site is well below its maximum permitted capacity of 30,012,352 cubic yards, with 28,025,334 cubic yards remaining capacity. Construction waste generated by the project is not anticipated to cause the disposal site to exceed its maximum permitted disposal volume as no structures would be demolished. Additionally, the Highway 59 Disposal Site is not expected to reach its total maximum permitted disposal capacity during the project's construction period. Therefore, the Highway 59 Disposal Site would have sufficient capacity to accept construction solid waste generated by the project, resulting in a **less than significant impact**.

XI.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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XI.4 Facilities and services impact assessment: Implementation of the proposed project would potentially have a significant adverse impact if it would require or result in the relocation or construction of new or expanded water delivery system, wastewater treatment facilities or storm water drainage facilities, electric power delivery, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

XI.4.1 Background: The proposed project would require the construction and operation of an onsite water supply system that would use onsite groundwater.

The proposed project would require the construction and operation of an onsite wastewater treatment and disposal system. All wastewater supply components would be constructed and operated onsite; no offsite changes to public wastewater supply infrastructure would be needed.

The project will also require energy. To evaluate energy impacts, and as described in the Project Description, energy use at the site would be electricity provided by the local utility company PG&E. Propane would be used for use in the onsite kitchen facility.

Most electricity demand would be met using low voltage solar systems. Lighting for the lobby tent, common areas, and guest tents would be low voltage solar lighting. All light fixtures and the use thereof would be International Dark Sky Association (IDA) compliant, while still providing safety and guidance for guests.

To provide electric power to the site during power outages, a 70 kW propane-powered standby generator would be placed adjacent to Well #1 (see Figure 2-3). The generator would be placed inside its own enclosure for protection against the elements and for noise abatement purposes.

To connect to PG&E's electrical grid, Under Canvas will need to submit an application to PG&E and acquire a will-serve letter (PGE undated). The application requires the following:

- Site plan
- Improvement plans
- Architectural plans (elevation plans, for example, to review meter location)
- Project-approval and permit conditions that need to be incorporated in utility design and construction activities. This may include requirements and conditions for onsite activities, as well as to offsite improvements, along with relevant permits and project approvals.
- Additional load details beyond those listed in application.

XI.4.2 Analysis of Potential Adverse Impacts: All water supply components would be constructed and operated onsite; no offsite changes to public water supply infrastructure would be needed. In addition, all wastewater supply components would be constructed and operated onsite; no offsite changes to public wastewater supply infrastructure would be needed. However, the project would also connect to the existing PG&E electrical power grid. The facility would make use of a propane-powered standby generator during power outages, which would provide power during unplanned and planned outages, such as during PGE's occasional planned outage periods when it de-energizes its system when the risk of wildfire is high.

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XI.4.3 Determination of Significance: Although the campground would be connected to the public electrical system, the use of solar power would reduce the electricity demand. In addition, the campground would not operate during winter months, reducing the electrical power demand to zero. The minimal campground electricity demands are anticipated to be well within PG&E's capacity. To verify the availability of sufficient electrical service, implementation of **Mitigation Measure UTIL-1** would result in an impact that would be **less than significant**.

XI.4.4 Mitigations: The following mitigation will be applicable to this project:

Mitigation Measure UTIL-1, PG&E Electrical Service: Prior to construction, Under Canvas shall acquire a will-serve letter from PG&E. The procedures to acquire PG&E approval to connect to their electrical grid are summarized Below (PGE undated):

1. Application package: An application package that includes the following shall be submitted to PG&E:
 - a. Site plan
 - b. Improvement plans
 - c. Architectural plans (elevation plans, for example, to review meter location)
 - d. Project-approval and permit conditions that need to be incorporated in utility design and construction activities. This may include requirements and conditions for onsite activities, as well as to offsite improvements, along with relevant permits and project approvals.
 - e. Additional load details beyond those listed in application.
 - f. Electrical and mechanical plans
 - g. Acquire permits and approvals from appropriate county and other regulatory agencies.
2. Field meeting: Conduct a field meeting with PG&E to review the project needs. Topics may include project conditions, engineering, service routes, meter locations, rights-of-way, tree pruning, construction responsibilities, temporary construction power needs, date the service is needed, preliminary costs, and rates.
3. Engineering: During the engineering phase, PG&E identify their costs, prepare construction drawings, order critical materials with long lead times and coordinate service engineering with other utilities.
4. Billing, Contract, and Right-Of-Way: Once PG&E receives all contracts and payments, and all requirements for rights-of-way, permits and disclosed conditions (refer to Step 1) are met, PG&E will schedule construction of the electrical connection.
5. Construction: Under Canvas shall complete all of the construction responsibilities Under Canvas agreed to before PG&E will complete their part of the gas and electric service. A PG&E representative may set up a pre-construction meeting to review construction responsibilities in more detail and discuss final scheduling.

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6. Meter Set: Once construction is complete, Under Canvas shall contact PG&E to install (set) the electric meter.
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XI.5 Water Quality Control Plan or sustainable groundwater plan compliance impact assessment: The project could potentially have a significant adverse impact if proposed project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

XI.5.1 Background: The proposed project would use groundwater as the campground's water supply. Aquifer pumping tests conducted on onsite Wells 1 and 2 confirm that the onsite aquifer can support at least twice the proposed pumping rate of 20 gpm. The negligible drawdown in onsite Well 3 indicates that the pumping of Wells 1 and 2 will not adversely affected nearby water supply wells.

XI.5.2 Analysis of Potential Adverse Impacts: The construction and operation of the onsite wastewater treatment and disposal system will ensure that groundwater quality is not adversely affected, which would be consistent with the Basin Plan. In addition, the project site is not located within a basin that is subject to a sustainable groundwater management plan. The County has established requirements for the permitting, construction, operation, and inspection of onsite wastewater treatment and disposal systems. The proposed project would be required to comply with the County regulations, which describe requirements for the permitting, location, materials, and flow rates of onsite wastewater treatment and disposal systems.

XI.5.3 Determination of Significance: The use of groundwater at the site is consistent with the Basin Plan beneficial use designation of groundwater as a drinking water supply.

Wastewater will be treated onsite and routed to two leach fields, some portion of the water used onsite would be infiltrated back to the aquifer after treatment. The end result would be that wastewater would be treated to levels such that the water quality standards and waste discharge requirements would be achieved.

Groundwater use and wastewater disposal would be consistent with the Basin Plan, and impacts would be **less than significant**.

XI.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XII. Air Quality

XII.1 Background: The information in this section represents a summary of the information prepared by ESA and is intended to reflect the evaluation of impacts based upon analysis conducted by

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their experts. The THP has relied upon this analysis with respect to determination of significance. The full analysis and discussion can be reviewed in the draft EIR.

This section discusses the existing air quality conditions in the project area, presents the regulatory framework for air quality management, and analyzes the potential for the project to affect existing air quality conditions, both regionally and locally, due to activities that emit criteria and non-criteria air pollutants. It also analyzes the types and quantities of emissions that would be generated on a temporary basis due to proposed construction activities as well as those generated over the long term due to proposed operation of project elements. The analysis determines whether those emissions are significant in relation to applicable air quality standards. The section also includes an analysis of cumulative air quality impacts. The potential for odor impacts is also addressed to determine if the project would result in new significant impacts or substantially increase the severity of impacts on air quality with respect to odors.

The analysis in this section is based on a review of existing air quality conditions in the region and air quality regulations administered by the United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the Tuolumne County Air Pollution Control District (TCAPCD).

The Amador and Tuolumne air districts, and the western portion of the Mariposa air district are designated as unclassified for the state PM₁₀ standards, since no PM₁₀ data is available for these areas. While there are no PM₁₀ or PM_{2.5} data available for the TCAPCD, there is a monitoring station in Sonora, approximately 23 miles northwest of the project site that monitors ozone. The Turtleback Dome monitoring station near Yosemite Valley in Mariposa County approximately 16 miles east of the project site also monitors ozone. The following table presents the air pollutant data monitored at these two nearest stations. As can be seen from the table, the one-hour and eight-hour ozone standards have been exceeded at these stations in the past four years for which data are available, largely during July and August, prior to wildfire occurrences in California, indicating that wildfires were likely not responsible for these elevated values.

The nearest PM_{2.5} monitoring station to the project site is the San Andreas-Gold Strike Road station located approximately 47 miles northwest of the project site. The Table Mountain station is 60 miles southeast of the project site but is located in an area with similar geological features as the project site and is slightly more rural than at the San Andreas-Gold Strike Road station. The only other stations with three or more years of recent PM_{2.5} monitoring data are located in or near Merced. These stations are at a great distance from the project site and are not representative of the project site because of the city's population and nearby major highways.

AIR QUALITY MONITORING DATA SUMMARY (2015-2018)

Pollutant	Monitoring Data by Year			
	2015	2016	2017	2018
Ozone (Sonora Station)				
Highest 1 Hour Average (ppm) ^b	0.078	0.091	0.083	0.087
Days over State Standard (0.09 ppm) ^a	1	3	0	4
Ozone (Turtleback Dome Station)				
Highest 1 Hour Average (ppm) ^b	0.102	0.082	0.113	0.111
Days over State Standard (0.09 ppm) ^a	1	0	3	11

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Highest 8 Hour Average (ppm) ^b	0.083^c	0.078	0.088	0.092
Days over National/State Standard (0.070 ppm) ^a	1	11	11	25
PM_{2.5} (San Andreas-Gold Strike Road Station)				
Annual Average (ug/m ³) ^b	8.70	8.04	13.38	14.67
Days over National/State Standard (12.0 ug/m ³) ^a	--	--	--	--
98 th percentile 24 Hour Average (ug/m ³)	22.7	19.5	30.8	40.6
Days over National Standard (35.0 ug/m ³) ^a	4	0	4	16
PM_{2.5} (Table Mountain Station)^d				
Annual Average (ug/m ³) ^b	--	7.93	9.59	11.53
Days over National/State Standard (12.0 ug/m ³) ^a	--	--	--	--
98 th percentile 24 Hour Average (ug/m ³)	--	20.9	32.8	41.1
Days over National Standard (35.0 ug/m ³) ^a	--	0	7	17

NOTES:

^a Generally, state standards and national standards are not to be exceeded more than once per year.

^b ppm = parts per million; ug/m³ = micrograms per cubic meter.

^c In 2015, the EPA strengthened the 8-hour ozone standard from 0.075 ppm to 0.070 ppm, and the new standard became effective December 28, 2015. Consequently, the highest 8-hour average of 0.075 ppm did not exceed the standard applicable in 2013.

^d Reporting year 2015 is unavailable for the Table Mountain Station.

Values in **Bold** exceed the respective air quality standard, while attainment designation of state and federal standards are determined regionally for each air basin.

SOURCE: CARB, 2019.

XII.1.1 Criteria Air Pollutants

XII.1.1.1 Ozone: Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x). ROG and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours.

Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

XII.1.1.2 Nitrogen Dioxide (NO₂): NO₂ is an air quality pollutant of concern because it acts as a respiratory irritant. NO₂ is a major component of the group of gaseous nitrogen compounds commonly referred to as NO_x. A precursor to ozone formation, NO_x is produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, NO_x

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emitted from fuel combustion is in the form of nitric oxide (NO) and NO₂. NO is often converted to NO₂ when it reacts with ozone or undergoes photochemical reactions in the atmosphere.

XII.1.1.3 Carbon Monoxide (CO): CO is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

XII.1.1.4 Particulate Matter: Particulates less than 10 microns in diameter (PM₁₀) and less than 2.5 microns in diameter (PM_{2.5}) can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

XII.1.1.5 Other Criteria Pollutants: Sulfur dioxide (SO₂) is a combustion product of sulfur or sulfur-containing fuels such as coal. SO₂ is also a precursor to the formation of atmospheric sulfate and particulate matter (both PM₁₀ and PM_{2.5}) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. Lead has a range of adverse neurotoxic health effects, and was formerly released into the atmosphere primarily via the combustion of leaded gasoline. The use of leaded gasoline ceased in the US after 1995, resulting in decreasing levels of atmospheric lead.

XII.1.1.6 Toxic Air Contaminants (TACs): TACs comprise a wide variety of compounds determined to pose an actual or potential risk to public health, either by increasing cancer risks or increasing other health risks such as respiratory diseases like asthma. The ambient background of TACs is the combined result of many diverse human activities, including gasoline stations, automobiles, dry cleaners, industrial operations, hospital sterilizers, and painting operations. In general, mobile sources contribute more significantly to health risks than do stationary sources.

Growing evidence indicates that exposure to emissions from diesel-fueled engines, about 95 percent of which come from diesel-fueled mobile sources, may result in cancer risks that exceed those attributed to other measured TACs. In 1998, the Office of Environmental Health Hazard Assessment (OEHHA) issued a health risk assessment that included estimates of the cancer potency of diesel particulate matter (DPM) (OEHHA, 2009). Because DPM cannot be directly monitored in the ambient air, however, estimates of cancer risk resulting from DPM exposure must be based on concentration estimates made using indirect methods (e.g., derivation from ambient measurements of a surrogate compound).

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Asbestos is also a TAC of concern, particularly in association with demolition of older buildings and structures. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence and its former use as a building material. Geological mapping does not indicate the presence of naturally occurring asbestos at the project site (CDMG, 2000).

XII.1.1. 7 Sensitive Receptors: Some receptors are considered more sensitive than others to air pollutants. Reasons for greater sensitivity include pre-existing health problems, proximity to an emissions source, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also sensitive to poor air quality because people usually stay home for extended periods of time. The nearest sensitive receptor to the project is a residence located approximately 1,400 feet southeast and downhill of the nearest proposed project facilities. Another residence is located about the same distance from the northwest corner of the site, across SR-120.

XII.2 Impacts and Mitigation Measures

XII.2.1 Significance Criteria: Consistent with Appendix G of the State CEQA Guidelines, the project would have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

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XII.2.2 Impact Assessment Methodology

XII.2.2.1 Consistency with an Applicable Air Quality Plan: Potential conflicts or obstruction of the implementation of an air quality plan would occur if a project would result in emissions or sources that would not be controlled or minimized to reduce criteria pollutant emissions in areas designated as non-attainment. Tuolumne County does not currently have a Clean Air Plan that addresses efforts to reduce non-attainment pollutants (ozone precursors) within the County. However, the County General Plan does contain an Air Quality Element that was updated in March of 2018. General Plan Policies and Implementation Measures with respect to land development projects are qualitatively assessed with respect to potential emission sources of ozone precursors associated with the project.

XII.2.2 Criteria Pollutants: Construction-related and operational emissions are estimated using the CalEEMod (version 2016.3.2). The model inputs include project-specific net new vehicle trips.

XII.2.3 Health Risk Impacts: Health risk impacts from TACs and PM_{2.5} exposures are assessed based on the proximity of sensitive receptors to emission sources, and buffer distances generally recognized as a zone of influence from a source beyond which impacts from exposure (in most common instances) are assumed to be less than significant.

XII.3 Impact Analysis

XII.3.1 Potential for Impacts to applicable air quality plans: The project could have a potential adverse impact if implementation on of the project would conflict with or obstruct implementation of the applicable air quality plan.

XII.3.1.1 Background: Although designated as a non-attainment area for state ozone standard, Tuolumne County does not currently have a Clean Air Plan that addresses efforts to reduce ozone precursors within the County.

XII.3.1.2 Assessment of potential Adverse Impacts: There are no existing substantial sources of air pollutants in the project area and, as discussed below in XII.3.2.1, the project would generate emissions that the TCAPCD would consider to be a less-than-significant air quality impact.

XII.3.1.3 Determination of Potential for Significant Adverse Impacts: The project would not conflict or obstruct implementation of an applicable air quality plan. In addition the emissions generated by the project would be less than significant based on the modelling of air quality impacts discussed in XII.3.2.1. Based on these determinations, the project will not conflict with or obstruct implementation of applicable air quality plans. In this context impacts would be **less than significant**.

XII.3.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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XII.3.2 Potential for Project to Increase Criteria Pollutants: Implementation of the project could result in significant adverse impacts if it would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

XII.3.2.1 Background: To evaluate this potential impact, project related emissions were estimated and compared to the thresholds of significance established by TCAPCD. The thresholds of significance applied to project emissions were developed by TCAPCD and are based on the trigger levels for the requirements of a general federal conformity analysis with respect to non-attainment criteria air pollutant, including ozone precursors ROG and NOx.

Project construction-related and operational emissions were conservatively estimated using the CalEEMod model version 2016.3.2. As the model does not have land use estimates specific to recreational campgrounds, a motel land use was conservatively assumed as a proxy for the proposed campground. This is a conservative assumption because it assumes operational emissions from mobile sources (vehicle trips) and natural gas combustion 12 months per year, while the proposed campground would only operate March through October. Additionally, natural gas combustion associated with a campground would likely be substantially less than that associated with a motel land use.

XII.3.2.2 Assessment of Potential Impacts: Estimated construction-related emissions are presented in the following table. These emissions assume use of off-road equipment for excavation and grading for the proposed campground and septic system as well as building construction, which is also likely conservative as a majority of the proposed structures would be temporary or constructed off-site and transported and installed prefabricated. These emissions also consider vehicle trips by construction workers and vendor truck trips bringing materials to the project site over the course of ten months. Again, these assumptions are conservative, considering the low-impact nature of the project and the limited permanent facilities on the site. As can be seen from the table, construction-related emissions of the project would be well below the significance thresholds established by TCAPCD.

Grading for the proposed improvements could create fugitive dust. Therefore, the project would be conditioned to mitigate dust during construction through the use of a watering truck or other dust suppressant device, as required by Section 12.20.370 of the Tuolumne County Code.

MAXIMUM ANNUAL CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)

Emissions Category	ROG	NOx	PM₁₀	CO
Construction Emissions				
Maximum Annual Construction Emissions	2.02	3.24	0.32	2.98
TCAPCD Thresholds	100	100	100	100
Exceed Thresholds?	No	No	No	No
Operational Emissions				
Annual Operational Emissions	0.86	0.45	0.19	1.59
Woodstove and Fire Ring Emissions	1.50	0.16	1.58	8.93
Generator Emissions	0.17	0.016	0.001	0.001

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MAXIMUM ANNUAL CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)

Emissions Category	ROG	NOx	PM₁₀	CO
Maximum Annual Operational Emissions	2.53	0.63	1.77	10.52
TCAPCD Thresholds	100	100	100	100
Exceed Thresholds?	No	No	No	No

SOURCE: ESA, 2019 (Appendix E)

The above table also presents the operational emissions associated with vehicle trips and natural gas combustion, including a backup, propane-fueled generator. As shown in the table, all project-related criteria pollutant emissions would be well below TCAPCD thresholds. In addition, a separate CalEEMod model run was performed to estimate emissions associated with the wood-burning heating stoves proposed for use in the guest tents. The modelling conservatively assumed that all 99 tents would operate a woodstove simultaneously at the default model usage rate of 82 days per year, a scenario which is unlikely to occur, given the project’s operating season and likely occupancy rates.

A 70 kW propane-powered emergency generator would be located near Well #1 on the project site, and would provide backup power during unplanned power outages and potential Pacific Gas & Electric (PG&E) Planned Safety Power Shutoff (PSPS) events. During the fall of 2019, PG&E implemented a preventative program to avoid equipment-caused fires during high fire meteorological conditions. Based on PG&E reports for October 2019, Yosemite National Park experienced two PSPS events, one of which lasted 48 hours and the other 72 hours (PG&E, 2019a; PG&E, 2019b). For a conservative analysis, it was assumed that the emergency generator would be run 30 minutes per week for planned maintenance purposes, as well as four times per year during potential PSPS events at 96 hours per event. Based on these assumptions, emissions were calculated for the generator using CalEEMod factors for compressed natural gas, and are summarized in the above table.

As can be seen from the above Table, operational emissions of the project would be well below the regional air quality significance thresholds established by TCAPCD.

The guest tents, which would each have a wood stove, would be located throughout the project site, resulting in emissions sources located at distances ranging from about 1,600 feet to over 3,000 feet from the nearest off-site sensitive receptor. The nearest sensitive receptors are located approximately 1,400’. To estimate PM_{2.5} concentrations generated from the wood-burning heating stoves and group campfire rings, the model was configured as a single point source representing a single wood stove stack (i.e., all 99 tent stoves and three group fire rings operating at a single, concentrated, location), which represents a “super” worst-case concentration scenario that would never actually be realized in real-world operating conditions. Based on the modelling, the project’s contribution plus the existing condition for both annual and 24-hour PM_{2.5} concentrations at the nearest sensitive receptor would be below the state and federal standards, even under “super” worst-case scenario conditions, and thus localized impacts from operational PM_{2.5} concentrations would be less than significant. Localized concentrations of wood smoke particulate matter from operation of wood burning is addressed in detail in XII.3.3.

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XII.3.2.3 Determination of Potential for Significant Adverse Impacts: Based on the modelling, both construction-related emissions and operational emissions associated with the project with respect to the potential to result in a cumulatively considerable net increase in non-attainment criteria pollutants would be **less than significant**. In addition, the presence of the YARTS bus stops near the entrance to the project site would provide guests with the option to use the regional public transit system to access Yosemite National Park and other regional destinations. This has the potential to further reduce operational emissions through trip reductions.

XII.3.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XII.3.3 Potential for Pollutants to Adversely Impact Sensitive Receptors: Implementation and operation of the project could have significant adverse impacts if the project would expose sensitive receptors to substantial pollutant concentrations.

XII.3.3.1 Background: The project would generate TACs in the form of diesel particulate matter during construction activities and, once operational, (wood smoke) particulate matter from proposed wood burning associated with up to 99 woodstoves and three group fire rings.

Some California Air Districts such as the Bay Area Air Quality Management District (BAAQMD) have developed methodologies for analyzing health risk impacts and have established a 1,000-foot zone of influence from an emission source, beyond which impacts from TAC exposure in most common instances are assumed to be less than significant.

XII.3.3.2 Assessment of Potential Impacts: Given the absence of a TAC threshold for Tuolumne County, this analysis uses the BAAQMD methodology for assessing TAC impacts. The nearest sensitive receptors are located approximately 1,400 from those areas of the site that are proposed for development, and most construction would be concentrated an even further distance from those receptors.

While operation of the project would not result in excessive emissions of TACs, the proposed emergency generator and wood-burning heating stoves in the guest tents would emit fine particulate matter (PM_{2.5}). The emergency generator would be located approximately 1,800 feet from the nearest off-site sensitive receptor. The guest tents, which would each have a wood stove, would be located throughout the project site, resulting in emissions sources located at distances ranging from about 1,600 feet to over 3,000 feet from the nearest off-site sensitive receptor.

An air dispersion screening model, U.S. EPA's AERSCREEN version 16216, was used to estimate "worst-case" 1-hour PM_{2.5} concentrations which were subsequently converted to 24-hour and annual average concentrations using EPA guidance. AERSCREEN produces conservative concentration estimates by utilizing worst case meteorological and terrain data. To estimate PM_{2.5} concentrations generated from the wood-burning heating stoves and group campfire rings, the model was configured as a single point source representing a single wood stove stack (i.e., all 99 tent stoves and three group fire rings operating at a single, concentrated, location), which represents a "super" worst-case concentration scenario that would never actually be realized in real-world operating conditions. The AERSCREEN output selection was chosen to

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produce concentrations by distance up to 5,000 meters away. To determine the PM_{2.5} concentrations at the various sensitive receptor from the aggregated wood stove stack, each source was given a distance designation in 200 foot increments. For example, a stack located at 1,700 feet from the nearest sensitive receptor was estimated at 1,600 feet because it fell into the grouping of greater than or equal to 1,600 feet but not more than 1,800 feet from the sensitive receptor. To estimate the project's contribution to PM_{2.5} concentrations at the nearest off-site sensitive receptor, modeling results for operation of the emergency generator, modeled as a single point source, were conservatively combined with modeling results for operation of the wood-burning stoves.

The NAAQS include standards for annual PM_{2.5} concentrations as well as 24-hour PM_{2.5} concentrations, while the CAAQS include only 24-hour PM_{2.5} standards. The national and state standards for 24-hour PM_{2.5} are the same. The ambient air quality standards for PM_{2.5} are based on a three-year average for both the 24-hour and annual standard. Because there are no nearby air monitoring stations, the PM_{2.5} data for the Table Mountain Station was used as a conservative representation of the existing ambient air quality for the region of the project. The following table presents the estimated existing, and existing plus project contribution to the ambient air quality and compares them to the applicable air quality standard for PM_{2.5}.

MAXIMUM PM_{2.5} CONCENTRATIONS (UG/M³)

Emissions Category	Annual	24-Hour ^a
Operational Emissions		
Existing Conditions, 3-year average	9.68	31.6
Project Contribution	0.44	3.29
Combined Estimated Impact	10.1	34.9
TCAPCD Thresholds	12.0	35.0
Exceed Thresholds?	No	No

SOURCE: ESA, 2019 (Appendix E)

NOTES:

^a 24-hour PM_{2.5} concentrations were modeled under worst-case scenario conditions, which assume 24-hour use of emergency generators in the event of a PG&E PPS event.

XII.3.2.3 Determination of Potential for Significant Adverse Impacts: As shown in the above table, the project's contribution plus the existing condition for both annual and 24-hour PM_{2.5} concentrations at the nearest sensitive receptor would be below the state and federal standards, even under "super" worst-case scenario conditions, and thus localized impacts from operational PM_{2.5} concentrations would be less than significant. The modeling was conducted using very conservative assumptions to provide a worst-case scenario; in actuality, such a scenario is extremely unlikely to occur, given the project's operating season and likely occupancy rates, together with the fact that the operating stoves would be spread throughout the site, and not concentrated at a single location. Even under this extremely worst-case scenario, the modeling determined that the project would have a **less-than-significant** impact with regard to exposure of sensitive receptors to substantial pollutant concentrations.

XII.3.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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XII.3.4 Potential for Adverse Impacts from Other Emissions: Implementation of the project would in significant adverse impacts if the project resulted in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

XII.3.4.1 Background: Typical sources of odor emissions include wastewater treatment plants, oil refineries, asphalt plants, chemical manufacturing, painting/coating operations, coffee roasters, food processing facilities, recycling operations and metal smelters.

XII.3.4.2 Assessment of Potential Impacts: There are no facilities of these types in the vicinity of the project site, and none are proposed as part of the project. Toilets would be flush toilets and would discharge into the proposed septic system and leach field, avoiding very localized odors associated with pit toilets.

XII.3.4.3 Determination of Potential for Significant Adverse Impacts: Potential odor impacts would be **less than significant**.

XII.3.4.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XIII. Wildfire

XIII.1 Background: As part of the Fire and Resources Assessment Program (FRAP), the California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards throughout the state. The maps classify lands into fire hazard severity zones, based on a hazards scoring system. The entirety of the project site is designated as a Very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE, 2007), as is the case with all of the other private lands in the vicinity. According to the CAL FIRE Fire and Resource Assessment Program, the project site is not within a mapped Priority Landscape for wildfire risk reduction treatments, which are lands that are prioritized for potential treatments to reduce wildfire risks based on threats to communities and forested lands. However, the project site and most of the surrounding area is mapped as a High Priority Landscape for restoration of forest ecosystem services damaged by wildfire, and also for restoration of pest and drought damaged areas (CAL FIRE, 2018).

Most of the project site was severely burned during the 2013 Rim Fire. Since that time, much of the lands adjacent to the project site have undergone roadside hazard tree removal, timber salvage, fuels management, and reforestation activities to remove excess dead and downed wood that resulted from the fire, and to restore fire-impacted landscapes where appropriate. Similar activities have taken place on the project site. A salvage of fire-killed trees was conducted on the project site in 2014. In areas where tree cover was lost, the landowner replanted trees or facilitated successful natural reestablishment of young trees. However, in spite of these efforts, drought and decline of fire-damaged trees since the initial salvage

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has led to additional mortality of overstory trees. As a result, significant quantities of downed wood and standing snags remain on the site, and the site's wildfire risk continues to be high.

XIII.2 Impacts and Mitigation Measures

XIII.2.1 Significance Criteria: Criteria within Appendix G of the CEQA Guidelines related to wildfire focus primarily on lands that are located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones. These conditions apply to the project site. As such, implementation of the project would have a significant impact on the environment if it would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan;
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

XIII.3 Impact Assessment Methodology: Impacts associated with wildfire are generally evaluated within the context of the effectiveness of standard wildfire risk abatement methods as they relate to the project site, as determined by site-specific conditions and circumstances. The general rule employed here is that if wildfire risk can be effectively lessened through implementation of standard regulatory requirements (e.g., compliance with Title 14 of the California Code of Regulations, adopted plans, etc.), then the impact would be less than significant.

XIII.4 Impact Analysis

XIII.4.1 Potential Impacts to Adopted Emergency or Emergency Response Plan: Implementation of the project would potentially have significant adverse impacts if the project would substantially impair an adopted emergency response plan or emergency evacuation plan.

XIII.4.1.1 Background: The project area and surrounding vicinity are subject to a number of emergency response plans, most notably the Tuolumne County Emergency Operations Plan. These and other plans provide general frameworks and standard operating procedures by which emergency response agencies respond to emergencies such as wildfires. Impairment of these types of plans would occur if the project would introduce an undue or extraordinary burden on emergency responders as they respond to a wildfire incident. Common examples of such a situation include project placement and design that could preclude access by emergency responders or the orderly evacuation of a site in the event of a wildfire incident. Undersized roadways, underrated bridges and culverts, steep grades and pinch points, remoteness, and inadequate points of ingress and egress to and from a site are examples of the difficulties that firefighters can experience when responding to a wildfire in a rural area. Responding to a wildfire incident under these

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types of scenarios can result in an inordinate expenditure of personnel and equipment resources during a wildfire incident and/or an evacuation, which can be particularly problematic when those resources are also needed elsewhere during a large-scale and rapidly unfolding wildfire incident.

XIII.4.1.2 Assessment of Potential Impacts: In the case of the project, the project proponent has committed to specific project design features that would help to avoid these types of constraints. As described in the **Project Description**, suitable site ingress and egress would be available on the east side of the site from SR-120 via Hardin Flat Road, as well as a secondary point of access using an existing roadway from adjacent federal lands on the western side of the site. Internal roadways would be designed to accommodate large pieces of firefighting equipment, such as water tenders, semi transports with dozers, and fire engines. In accordance with the requirements of Title 14 of the Public Resources Code, all site roadways would be constructed to have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet. For dead-end roadways in excess of 150 feet in length, a turnaround area for fire apparatus would be provided. These and other project design features would enable firefighters to effectively access the site in the event of a wildfire emergency. These features also would enable an efficient exit of employees and guests in the event of an evacuation. Further, the project would implement an Emergency Operations Plan, which would be subject to review and approval by applicable emergency services providers. The plan would include, at a minimum:

- A Training and Exercise Plan, to be implemented annually with all employees, covering the Emergency Operation Plan and issues such as response to fire, fire extinguisher and firehose use, first aid and emergency medical response, site evacuation, and dealing with problem guests.
- An orientation briefing for guests concerning potential hazards and what to do in the event of an emergency incident.
- Provision of a site fire and emergency alert system to notify site occupants in the event of an emergency.
- A site evacuation plan, defining routes of ingress and egress, rally points, and protocols for disabled guests and/or guests without their own transport.
- Establishment and maintenance of temporary refuge areas if evacuation is not possible.
- Establishment of an emergency helicopter landing site, which also could be utilized for other facility functions requiring an unobstructed and open space.
- Basic fire and first aid training would be provided to all employees, with at least one employee onsite at any given time with advanced first aid training (EMT or similar).

XIII.4.1.3 Determination of Potential for Significant Adverse Impacts: Each of these features would ease the implementation of applicable emergency response and evacuation plans, and also would ease the burdens on emergency response personnel as they respond to other areas that may be in more danger or not be as well prepared. Based on each of these considerations, and with implementation of standard procedures and regulations regarding development review and oversight by applicable agencies, this impact would be **less than significant**.

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XIII.4.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XIII.4.2 Potential Impacts on Fire Behavior or Pollutants: Implementation of the project would potentially be significant if the project would exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. (*Less than Significant*)

XIII.4.2.1 Background: Adjacent land uses include scattered private residences, recreation facilities, and undeveloped federal lands under the jurisdiction of the U.S. Forest Service. Most of the project site and surrounding vicinity was burned during the 2013 Rim Fire. Since that time, much of the federal and private lands adjacent to the project site have undergone roadside hazard tree removal, timber salvage, fuels management, and reforestation activities to remove excess dead and downed wood that resulted from the fire, and to restore fire-impacted landscapes where appropriate. Similar activities have taken place on the project site. A salvage of fire-killed trees was conducted on the project site in 2014. In areas where tree cover was lost, the landowner replanted trees or facilitated successful natural reestablishment of young trees. However, in spite of these efforts, drought and decline of fire-damaged trees since the initial salvage has led to additional mortality of overstory trees. As a result, significant quantities of downed wood and standing snags remain on the site. In its current state, fuel conditions on the site present a heightened risk to the local area.

Development of the site would begin with implementation of a hazardous fuel reduction effort, to make the site accessible reduce size and continuity of fuels, and improve safety for guests. Much of this work would occur as part of the project's Timber Harvest Plan (THP), which would be subject to review and approval by CAL FIRE before issuance of a permit. In addition to the fuel reductions that would be undertaken as part of the THP, the site would be subject to ongoing fuel and vegetation management treatments as prescribed in the project's Wildfire Mitigation Plan. The plan would consider site-specific attributes such as slope, prevailing winds, and fuel loads, and would be subject to review and approval by the Tuolumne County Fire Department (TCFD) in cooperation with CAL FIRE. The plan would include a number of standard prescriptions, including, but not limited to:

- Removal of all, dead, down, dying, diseased, and hazard trees.
- Removal of ladder fuel and dead limbs in trees to a minimum of 20 feet above ground level.
- Implementation of a ground liter reduction and removal program.
- Potential thinning of the trees and other vegetation that have grown since the 2013 Rim fire.
- Establishment of defensible space around property lines, to include vegetation removal, thinning and eliminating ladder fuels within a perimeter of 100 to 200 feet, depending on the slope.
- Provision of defensible space around all areas of proposed development.
- Provision of defensible space on each side of project roadways.

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- Fuel reduction and mitigation on and around an area recommended for designation as a temporary Refuge Zone Area.

In addition, once operational, the project would implement a number of project design features and operational practices to prevent ignition of wildfires at the project site. These measures are listed in Chapter 2, *Project Description*, of this EIR, but are listed again here for the convenience of the reader. These measures would include:

- All tent fabrics would be California State Fire Marshall approved.
- All heating stoves on the site would be equipped with spark arrestors, which would be constructed of woven or welded wire screening of 12 USA standard gauge wire (0.1046 inch) having openings not exceeding 1/2-inch. The net free area of the spark arrestor would not be less than four times the net free area of the outside of the chimney outlet.
- The ashes from the stoves would be removed by camp staff in metal containers and disposed of in a steel container. Firewood and combustible materials would not be stored in unenclosed spaces beneath tents or on decks under eaves, canopies or other projections or overhangs.
- Smoking would be restricted to designated areas, with a minimum of 50-foot radius of all vegetative material cleared to bare mineral soil. Smoking butt disposal container towers would be provided.
- Community campfire rings would be enclosed within a large metal ring to contain burning material, and would be installed into the ground and a minimum of 12 inches above the ground, with a mesh screen installed to encompass and cover the fire as a spark arrestor. Branches and other vegetation above each fire area would be removed, and a cone of clearance to the sky would be established. A large metal cover would be provided to cover the fire ring when not in use and nightly after the fire is extinguished by camp staff. A hose bib would be provided in proximity to each fire ring to extinguish fires prior to covering. Remote web cameras of fire pit areas would be installed to monitor each fire pit, and would be monitored from the campground office and mobile devices. Due to the proximity of the Forest boundary, fires would not be allowed whenever the U.S. Forest Service imposes restrictions on campfires.
- The mobile kitchen facility would be equipped with a hood and range dry chemical extinguishing system.
- Fire tool lockers and fire extinguishers would be provided throughout the site, and in a manner meeting the requirements of Public Resources Code (PRC) Sections 4428 and 4429. Fire extinguishers would be located in each guest tent structure, as well as in all other facilities.

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These features would help to prevent wildfires from igniting on the site, and the provision of basic firefighting equipment and training would allow for an initial response to an ignition before professional firefighters could arrive.

XIII.4.2.2 Assessment of Potential Impacts: The project will not alter the basic topography of the site and the structures that will be erected will not be of sufficient height or density to impact winds or wind patterns. In combination with initial response by Under Canvas employees, improved access to the site provided by Under Canvas Way and reduction of large fuels on the site will likely allow professional fire suppression resources to quickly control any fires which occur on site.

XIII.4.2.3 Determination of Potential for Significant Adverse Impacts: Based on these considerations, development of the project would not exacerbate wildfire risks, nor would it substantially increase the likelihood that the project would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The required fuel reductions and operational features of the project would present an improvement over current conditions, since the risks associated with the site's existing conditions would be substantially reduced. The impact would be **less than significant**.

XIII.4.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XIII.4.3.4 Potential for Infrastructure to Exacerbate Fire Risk: Implementation of the project would potentially have a significant adverse impact if the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) would exacerbate fire risk or would result in temporary or ongoing impacts to the environment. (*Less than Significant*)

XIII.4.3.1 Background: The infrastructure improvements associated with the project, and the fuel breaks and other wildfire mitigation strategies proposed would result in an improved condition with respect to wildfire preparedness and the ability to lessen the overall severity of future wildfires in the area. Therefore, the project would not exacerbate fire risk, but would instead improve conditions related to wildfire risk. With respect to these improvement's effect on the environment, all project improvements associated with wildfire risk reduction and management would occur on the project site as part of the project's development and operation.

XIII.4.3.2 Assessment of Potential Impacts: An evaluation of the environmental effects associated with the project's development, including those portions of the project that relate to abatement of wildfire risk (hazardous fuel reductions, etc.), are discussed in the various topical sections of this EIR. In all instances, the effects of project implementation were determined to be less than significant.

XIII.4.3.3 Determination of Potential for Adverse Impacts: Based on project design, features have been developed to minimize the disturbance to existing landscape and vegetation. Implementation of the project will also reduce fire intensity and improve opportunities for direct control by firefighting resources should a fire occur on or move onto the project area. The proposed project through

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treatment of fuels would improve the existing conditions and ongoing operations would maintain fuel loads at low levels. For these reasons, the impact of the project will be **less than significant**.

XIII.4.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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Section III-Analysis of Project Alternatives

Project alternatives were developed and considered in light of the project objectives and potential environmental impacts. The analysis was qualitative in nature.

The project objectives are:

1. Help meet the demand for quality lodging facilities in proximity to Yosemite National Park and surrounding outdoor recreational resources.
2. Assist the County in meeting its General Plan goals and polices, particularly those related to natural resources, public safety, natural hazards, and economic development.
3. Plan for land use compatibility with adjacent land use activities through effective placement, orientation, and screening of project facilities.
4. Reduce hazardous fuel and timber conditions on the site.
5. Provide on-site infrastructure improvements relating to potable water delivery, wastewater management, and drainage.
6. Develop an economically sustainable and financially sound project that can fund the construction of the facilities and services that are needed to serve the project, while avoiding any financial impact on the County's ability to provide services to the rest of the County.

Alternatives Considered

No project alternative-Under this alternative the project area would continue to be utilized for timber production. Based on the most current management plan and landowner wishes, the forested areas would be selectively logged on a 10 to 15 year cycle once the areas had recovered sufficiently from the 2013 Rim Fire and currently understocked areas would have been regenerated. Recreation use and trespassing would be discouraged.

Proposed project alternative-Under this alternative the project would be developed as discussed in the EIR and THP. Recreation use would be emphasized through development of a 99 Unit camping facility and associated support facilities. Fuels reduction would take place to reduce the high level of dead and woody material.

Reduced Project-Under this alternative development of guest lodging would be reduced from 99 units to 75. Fuel reduction activities would take place to reduce fuel loads and provide for user safety. Roads, infrastructure and associated support structures would be constructed.

Basic Services Campground: The Basic Services Campground Alternative assumes a more traditional campground, with fewer amenities. A basic campground facility would offer tent and RV sites, potable water, and bathroom facilities. By way of comparison, such a facility might resemble the various campgrounds on offer on National Forest System lands in the region. Under this alternative, development on the site would include an internal roadway network, 99 tent and RV pads, several communal bathrooms positioned across the site, a potable water system serving a number of water stations, and a sewage system

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to process wastewater. A charcoal grill and a campfire ring would be provided at each site, along with a picnic table and a wildlife-resistant food locker. No food service would be provided, and guests would be responsible for providing all of their own equipment and provisions. There would be three or four employees on the site at any given time to collect fees and conduct maintenance. A YARTS bus stop would not be provided, and guests would use their own personal vehicles to access area attractions, such as Yosemite National Park.

Alternatives considered but rejected

Destination RV/Cabin Resort-Under this alternative the project site would developed for recreation with the emphasis on developing permanent cabins and sites suitable for recreational vehicles. Fuel reduction activities would take place to reduce fuel loads and provide for user safety. Roads, infrastructure and camping sites would be constructed to accommodate motorhomes and trailers and would also include a limited number of cabins. Infrastructure such a check-in structure/store, bathrooms and showers and swimming pool would be permanent in nature. This alternative was not considered for further analysis as it would likely result in higher levels of site disturbance that would require mitigation, and would not meet the goals and objectives of the project proponent.

Hotel/motel complex- Construction of a Hotel/Motel complex would be feasible but would not meet the project objectives of providing guests with a unique camping experience based quality lodging focused on tent camping. While feasible, the environmental impacts would likely be greater due to requirements for paved parking areas, access roads, and permanent structures. While these potential impacts could likely be mitigated, this alternative was not considered for further evaluation as there are no clear environmental benefits. Furthermore, the alternative does not meet the project proponent's goals and objectives for the type of recreational experience desired.

Subdivision Development for Housing-This alternative would result in development of traditional housing. This alternative was not considered for further analysis as it would require changing the zoning, would likely result in higher levels of site disturbance that would require mitigation, and would not meet the goals and objectives of the project proponent.

Proposed Project as the Preferred Alternative

Based on the qualitative analysis in the above matrix, the proposed project best meets the objectives of Under Canvas. The planned project is also superior to a no project alternative relative to reduction of fuels and fire hazard. The proposed project is also superior to the no project alternative because the long term development of larger tree sizes and canopy cover when compared to the no project alternative which would result in removal of trees and canopy with forest management/timber harvesting entries.

The Basic Services Campground Alternative would meet some of the objectives of the proposed project, in that it would help meet the demand for lodging in the vicinity of Yosemite National Park, though it would not meet the project objective of providing guests with a camping experience based on quality lodging that is focused on tent camping with full-service amenities. The alternative would assist the County in meeting its General Plan goals and policies, and would provide for land use compatibility through effective placement, orientation, and screening of project facilities. Some level of wildfire fuel and hazard tree reduction would need to occur as part of the alternative's development, but at lessor levels than the proposed

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project. The cost to develop the project would not be substantially less than that required to develop the proposed project, since the higher cost items such as roads, tent/RV sites, and potable water and wastewater systems would still need to be constructed. Since guest fees at such a facility would be substantially less than that of the proposed project, it is unknown if such a campground would generate the revenue needed to develop and operate the project in a financially sustainable manner, but for purposes of the environmental analysis, it is assumed that the alternative would be potentially feasible.

The Basis Services alternative would not be environmentally superior and does not provide any tangible environmental benefits.

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Comparison of Environmental Impacts of Alternatives

Potential Project Impact	No Project	Proposed Project	Reduced Project	Basic Services Campground
Timberland Productivity	No impacts although area of compacted surfaces in roads and skidtrails would be slightly elevated over time when compared to the proposed project.	No significant impacts due to minimal tree removal small acreage in the project area to be converted to permanent roads and temporary nature of impacts associated with tent platforms.	No significant impacts due to minimal tree removal small acreage in the project area to be converted to permanent roads and temporary nature of impacts associated with tent platforms	No significant impacts due to minimal tree removal small acreage in the project area to be converted to permanent roads and temporary nature of impacts associated with tent and RV pads.
Air Quality	No significant impacts to air quality are anticipated.	No significant impacts to air quality are anticipated after mitigation.	No significant impacts to air quality are anticipated after mitigation.	No significant impacts to air quality are anticipated after mitigation.
Soils/Soil Productivity	Slightly elevated impacts to soil compaction due to compacted surfaces on skidtrails that would be used at each logging entry.	No likely impacts with project design and construction. Likely to impact soil productivity only in the areas to be converted to roads. Soil properties in areas beneath tent platforms and within the fuel treatment areas would not be impacted.	No likely impacts with project design and construction likely to impact soil productivity only in the areas to be converted to roads. Soil properties in areas beneath tent platforms and within the fuel treatment areas would not be impacted	No likely impacts with project design and construction. Likely to impact soil productivity only in the areas to be converted to roads and tent/RV pads. Soil properties within the fuel treatment areas would not be impacted.
Hydrology/Watershed	No likely impacts to sediment transport, peak flows and stream temperature with compliance with Forest Practice Regulations.	No likely impacts to sediment transport, peak flows and stream temperature with compliance with Forest Practice Regulations and project mitigations.	No likely impacts to sediment transport, peak flows and stream temperature with compliance with Forest Practice Regulations and project mitigations.	No likely impacts to sediment transport, peak flows and stream temperature with compliance with Forest Practice Regulations and project mitigations.
Wildlife/Biological	No change in short term impacts to wildlife habitat. Long term average tree size would increase slightly and overall density of trees and canopy cover would increase slightly.	No short term impacts to wildlife habitat. In the absence of harvesting it is anticipated the Quadratic Mean Diameter would be larger and canopy cover would be greater than in the no project area.	No short term impacts to wildlife habitat. In the absence of harvesting it is anticipated the Quadratic Mean Diameter would be larger and canopy cover would be greater than under the no project alternative.	No short term impacts to wildlife habitat. Long term impacts would be generally positive as average tree size would increase and in the absence of harvesting it is anticipated the Quadratic Mean Diameter would be

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					larger and canopy cover would be greater than in the no project area.
Recreation	Recreation is not a current use that occurs on the project area.	Recreation use would be facilitated and is the key reason for the development.	Recreation use at a reduced level would be facilitated and is the key reason for the development.	Recreation use would be facilitated.	
Wildfire Risk and Hazard	Current fuel loads would not change and would remain elevated. Fuels associated with harvesting would be developed at each harvesting entry.	Fuels and fire hazard would be reduced and compliment fuel reduction work completed on adjacent federal lands.	Fuels and fire hazard would be reduced and compliment fuel reduction work completed on adjacent federal lands.	Fuels and fire hazard would be reduced and compliment fuel reduction work completed on adjacent federal lands.	
Cultural Resources	No cultural resources are present-no impact	No cultural resources are present-no impact	No cultural resources are present-no impact	No cultural resources on site-no impact	
Transportation	No anticipated changes or impacts to transportation systems or services would occur.	No significant impacts after mitigation.	No significant impacts after mitigation.	No anticipated changes or impacts to transportation systems or services would occur.	
Greenhouse Gases (GHG)	Number of trees and tree size would increase leading to increased level of sequestration of CO2	Number of trees and tree size would increase leading to increased level of sequestration of CO2	Number of trees and tree size would increase leading to increased level of sequestration of CO2	Number of trees and tree size would increase leading to increased level of sequestration of CO2	
Visual	Minor Impacts to visual quality and aesthetics through reduced forest density.	Impacts associated with lightning are possible but can be mitigated to a level of less than significant	Impacts associated with lightning are possible but can be mitigated to a level of less than significant	Impacts associated with lightning and development infrastructure are possible but can be mitigated to a level of less than significant	

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Comparison of Alternatives-Meeting Project Proponent Objectives

Project Objectives	No Project	Proposed Project	Reduced Project	Basic Services Campground
<p>Meet demand for quality lodging near Yosemite National Park</p>	<p>Project objectives would not be met as the property would continue to be used for open space and would not enhance the amount of quality lodging for visitors to Yosemite National Park.</p>	<p>Project objectives would be met through development of 99 quality lodging units.</p>	<p>Project objectives would only partially be met as guest accommodations would be reduced in number.</p>	<p>Project objectives would not be met as the property would not offer enhanced amenities for guests, and guests would be responsible for all of their own equipment and provisions.</p>
<p>Meet County general Plan goals</p>	<p>County general plan goals would not be met</p>	<p>County general plan goals would be met and all policies and requirements would be incorporated into the project plan.</p>	<p>County general plan goals would be met and all policies and requirements would be incorporated into the project plan.</p>	<p>County general plan goals would be met and all policies and requirements would be incorporated into the project plan.</p>
<p>Develop recreational facility consistent with county zoning and is compatible with adjacent land uses</p>	<p>This objective would not be met as the project would not be constructed.</p>	<p>Recreational facility would be developed and mitigations included in the project design to ensure compatibility with adjacent uses.</p>	<p>Recreational facility would be developed and mitigations included in the project design to ensure compatibility with adjacent uses.</p>	<p>Recreational facility would be designed and mitigations included to reduce potential conflict with adjacent uses.</p>
<p>Minimize visual impacts</p>	<p>Visual impacts from timber operations would occur infrequently and would be of short duration.</p>	<p>Visual impacts of the project would be mitigated through screening of trees and use of lighting that would minimize impacts at night.</p>	<p>Visual impacts of the project would be mitigated through screening of trees and use of lighting that would minimize impacts at night. Total lighting would be reduced when compared to the 99tent facility</p>	<p>Visual impacts of the project would be mitigated through screening of trees and use of lighting that would minimize impacts at night.</p>
<p>Reduce hazardous fuels</p>	<p>Hazardous fuels would not be reduced and timber harvesting activities would contribute to continued levels of elevated fuel loading in the future</p>	<p>Hazardous fuels would be treated as part of the project implementation and fuel level would be maintained over time to ensure guest safety.</p>	<p>Hazardous fuels would be treated as part of the project implementation and fuel level would be maintained over time to ensure guest safety.</p>	<p>Hazardous fuels would be treated as part of the project implementation and fuel level would be maintained over time to ensure guest safety.</p>

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<p>Provide onsite support infrastructure in support of recreational use</p>	<p>No recreational use would be encouraged and unauthorized use of the property would be a trespass unless authorized by the landowner.</p>	<p>On-site infrastructure would be provided but with the exception of the swimming pool would not involve construction of permanent aboveground structures</p>	<p>On-site infrastructure would be provided but with the exception of the swimming pool would not involve construction of permanent aboveground structures</p>	<p>On-site infrastructure would be provided and would require construction of permanent structures with resulting increase in site disturbance. Areas covered by impervious surfaces would increase as road widths, road surfaces and parking and check-in areas would be required to handle larger recreational vehicles.</p>
<p>Develop an economically sustainable facility</p>	<p>No facility would be developed and economic sustainability of the property would be dependent on sustainable forest management.</p>	<p>The guest occupancy and anticipated use would be sustainable based on project proponent's experience with similar destination facilities of this type it currently operates.</p>	<p>The guest occupancy and anticipated use would not be sustainable based on project proponent's experience with similar destination facilities of the type it currently operates.</p>	<p>The revenue generated by a reduced-amenities project would be substantially less than the proposed project. Economic sustainability would be less certain.</p>
<p>Avoid financial impact to the County</p>	<p>No impact to the County.</p>	<p>Project would be designed to avoid significant impact to the County.</p>	<p>Project would be designed to avoid significant impact to the County.</p>	<p>Project would be designed to avoid significant impact to the County.</p>

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**Under Canvas Section IV
Cumulative Impacts Assessment**

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Section IV-Cumulative Impacts Analysis

I. Identification of Assessment Areas:

For purposes of assessing cumulative impacts the following assessment areas were utilized:

- a. **Watershed:** Big Creek Planning Watershed (Cal Water 6536.800201 Version 2.2.1). This area was used because it is consistent with the Forest Practice Rule requirements and represents a large enough for evaluation of cumulative impacts.
- b. **Soil Productivity:** The project area. This area was used because it represents the area where multiple projects on the same soil profile could potentially create a significant cumulative impact.
- c. **Biological:** Lower South Fork of the Tuolumne River. This area was selected because it encompasses a large enough to encompass wildlife species with large home ranges and is geographically bounded by geographically distinct ridgelines which would potentially influence movement of species. It also is consistent with the analysis area established in the review of Rim Fire EIS evaluation of potential adverse cumulative impacts wildlife and plant species.
- d. **Recreation:** The Project area and the area within 300' as well as the area encompassing the Highway 120 corridor between Sawmill Mountain Road and Thousand Trails east entrance. This areas was chosen because it encompasses the known future projects which include the subject project as well as the project planned for Terra Vi. It also includes the Yosemite Lakes RV resort and the San Jose Camp reconstruction project.
- e. **Visual:** The Project area north to Highway 120 and east to Hardin Flat Road. This area was chosen because it represents the area which would be visible from Highway 120 and Hardin Flat Road.
- f. **Traffic:** The Highway 120 corridor from Groveland to its intersection with Highway 41 and Yosemite Valley. This area was chosen because it is the route that would be impacted by additional vehicles travelling to the project area and from the project area to Yosemite National Park.
- g. **Greenhouse Gases (GHG):** The Project area and area included in the Big Creek Planning Watershed. This area was chosen because it encompasses the project area and surrounding areas with similar forest cover types and recent history of impact due to the Rim Fire. Recovery of carbon sequestration capacity given similarities in forest type and impacts will allow for evaluation of potential cumulative impacts.
- h. **Wildfire Risk and Hazard:** Area within ½ mile of Highway 120 within the Big Creek Planning Watershed. This area was chosen because it represents the area most likely to be

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impacted by human caused fire starts and is also the area where limited fuel treatment funding has established post Rim Fire as a priority for fuel reduction treatments.

- i. **Public Services:** The assessment area includes Tuolumne County. This area was chosen because it is consistent with analysis in the Under Canvas EIR relative to public services such as police, fire, water, power, etc.
- j. **Groundwater/Wastewater:** The assessment area includes the area encompassed within the project boundary. The area was selected after consultation with Christopher Johnson the consultant who did the groundwater analysis for the EIR.

Maps of the Planning Watershed, Wildlife, Soils, Recreation, Greenhouse gas, and Visual Assessment areas are included in Section VI. A map for Tuolumne County as assessment area was because inclusion of the map does not add clarity in terms of identification of the Assessment Area. For the same reason a map the Traffic Assessment Area which is described generally as Highway 120 from Groveland to its intersection with Highway 41 was not included.

II. Identification of Information Sources:

Records Examined:

Cal TREES THP Library

Rim Fire Recovery (4033) Environmental Impact Statement, USDA Forest Service, Stanislaus National Forest, August 2014

Rim Fire Hazard Tree Environmental Assessment, USDA Forest Service, Stanislaus National Forest, 2014

Rim Fire Reforestation Record of Decision, USDA Forest Service, Stanislaus National Forest, 2016

Terra VI, Project Summary, County of Tuolumne, Community Resources Agency, September 2019

City of Berkeley Tuolumne Camp Permit (46690) Environmental Assessment, USDA Forest Service, Stanislaus National Forest, August 2018

Under Canvas Draft Environmental Impact Report, County of Tuolumne, Community Resources Agency, May 2020

Natural Resource Conservation Service, April 2020. Custom Soil Resource Report for Stanislaus National Forest, California.

County of Tuolumne Assessor's Records.

Literature references: See references listed in Sec VI

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Zsolt Katay, CAL FIRE, Forestry Assistance Specialist, Tuolumne-Calaveras Unit

Christopher Johnson, Groundwater Consultant for Environmental Science Associates

III. Identification of Past and reasonably Foreseeable Probable Future Projects

General Conclusions Regarding Potential for Adverse Cumulative Impacts:

Per 952.9 (a) The assessment area(s) of resources do contain related past, present and reasonably foreseeable future projects that may be affected by the proposed Project.

Per 952.9 (b) The assessment of potential adverse impacts acknowledges that the 2013 Rim Fire and projects related to recovery efforts potentially could potentially combine with the proposed project and future planned projects to create a adverse cumulative impact. The potential for adverse cumulative impacts and mitigations for each resource area identified is analyzed by resource area.

Per 952.9 (c) Based upon review of literature, Environmental Impact Statements and Environmental Assessments prepared for various aspects of the Rim Fire Recovery, information

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Past Projects

Project	Legal Description	Acres	Project Description	Year	Environ. Review Doc. Type	Cumulative Impact Resource area interaction
Hardin Flat Bridge Replacement	Portion of NW1/4, Section 31, T1S, R19E	<5	Reconstruction of bridge damaged by flooding. Installation of a clear span bridge on the Hardin Flat Road Crossing of the South Fork Tuolumne River	2018-2019	NEPA-EA	Water
Rim Fire Recovery*	Portions of Sections 25-36, T1S, R18E; Portions of Sections 1,-3, 11-13, T2S, R18E; Portions of Sections 4-9, 16-18, T2S, R19E, MDBM	See CWE maps and tables Sec. VI		2014	NEPA-EIS	Timber, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety
Rim Fire Reforestation*	Portions of Sections 25-36, T1S, R18E; Portions of Sections 1,-3, 11-13, T2S, R18E; Portions	See CWE maps and tables	Reforestation-Site Prep	2016	NEPA-EA	Timber, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety

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Rim Fire Hazard Trees	of Sections 4-9, 16-18, T2S, R19E, MDBM	Sec. VI	Hazard Tree Removal and Fuel Treatment	2014	NEPA-EA	Timber, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety
Manly Emergency 4-13EM-020-TUO	Portions of Sections 25-36, T1S, R18E; Portions of Sections 1,-3, 11-13, T2S, R18E; Portions of Sections 4-9, 16-18, T2S, R19E, MDBM	See CWE maps and tables Sec. VI	Salvage of Fire Killed trees	2013	FPA Emergency	Timber, Soils, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety
Manly Exemption 4-16EX-729-TUO	S26; T1S; R18E	160	Salvage of Drought Mortality	2016	FPA Exemption	Timber, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety
Manly CFIP 2017 14-GHG-CFIP-01-0054	S26; T1S; R18E	80	Site Prep and chemical release	2017	CFIP EIR	Timber, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety

*Some aspects of these projects are still ongoing

Current Projects

Project	Legal Description	Acres	Project Description	Year	Environ. Review Doc. Type	Cumulative Impact Resource area interaction
Under Canvas	S1/2, S26; T1S; R18E	60	Recreational development-fuel hazard reduction	2020	CEQA EIR-FPA THP	Timber, Soils, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety, Greenhouse Gas, Groundwater/Wastewater
Terra Vi	N1/2, WS1/4, S26; T1N; R18E	14	Hotel/Conference facility	2020	CEQA EIR; FPA THP	Timber, Water, Wildlife, Aesthetics, Recreation, Fuels, Public Safety
Berkeley Restoration	Tuolumne Camp Portion of NW 1/2, of Section 31, T1S, R19E	30	Reconstruction of the Berkeley Tuolumne Camp. Restoration of Thimbleberry Creek creation of riparian habitat, removal of hazard trees and relocation of several structures outside of the 100 year floodplain.	2019	NEPA Environmental Assessment	Water, Recreation, fuels, and public services

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Future Projects

Project	Legal description	Acres	Project Description	Year	Environ. Review Type	Doc.	Cumulative Impact area interaction	Resource
Thousand Trails / Yosemite Lakes	Portion of the N1/2 of Section 36, T1S, R18E	Unkn own at this time	Proposed 150-site expansion of the existing Yosemite Lakes RV Resort, divided between RV sites, cabins, and employee model home sites					

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and analysis contained in the Under Canvas Draft EIR and supporting documents, adverse cumulative impacts are not anticipated for any of the resource areas evaluated.

Specific details of the assessment criteria and conclusions regarding adverse cumulative impacts is discussed by resource area.

General Project Descriptions:

Rim Fire Recovery and Rim Fire Hazard Trees - The Rim Fire Recovery and Rim Fire Hazard Trees projects are currently being implemented to salvage fire-killed trees, remove roadside hazard trees, reduce fuels, reconstruct and maintain existing roads, and construct new roads to support project operations.

Hardin and Highway 120 Hazard Tree Sales - The Hardin and Highway 120 hazard tree sales removed hazard trees from the area adjacent to these roads using mechanical means.

Past Timber Harvest on Private Lands-Past harvest on private lands based on date in the Cal Trees database indicated there had been no harvesting since 1999 within the Big Creek Planning Watershed. The Cal Trees report is included but for the purposes of consideration of the potential for cumulative impacts these operations were not evaluated.

Private Lands Fire Salvage – These projects include salvage of timber on the Manly property killed during the Rim Fire (4-13EM-020-TUO) and a subsequent Exemption Notice (4-16EX-729-TUO) filed on the Manly property for salvage of insect killed timber.

Manly CFIP-Restoration and reforestation of Manly property post Rim Fire.

Hardin Flat Road Bridge - The reconstruction of the Hardin Flat Road Bridge by Tuolumne County was scheduled for the summer of 2018. The project is complete. The new bridge is a clear-span structure designed to reduce the backwater effect and lower the 100- and 50-year water surface elevations at and upstream of the bridge and Camp. The reduction in water surface elevation is attributed to the increased conveyance capacity with the longer of the bridge.

Rim Fire Reforestation Project – The Rim Fire Reforestation Project has been approved by the USFS for an area of about 42,000 acres burned by the Rim Fire (USDA 2016a; USDA 2016d). Treatments include reforestation, plantation thinning, prescribed burning, and noxious weed eradication. It is anticipated that treatments would continue for up to ten years.

City of Berkeley Tuolumne Camp Reconstruction-The proposed project involves reconstruction of the Berkeley Tuolumne Camp. Construction activities include construction of a camp entrance, parking, trails and pedestrian bridges, utility infrastructure, common-use facilities, individual cabins and tent cabins, education and outdoor recreation facilities retaining walls and weirs, and open day-use and interpretation areas. The reconstruction activities would also include removal and reconstructions of several structures

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located within the 100-year floodplain of the South Fork of the Tuolumne River and re-contouring and restoration of Thimbleberry Creek.

Under Canvas- The Under Canvas Inc proposes development of a 99-tent luxury campground with supporting infrastructure. Under Canvas is a transient tent (no fixed structures) camp for guests to stay March to October as weather allows. Under Canvas camps provide guests with canvas tents, beds, bathroom facilities, meals, and community fire pits. Potable water and sanitary sewer facilities would be provided on-site. In addition to guest accommodations camp facilities will also include an office/guest check-in tent, commercial kitchen, communal bathrooms and a number of support tents. The area to be impacted by grading will be approximately 4 acres and includes construction of an access road which will be called Under Canvas Way. Some additional grading will occur to accommodate platforms for guest tents, and guest support facilities. The balance of the area will remain in forest and tree removal will be limited to dead and dying trees which pose a safety risk to guests or facilities. Fuel treatment will also occur within the forested areas to reduce fire hazard.

Terra Vi-This project is located immediately to the north of Highway 120 at the sawmill Mountain turnoff. The project includes development of a public market, general lodge with multipurpose indoor and outdoor areas, 100 guestrooms, 7 cabins providing 26 guestrooms and 5 employee housing units. The footprint of the graded areas to accommodate the facilities will cover approximately 11.5 acres of the total 64 acres that make up the site. Approximately 52 acres of the site will remain undeveloped and will remain as open space.

Yosemite Lakes Expansion Project- This project is located on Hardin Flat Road to the southeast of the Under Canvas Project. The project includes a proposed 150-site expansion of the existing Yosemite Lakes RV Resort, divided between RV sites, cabins, and employee model home sites. Yosemite Lakes submitted a Pre-Application Review on April 20, 2018 for the possible expansion. The Pre-App Review is an informal review of a potential project that lets the applicant know of the requirements if they decide to move forward and submit an official application with the County. No formal application has been submitted for the expansion.

Section IV. Assessment of Cumulative Impacts

I. Watershed Resources

I.1 Impact potential: Implementation of the proposed project, in conjunction with other past, present and future projects, would potentially result in a cumulative impact to watershed resources within the Watershed Assessment Area.

I.1.1 Background and description of watershed assessment area: The cumulative impacts assessment area for watershed resources is the Big Creek Planning Watershed (Cal Water 6536.800201 Version 2.2.1). This planning watershed includes a segment of the Lower South Fork of the Tuolumne River

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as well as the entirety of the Big Creek drainage. The planning watershed is bounded on the south by Pilot Ridge and to the north by Sawmill Mountain. The Big Creek Planning watershed is 14,196 acres in size.

I.1.2 Existing Watershed Conditions: Existing watershed conditions for the Lower South Fork of the Tuolumne River which includes the Big Creek Planning Watershed were assessed post Rim Fire by the United States Forest Service as part of the Rim Fire Recovery Environmental Impact Statement. The Lower South Fork area as delineated in the Rim Fire Recovery EIS is 19, 988 acres in size. One hundred per cent of the Lower South Fork of the Tuolumne River and Big Creek Planning Watershed lies within the Rim Fire. Ninety-five percent (95%) of the watershed acreage is administered and by the United States Forest Service.

Information from the EIS indicates that soil burn severity within the watershed ranged from low to high with 4% in the high category, 43% in the moderate category and 57% in the low category. The analyses also indicated that vegetation burn severity was mixed as well with approximately 18% of the area being impacted by severe canopy mortality (Table 3.14.5 Rim Fire Recover EIS).

Cumulative effects of planned post-fire activities were also evaluated by the Forest Service as part of the Rim Fire Recovery EIS. The analysis was conducted by the Forest Service utilizing the Equivalent Routed Area (ERA) process. The analysis included both private and public lands. GIS information was used by Forest Service analysts to calculate activities in the watersheds. Summarized values were utilized to compare values developed to compare to Regional Threshold of Concern (TOC) metrics. The Regional TOC established by the Forest Service for the watersheds analyzed was 12 to 14 per cent. The TOC is an indicator of overall watershed disturbance levels. A percentage of disturbance which exceeds the Regional TOC would raise concerns regarding potential Cumulative Watershed Effects (CWEs). ERAs calculated for the Lower South Fork of the Tuolumne analysis area indicate the post-fire and post implementation ERAs are below the TOC. ERA values from Table 3.14.9 of the RIM FIRE EIS are as follows:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
9.13	9.91	8.58	7.94	7.50	6.51	5.59	4.88	4.15	3.44

Calculated ERAs for the South Fork of the Tuolumne indicate a reduction in disturbed acres over time post-fire. This trend is also reasonably representative of the trend in the Big Creek Planning Watershed as well.

I.1.3 Assessment of Potential for significant adverse cumulative sediment impacts:

I.1.3.1 Background on potential for cumulative impacts from sediment inputs: Aha et. al. (2014) found evidence that the Rim Fire did increase sediment deposition along burned sections of the main stem of the Tuolumne River and that sediment did alter streambed structure by increasing cobble siltation and increasing organic matter. While the study was focused on the main stem it is likely that the Big Creek Planning Watershed also was similarly impacted by elevated sediment loads post Rim Fire. Impacts from projects within the Big Creek watershed while individually insignificant could have the potential to combine with the impacts from the Rim Fire to create a significant impact related to sediment.

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The Forest Service evaluated the potential for significant impacts for reconstruction of the City of Berkeley Tuolumne Camp in an Environmental Assessment completed in 2018. Similar to Aha et. al., the evaluation noted the likely increase in sediment from the Rim Fire and estimated the likely duration of the sediment. Their conclusions were:

“After the Rim Fire, sedimentation levels in the South Fork Tuolumne River likely increased significantly). The Stanislaus National Forest conducted erosion modeling using Disturbed WEPP (Water Erosion Prediction Project) within the 18 6th-level HUCs that encompass the fire perimeter to predict erosion rates for the first year post-fire. The Lower South Fork Tuolumne River watershed, in which the Berkeley Tuolumne Camp is located, was predicted to have a post-fire erosion rate of 3.1 tons/acre, as compared with an average 0.5 tons/acre for undisturbed watersheds. Observations after the 1987 Stanislaus Complex Fire, which occurred in some of the same watersheds as the Rim Fire, indicated that increased sediments were essentially gone from streams within three to five years post-fire.”

Given the timing of the currently proposed projects and the time which has passed since the Rim Fire and the associated flush of sediment, it is likely that the initial sediment inputs into the Big Creek Watershed have moved through the system and that current conditions are similar to pre-fire levels. ERA trends show an improving trend as well, reflecting further reduction in potential for sediment delivery, even as restoration efforts are ongoing.

I.1.3.2 Assessment of the potential for combined effects of planned projects to result in a significant adverse cumulative impact: The projects considered relative to the potential for cumulative impacts include past timber harvesting activities, post Rim Fire restoration actions, by the Forest Service, and related recreational development projects that are planned for the watershed.

With respect to the potential for cumulative impacts resulting from past, present and future timber operation on private lands within the Big Creek Planning Watershed, the Cal Trees database indicated that timber harvesting plans and timber operations prior to the 2013 Rim Fire had not taken place in the watershed since 1999. More recent timber operations were related to salvage post Rim Fire and Exemption activity related to insect mortality.

In addition to ERA analyses, the Forest Service conducted Post Rim Fire analyses of erosion within the Lower South Fork of the Tuolumne Watershed. The results of these analyses is described on page 295 of the EIR. The analysis examined the Post-fire and Post-implementation annual erosion rates for watersheds within the Rim Fire perimeter. Calculated Post-fire erosion rates for the Lower South Fork of the Tuolumne River were estimated to be 3.1 tons/acre. Calculated Post Implementation rates showed no change and remained at 3.1 tons/acre. Given that the Big Creek Planning Watershed is 71% of the Lower South Fork of the Tuolumne River assessment area, for purposes of the assessment of cumulative impacts, the calculated rates for the Lower South Fork of the Tuolumne River are likely reflective of the erosion rates for the Big Creek Planning Watershed. Impacts from interactions of past activities associated with the Rim Fire based on the Forest Service analyses did not indicate a significant cumulative impact in terms of erosion rates.

I.1.3.3 Likelihood of adverse cumulative impacts: Given the above, the potential for the proposed project to interact with current and future projects to create a cumulative adverse impact is also

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judged to be unlikely. As noted by MacDonald et. al. 2004 sediment production from roads in the second and third years of a study conducted on the El Dorado National Forest were 10 to 30 per cent of the amount measured in the first year. Some of the decline was attributed to differences in precipitation, but in general, surface erosion rates decrease over time as vegetation and ground cover become reestablished.

As discussed previously, the proposed operations for the Under Canvas project will retain and likely increase ground cover and movement of sediment into watercourse channel is not likely. The potential for the Under Canvas Project to combine with sediment impacts from the Thousand Trails expansion or the Berkeley Camp reconstruction projects is also limited by a pond located downstream from the project area. The Terra Vi project which is located within the same headwater drainage as the Under Canvas Project will also include drainage and runoff mitigations that will minimize sediment production from the project site. Sediment inputs from the Terra Vi will be minimal and routed through a channel that combines with flow from the Under Canvas project area to the south of the Under Canvas project. The combined flow at this point will likely not result in an increase suspended sediment concentration in the combined water column.

Cumulative impacts are judged to be unlikely within the watercourse below the project as well as the downstream pond and the South Fork of the Tuolumne River. Sediment inputs of coarser material will be avoided in both projects and will likely be a function of changes in flow which impact the streambed and streambanks which is discussed under the Peak Flow Effects section.

I.1.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

I.1.4 Assessment of Potential for significant adverse cumulative Water Temperature Impacts:

1.1.4.1 Background: Cumulative impacts to water temperature would largely be attributable to removal of near stream shade canopy. The largest impact to existing canopy in the past 10-years was due to tree mortality caused by the Rim Fire. The Rim Fire EIS noted that, in general, that riparian areas burned in a mosaic pattern similar to hillslope areas. For the Lower South Fork of the Tuolumne River which includes the Big Creek Planning watershed, 18% of the watershed experienced 75% to 100% mortality (Rim Fire EIS, 2014). Salvage logging within 100 feet of perennial streams, intermittent streams, and areas classified as special aquatic features were conducted on approximately 449 acres. The Rim Fire EIS recognizes the potential for stream temperature increases due to loss of canopy.

1.1.4.2 Assessment of potential for adverse cumulative impact to water temperature: Proposed projects within the planning watershed which will further reduce canopy have the potential to combine with the impacts of the canopy loss due to the Rim Fire.

As noted in the previous section, past timber harvesting on private ownerships were limited to the salvage of fire killed trees. Current and future projects on private ownerships in the Big Creek Planning Watershed will be focused on recreational developments. Trees to be removed in these projects will be limited as will be operations in near stream areas. Overall, the potential for removal of trees that would impact water temperatures associated with the Under Canvas, Thousand Trails, Terra Vi, and Berkeley Camp reconstruction projects is unlikely.

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Further, given BMPs and regulations applicable to operations near riparian zones for projects on federal lands, current and future projects on federal lands will likely not have any change in stream temperatures attributable to the projects. In addition, the relative minor contribution of flow from the headwater stream in which the Under Canvas and Terra Vi projects are located and mitigations to retain existing vegetation will not likely adversely impact water temperatures (Moore, et. al, 2004).

Given these factors, and the recovery time since the Rim Fire, it is unlikely that impacts of past and future projects would combine to create a cumulative adverse increase in stream temperature,

I.1.4.3 Likelihood of adverse cumulative impacts to water temperature: Given these factors, and the recovery time since the Rim Fire, it is unlikely that impacts of past and future projects would combine to create a cumulative adverse increase in stream temperature.

I.1.4.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

I.1.5 Assessment of Potential for significant adverse cumulative Organic Debris Impacts:

I.1.5.1 Background: Organic debris effects occur when organic material enters the watercourse and is subject to decomposition in the water column. The impact is greatest related to the decomposition of fine material such as needles, leaves, and small branches.

I.1.5.2 Assessment of potential for adverse cumulative impact to on organic debris: The Under Canvas project does not propose removal of any trees from the Watercourse and Lake Protection Zone. Should an accidental deposition occur, Forest Practice Rules require prompt removal. The Terra Vi project is located in an area where there are no class II watercourses. Future and current projects on federal lands would also include provisions to avoid deposition of organic debris, and if an accidental deposition does occur, actions would be required ensure prompt removal.

The potential for the Under Canvas Project to combine with past projects to create a significant adverse impact is also unlikely. Past projects conducted under Emergency Notices and Exemptions on private lands were operated to avoid deposition of organic debris and to require prompt removal of accidental depositions. The same general management practices applied to operations on federal lands. Decomposition and tree fall of dead trees into watercourses is likely impact of the Rim Fire watercourses. However, dead trees which fall into the watercourse are not likely to have any remaining foliage and fine branches. The large wood deposition should be beneficial in the long run provided deposition does not lead to excessive diversion of stream channels or block fish passage.

I.1.5.3 Likelihood of adverse cumulative impacts to water temperature: Given these factors, and the recovery time since the Rim Fire, Cumulative impacts from current and future projects resulting from multiple depositions of organic material are unlikely.

I.1.5.4. Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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I.1.6 Assessment of Potential for significant adverse cumulative Chemical Contamination Impacts

I.1.6.1 Background: Past reforestation activities on federal lands within the Rim Fire included the use of manually applied glyphosate (Rim Fire Reforestation Record of Decision). Release activities on the Manly CFIP, which included some of the area covered by the Under Canvas project and the Terra Vi project, also included the hand application use of herbicides. Prescriptions associated with application of herbicides in both instances included provisions for avoiding application in near stream areas.

I.1.6.2 Assessment of potential for adverse cumulative chemical contamination impacts: Current project plans for Under Canvas do not include herbicide use as a project construction element but will likely involve use of herbicides or hand grubbing to maintain vegetation near facilities as needed. Construction activities for current and future projects will include measures to contain chemicals. Where chemical storage is necessary during construction or for post construction needs, appropriate spill containment structures will be provided and chemicals will be properly stored. Burning that would potentially lead to inputs of ash and other byproducts of burning into watercourses is not planned.

I.1.6.3 Likelihood of adverse cumulative impacts from chemical contamination: Given the limited use of chemicals, BMPs associated with use and storage and the passage of time since herbicides were used for vegetation control on the Under Canvas and Terra Vi project areas, it is unlikely that chemical contamination will lead to a project specific impact or combine with impacts from other projects to lead to a significant adverse cumulative impact.

I.1.6.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

I.1.7 Assessment of Potential for significant adverse cumulative Peak Flow Impacts:

I.1.7.1 Background: The potential for the Under Canvas project to interact with other past, present and reasonably foreseeable projects to create a significant adverse impact to peak flow included consideration of the past impacts associated with the 2013 Rim Fire. Past projects included timber harvesting on private ownerships, replanting and restoration projects, and an Emergency Notice and Exemption which occurred on the Under Canvas project area. Also considered were impacts of the restoration on federal lands within the planning watershed, along with planned future projects. Future projects considered included the Terra Vi project located within the same headwater drainage as the Under Canvas Project, the Yosemite Lakes expansion, and the Berkeley Camp restoration project.

The literature generally recognizes that both fire and logging have the potential to increase water yields and influence peak flows. As noted in Peterson, et.al. (2009), water yield typically increases significantly following fire or logging, then decreases with time. In the case of the Alsea watershed, they noted that streamflow generation and routing of flows has not recovered to pre-disturbance levels 28 years following clearcut logging.

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Kattleman (1996) noted that timber harvesting can affect peak flows through two principal mechanisms. These include 1) maintenance of high levels of soil moisture attributable to the loss of vegetation and associated vegetation and, 2) higher amounts of snowmelt during rainfall events. He also noted that potential effects of land management activities on flows are more pronounced during small and moderate storm events. He also noted that flows are also more pronounced in smaller catchments (headwater basins). For larger storms, such as the event which impacted the Under Canvas Project area in March of 2018, management activities and flows attributable to those activities are incidental to the amount of precipitation.

I.1.7.2 Assessment of potential for cumulative adverse impact on peak flows: It is likely that while there has been significant recovery of the landscape impacted by the Rim Fire since 2013, the Lower South Fork watershed and the included Big Creek Planning Watershed are still recovering. However, the potential for significant cumulative impacts attributable to the Under Canvas Project, in combination with the Terra Vi, Thousand Trails and Berkeley Camp Restoration Projects is unlikely.

First, the footprint of these projects is small compared to the total watershed acreage and mitigations will be required that will be designed to manage flows and discharge from the project areas. For the Under Canvas Project specifically, the fuel reduction project will remove less than 5% of the existing basal area and the soil surface will minimize overland flow from the fuel treatment areas as well as from road surfaces. While increases in stream flows have been noted in instances where less than 20% of the basal area has been removed (Dillingham 2007), the increases in flow attributable to this level of vegetation removal would likely not be measurable.

Second, the estimated size of the local recharge watershed for which include the Under Canvas and Terra Vi is estimated to be approximately 462 acres (DAX Engineering 2020 and 100 year flow contributions based on the drainage size are estimated to be 17.22 cubic feet per second (cfs) at the point of discharge into the South Fork of the Tuolumne. As shown in the table below the 100-year discharge for the South Fork Tuolumne is 11,700 cfs.

DISCHARGE RATES FOR SOUTH FORK TUOLUMNE RIVER*

Return Frequency (years)	South Fork Tuolumne River (cfs)
2	1,096*
10	4,146*
50	9,107*
100	11,700**

*From City of Berkeley Tuolumne Camp Environmental Assessment

I.1.7.3 Likelihood of adverse cumulative impacts from changes in peak flows: It is unlikely that the Under Canvas project will result in measurable adverse flows impacts given the relatively minor flow contributions attributable to the drainage in which the Terra Vi and Under Canvas projects are located. While the Terra Vi project will create larger areas of impervious surfaces that potentially could contribute of increases in flow, project plans include design features to capture and monitor flows to ensure

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that discharges are consistent with capacity of the existing 24” culvert which drains water from the north side of Highway 120 under the Highway.

None of the proposed current or proposed projects will result in a significant change to current canopy within the project areas or within the Planning Watershed. Compared to pre Rim Fire effects, it is likely that current vegetative cover and loss of overstory in the watershed will lead to slight increases in summer water yields and increases in storm flows during small to moderate precipitation events.

It is also unlikely that the proposed Under Canvas project in combination with other currently planned and future projects in the Planning Watershed would lead to significant cumulative effects on peak flows during large precipitation events.

I.1.7.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

II. Soil Productivity

II.1 Impact potential: Implementation of the proposed project, in conjunction with other past, present and future projects, would potentially result in an adverse cumulative impact to soil productivity within the Soil Productivity Assessment Area.

II.1.1 Background: The cumulative impacts assessment area for soils is the Timber Harvesting Plan boundary. Soil productivity within the project area was likely impacted by the Rim Fire. Fire behavior on the project area was variable in terms of fire intensity and fire severity. Fire intensity and severity impacts likely resulted in loss of organic material, exposure of soils to erosion, changes in soil porosity, reduction in infiltration capacity, and creation of hydrophobic soil conditions. As a result, fires generally increase post-fire erosion processes (Hacker, 2015). These potential impacts were consistent with conclusions reached in a study of the Rim Fire which found evidence of increased sediment deposition along burned sections of the Tuolumne River watershed (Aha et. al., 2014).

In addition to fire impacts that likely increased sediment delivery and loss of soil, the project area was harvested after the fire (Manly Emergency) and again in 2016 (Manly Exemption). Salvage harvest post-Rim Fire likely contributed to additional sediment being generated from roads and skid roads, compaction of skid trail and surfaces, and disturbance of regenerating understory vegetation.

Data collected utilizing silt fences installed in the central Sierra post-fire with and without salvage activities was analyzed (MacDonald et. al., 2004) indicated that sediment production was highly variable. However, the majority of the observed erosion was notably contributed by a few sites. Of note as well, the data indicated that skid trails on the Holland soil type produced significantly more sediment than other soil types on the study area. The data also indicated that sediment production rates from roads and skid roads decreased significantly by the third wet season.

II.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: Potential for interaction with past projects was considered in light of the effects of the Rim Fire, impacts associated

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with the salvage operations conducted under the Manly Emergency and Manly Exemption and the restoration activities conducted under the Manly CFIP project.

The Under Canvas project will create 4.2 acres of impervious surfaces primarily attributable to road construction. Within the conversion project area, the project will also utilize mastication equipment to treat dead and down logs in place. Existing overstory conifers with the exception of those located within the road right-of-way will be retained and mastication will create a protective mulch covering the soil surface.

The road to be constructed utilizes existing skid road and road locations for about 50% of its length and will be rocked. Drainage of the road surface will be accomplished by outsloping or crowning of the road surface. Movement of material from the road surface will be minimized and areas outside of the road will be covered with a mulch created by the mastication equipment.

Soil movement associated with the project will be minimal given the mastication treatment, and soil compaction associated will be avoided. Observation of site conditions on the project site indicate that recovery of the project site post-fire, post salvage and post restoration activities has largely resulted in a return to pre-fire soil properties. The exception to this observation is that replacement of soil organic layers lost during the fire is ongoing. Growth of understory and conifer regeneration indicates that soil productivity has not been significantly impacted.

II.1.3 Likelihood of adverse cumulative impacts from changes on soil productivity:

The project actions anticipate minimal levels of sediment displacement and soil compaction. Mitigations and road construction standards will minimize the potential for concentration of flows from impervious surfaces and by doing so, will minimize the potential soil loss due to soil erosion. If soil displacement does occur, there is a high likelihood of recapture on-site. The project will also hasten the breakdown and incorporation of organic material into the soil through reduction in the size of woody material. Also, as a result of the mastication treatments, there will be higher levels of material in contact with the ground. This will likely increase decomposition and increase levels of organic material in the surface layer more rapidly than would be the case if the woody material were not treated.

Overall project impacts to soil productivity will be beneficial from the standpoint of accelerating restoration of the soil organic matter levels. Other soil properties including exposure of soils to erosion, changes in soil porosity, reduction in infiltration capacity and hydrophobic soil conditions would be less than significant given the time that has past and observed recovery of the past projects effects. For these reasons the project is unlikely to combine with impacts associated with past projects to create a significant impact that would require additional mitigation.

II.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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III. Biological Resources

III.1 Potential Biological Impact: Implementation of the proposed project, in conjunction with other past, present and future projects, would potentially result in a cumulative adverse impact to wildlife habitat.

III.1.1 Background: For purposes of the cumulative impacts analysis, the area considered includes the Lower South Fork of the Tuolumne River. The analysis area was impacted to varying degrees by the 2013 Rim Fire. Habitats have also been effected by other natural causes such as drought and related insect-related mortality. Habitats on National Forest Lands and private lands zoned for timber production have also been impacted by forest management activities including harvesting of timber, interruption of the normal fire return interval, and community efforts to reduce fuels and remove dead trees. Little past commercial timber harvesting has occurred within the past 10 years, with the exception of fire salvage and treatment of dead trees post-Rim Fire has occurred within the area impacted by the Rim Fire.

III.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: The majority of the land ownership within the Lower South Fork of the Tuolumne River watershed is managed by the Forest Service. As part of the Rim Fire EIS, The Forest Service analyzed post RIM FIRE habitat conditions for the Lower South Fork of the Tuolumne River. For purposes of analyzing cumulative impacts the area considered was the Lower South Fork of the Tuolumne River.

Past projects within the Lower South Fork of the Tuolumne River drainage impacted by the Rim Fire include actions by the Forest Service to reduce road hazards through removal of dead trees, salvage of fire killed timber, and reforestation of selected acres. In addition, fire salvage has occurred on private lands within the Big Creek Planning Watershed. The operations included salvage of the project area under Emergency Notice 4-13EM-020-TUO and under an Exemption Notice 4-16EX-729-TUO. These past activities have occurred on areas where the Rim Fire resulted in significant mortality to overstory trees and a change to an early successional condition.

Present proposed activities, in addition to the proposed Under Canvas project, on private lands within the Lower South Fork are limited in scope and include the Under Canvas project, the Terra Vi project, the Berkeley Camp reconstruction project and the Yosemite Lakes expansion project. The current proposed projects and proposed action will not have a significant impact on existing overstory vegetation as they are designed to retain existing canopy cover. Areas regenerated under the CFIP project within the project area will not be impacted. The Terra Vi project will overlay an area that was impacted by high intensity fire that resulted in almost complete loss of overstory canopy. In combination these projects will have minimal impacts on current habitat conditions and cumulatively are highly unlikely to combine with effects of past projects to have an adverse impact on habitat condition and post-Rim Fire recovery within the South Fork of the Tuolumne River watershed.

III.1.3 Likelihood of adverse cumulative impacts from changes on wildlife habitat: Once the current restoration projects are completed on Forest Service lands, timber management and commercial harvesting of trees will, for the foreseeable future, continue to be largely custodial. Tree removals will be far less than growth. Habitat changes will include fire, changing climate/drought and natural succession of vegetation types.

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Recovery of areas impacted by the Rim Fire will be dependent on fire return intervals and fire severity rather than forest management. Likewise, habitat and vegetation in areas not impacted by the Rim Fire will continue to be impacted by wider climate related influences, with drought and insect related mortality occurring cyclically. Natural succession in light of exclusion of fire will also play a role in habitats which have not been subject to stand replacing fire events. These changes will result in a transition in species composition from shade intolerant species to species which a more shade tolerant.

Conversion of the acreage which is proposed as part of the projects on private lands is not likely to combine with past, present or foreseeable management activities within the area of the Tuolumne River drainage impacted by the Rim Fire other similar activities to create a significant adverse cumulative impact and no further mitigation is necessary to avoid impacts associated with timberland productivity.

III.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

IV. Recreation Resources

IV.1 Potential Cumulative Impact: Implementation of the proposed project, in conjunction with other development, would potentially result in increased demand for park and recreation facilities within the cumulative impact assessment area.

IV.1.1 Background: The Under Canvas project has been designed to provide visitors with recreational opportunities within the designated campground areas. The proposed project would provide on-site facilities for its guests and would not significantly increase the usage or the physical deterioration of surrounding recreational areas or facilities.

IV.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: The proposed project would not generate any residential population that would increase demand for park and recreation facilities and would provide on-site facilities for its guests. It is not anticipated that guests would use local parks to any significant degree. Recreation use would likely utilize facilities on site or would be focused on day trips into Yosemite National Park. Total visitor days to Yosemite in light of the total number of visitors the park receives would not be cumulatively significant. Also, because lodging would be provided outside of the park, impacts on lodging and other facilities within the park would be minimal and not cumulatively significant.

IV.1.3 Likelihood of adverse cumulative impacts from changes on recreation resources: Cumulative impacts related to parks and recreation would be less than significant.

IV.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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V. Visual Resources/Aesthetics

V.1 Potential Cumulative Impact: Implementation of the proposed project, in conjunction with other development, would potentially result in adverse impacts to aesthetics quality of the view shed.

V.1.1 Background: The cumulative context for lighting is the developed areas surrounding the project site that affect views of the night sky or diminish views of travelers on Highway 120. The potential visual impacts of the proposed project was evaluated giving consideration to similar past, present, and future development projects which, combined with the proposed project, could result in cumulative impacts. The cumulative context for changes in the visual character of the project vicinity is generally limited to projects within a similar view shed or along the same roadways within close proximity of the project site.

Projects considered in the cumulative analysis include the Terra Vi Lodge Yosemite project. The Berkeley Tuolumne Restoration project, and the Thousand Trails / Yosemite Lakes RV expansion project, lie outside of the view shed of the Under Canvas project and were not considered from a cumulative impacts assessment context.

The project site is located in a relatively undeveloped area of Tuolumne characterized by mixed conifer forest, within a rural setting where nighttime lighting is minimal. Land uses adjacent to the project site include scattered private residences, recreation facilities, and open space. The project site will be briefly visible to travelers on Highway 120 and the Hardin Flat Road. The project development will be located approximately ¼ mile south of SR 120 and existing trees will partially screen the view of tents and other infrastructure. Highway 120 travelers will also have brief views of the developed project from Hardin Flat Road, although the view will be screened by existing topography and trees

Scattered rural residential land uses and passing vehicles generate the primary existing sources of nighttime light and daytime glare in the project vicinity.

V.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: The proposed project and all discretionary development projects in Tuolumne County are subject to adherence to applicable Tuolumne County General Plan policies and intended to preserve the existing nighttime environment by limiting the illumination of areas surrounding new development. Policies require that new lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from off-site sensitive uses, and shall be hooded, shielded, and located to direct light downward and prevent glare. In addition, development permit requirements and required environmental reviews discourage the use of building materials such as reflective glass and polished surfaces that could create glare that could result in a public hazard or a substantial annoyance to nearby receptors. These standards will be applicable to both the Under Canvas and Terra Vi projects.

V.1.3 Likelihood of adverse cumulative impacts from changes on aesthetics: Required adherence to these policies, permit requirements, and reviews ensures that cumulative impacts related to the production of substantial light or glare that could adversely affect daytime or nighttime views would be less than significant.

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VI.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

VI. Vehicular Traffic

VI.1 Implementation of the project, in conjunction with other development, would lead to a cumulative adverse impact in conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

VI.1.1 Background: The past, present, and reasonably foreseeable future conditions of the project site and vicinity are considered for the cumulative analysis of transportation. Projects considered in the cumulative analysis include the Terra Vi Lodge Yosemite project, the Thousand Trails / Yosemite Lakes RV expansion project, and the Under Canvas Project.

VI.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: The Tuolumne County Board of Supervisors has determined that projects may contribute cumulatively to the significant adverse impacts on the County's circulation system. As a condition of approval for all project types (with limited exceptions), Tuolumne County Ordinance Code Chapter 3.54 requires that all new development contribute to transportation improvements and maintenance through payment of fees. The TIMF for the project would be calculated using the recreational project type rate. The recreational project type TIMF rate is currently \$885 per parking space (Tuolumne County, 2018b). Because the project would not operate every day of the year, the TIMF would be prorated for the number of days per year that the facility would be operational. The project would be conditioned to pay all applicable TIMFs prior to issuance of a Certificate of Occupancy from the Building and Safety Division of the Community Resource Agency.

The project would conform to applicable policies in the County's General Plan. The project would not result in a worsening of LOS performance criteria for SR-120 and other area roadways (Policies 4.A.1 and 4.A.6); the project would pay fees to offset its impacts to the area's transportation system (Policy 4.A.5); the project's internal roadways and intersections with public roadways would be designed in accordance with applicable standards to provide safe and efficient access to, through, and from the site (see Section 2.4.2 of this EIR, *Access and Internal Circulation*) (Policy 4.A.2); the project would integrate YARTS transit into its design by providing turnout facilities and a bus stop at the project frontage along Hardin Flat Road (see Section 2.4.2 of this EIR, *Access and Internal Circulation*) (Policies 4.B.1 and 4.C.6); and provision of transit access to and from the site would enable such use in an emergency evacuation (Policy 4.C.7).

VI.1.3 Likelihood of adverse cumulative impacts on vehicular traffic: Based upon each of these considerations, as well as the payment of applicable TIMF fees as a condition of project approval, ESA determined that the impacts of the project with respect to conflicts with an adopted transportation policy or plan would be less than significant.

VI.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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VII. Greenhouse Gases

VII.1 Potential Cumulative Impact: Implementation of the proposed project, in conjunction with other development and other land management projects, would potentially result in reduction in greenhouse gas sequestration capabilities within the cumulative impact assessment area.

VII.1.1 Background: The 2013 Rim Fire resulted in significant tree mortality. Mortality in live trees undoubtedly reduced the current level of sequestration when compared to the level of pre-fire sequestration within the Big Creek Planning watershed. It also created elevated levels of dead material which will be a source of emissions as trees and wood material decompose. Projects which have the potential to effect sequestration include action undertaken by the United States Forest Service as part of the Rim Fire recovery and reforestation, the Manly CFIP Project, development associated with the Under Canvas project, Terra Vi, Yosemite Lakes Expansion, and reconstruction of the Berkeley Tuolumne Camp.

VII.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: Restoration projects by the Forest Service and on the project area as part of the Manly CFIP project post Rim Fire have focused on removal of dead trees and reestablishment of conifers through reforestation. Removal of standing dead material will have the net benefit of reducing emissions from decomposition and also result in sequestration of carbon through wood products. Accelerating the reestablishment of conifers to the landscape will also reduce the recovery time needed to restore conifer tree cover. As conifers have a greater potential to store more carbon per acre than associated brush species, it is anticipated that areas which are successfully regenerated will result in higher levels of sequestration. The net cumulative impact to carbon sequestration from these projects will be positive.

The development projects listed above could potentially impact sequestration if the projects included removal of large numbers of trees. Based on a review of the current and future project proposals, none of the projects plan on significant levels of tree removal. Further, the project development planned for the Under Canvas and Terra Vi projects will largely avoid areas regenerated as part of the CFIP reforestation. Given the light levels of tree removal, it is unlikely that there will be a cumulative adverse impact attributable to the development projects.

VII.1.3 Likelihood of adverse cumulative impacts from changes on greenhouse gas generation and carbon sequestration: Given the past restoration work which has been completed within the planning watershed and low levels of tree removal associated with the current and planned projects, significant adverse impacts to carbon sequestration are not anticipated.

VII.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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VIII. Wildfire Risk and Hazard

The past, present, and reasonably foreseeable future conditions of the project site and vicinity are considered for the cumulative analysis of wildfire. Projects considered in the cumulative analyses include the following:

- The Terra Vi Lodge Yosemite project, a proposed master-planned lodging development that would be located directly north of the project site across State Highway 120 and includes a public market, a general lodge with multipurpose indoor and outdoor areas, 100 guestrooms, 7 cabins providing 26 guestrooms, and 5 employee housing units.
- The Berkeley Tuolumne Restoration project, approximately 2.7 miles southeast of the project site at 31585 Hardin Flat Road, which would include 90 cabins to replace a similar use lost during the 2013 Rim Fire. This project has been the subject of a Mitigated Negative Declaration prepared by the City of Berkeley as the CEQA Lead Agency. County involvement is ministerial in nature, and is generally comprised of building plan reviews and issuance of building permits.
- Consideration of a Use Permit for the Mountain Sage Nursery in Groveland to conduct occasional special events.
- The Thousand Trails/Yosemite Lakes RV expansion project, a proposed 150-site expansion of the existing Yosemite Lakes RV Resort, divided between RV sites, cabins, and employee model home sites, approximately 0.8 mile southeast of the project site at 31191 Hardin Flat Road. This project has been the subject of pre-application consultations with the County, but a formal application has not been filed.

VIII.1 Potential for the Project to Increase Wildfire Risk: Implementation of the proposed project, in conjunction with other development and land management projects, would potentially increase fuel loading and wildfire risk within the cumulative impact assessment area.

VIII.1.1 Background: The cumulative assessment area for Wildfire Risk and Hazard-Area includes the area within ½ mile of Highway 120 within the Big Creek Planning Watershed.

VIII.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts: The proposed project will result in fuel treatments designed to reduce the size and distribution of woody material and snags on the project site. Similar past projects have been conducted by the Forest Service have been conducted post-Rim Fire, to reduce hazards along roads and treat fuels. Fuel reduction on federal lands was

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also accomplished through site preparation on areas to be replanted. The Terra Vi project was heavily burned and some fuel reduction/hazard tree abatement activities have taken place adjacent to Highway 120.

Planned fuel treatment activities will compliment fuel reduction activities previously conducted to remove hazard trees and fuels and ongoing projects being undertaken by the Forest Service to reduce fuels along the Highway 120 corridor.

VIII.1.3 Likelihood of adverse cumulative impacts from changes on wildfire risk or fire hazard: Because the fuel treatments planned on the project area will complement the ongoing past and future projects along the Highway 120 corridor, no significant adverse cumulative impacts are anticipated.

VIII.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

VIII.2 Potential for the Project to Lead to Adverse Cumulative Impacts to Adopted Emergency Response or Evacuation Plans: The project could lead to adverse cumulative impacts if implementation of the project, in conjunction with other development, would substantially impair an adopted emergency response plan or emergency evacuation plan.

VIII.2.1 Background: The Under Canvas project proponent has committed to specific project design features that would assist in meeting the requirements of effective emergency access and evacuation, if needed. Suitable site ingress and egress would be available on the east side of the site from SR-120 via Hardin Flat Road, as well as a secondary point of access from adjacent federal lands on the northwestern side of the site. Internal roadways would be designed to accommodate large pieces of firefighting equipment such as water tenders, semi transports with dozers, and fire engines. All site roadways would be constructed to have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet. For dead-end roadways in excess of 150 feet in length, a turnaround area for fire apparatus would be provided.

This project and all development projects in Tuolumne County are subject to compliance with applicable State and County requirements pertaining to development within wildfire-prone areas. These include General Plan policies such as Policy 9.A.1, which requires the active involvement of fire protection agencies within Tuolumne County in land use planning decisions, and Policy 9.E.3, which requires new development to be consistent with State and County regulations and policies regarding fire protection. CAL FIRE development standards for hazardous fuel reduction and management, site design, and other requirements, as outlined in Title 14 of the Public Resources Code, would also be required of each of the reasonably foreseeable projects listed above.

VIII.2.3 Assessment of Potential Impacts: The TCFD has reviewed the project and has confirmed that the project as-designed will meet its requirements for fire prevention. As mentioned previously, CAL FIRE has also determined that the fuel modifications proposed for the project would represent an improved condition that would help protect communities and critical infrastructure along the SR-120 corridor, and that the modifications are consistent with its Tuolumne-Calaveras Unit Pre-Fire Management Plan. Fire and emergency response times to the site would continue to be dependent on travel

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distance from the nearest available resource to the site, as is the case currently in the more rural areas of the County. Consistent with the findings of the County's General Plan Update EIR, TCFD has indicated that fire protection services can be provided to the project without the need for additional personnel or new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. A similar finding would need to be made regarding other projects or mitigations and modifications to those projects would be necessary to bring them into consistency with applicable state and county requirements to reduce the impacts to a level of less than significant. If through the environmental analyses performed in relation to these other projects, a significant adverse cumulative impact was identified, mitigations would need to be developed to reduce the impacts to a less than significant level.

VIII.2.3 Potential for Adverse Cumulative Impacts: For the Under Canvas project, adherence to the requirements of the THP, EIR, Wildfire Mitigation Plan, Emergency Operation Plan, and applicable State and County requirements would ensure that the project itself would not substantially impair an adopted emergency response plan or emergency evacuation plan. Other projects would be required to address emergency response and evacuation strategies as well, and it is unlikely that a significant adverse cumulative impact, if identified would go unmitigated. The potential for significant adverse cumulative impacts is less than significant.

VIII.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

IX. Other-Public Services

The impact of the project on fire protection services, police protection services, and park and recreation services must be analyzed in conjunction with past, present, and future development projects which, combined with the proposed project, could result in cumulative impacts.

Projects considered in the cumulative analyses include the following:

- The Terra Vi Lodge Yosemite project, a proposed master-planned lodging development that would be located directly north of the project site across State Highway 120 and includes a public market, a general lodge with multipurpose indoor and outdoor areas, 100 guestrooms, 7 cabins providing 26 guestrooms, and 5 employee housing units.
- The Berkeley Tuolumne Restoration project, approximately 2.7 miles southeast of the project site at 31585 Hardin Flat Road, which would include 90 cabins to replace a similar use lost during the 2013 Rim Fire. This project has been the subject of a Mitigated Negative Declaration prepared by the City of Berkeley as the CEQA Lead Agency. County involvement is ministerial in nature, and is generally comprised of building plan reviews and issuance of building permits.

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- Consideration of a Use Permit for the Mountain Sage Nursery in Groveland to conduct occasional special events.
- The Thousand Trails/Yosemite Lakes RV expansion project, a proposed 150-site expansion of the existing Yosemite Lakes RV Resort, divided between RV sites, cabins, and employee model home sites, approximately 0.8 mile southeast of the project site at 31191 Hardin Flat Road. This project has been the subject of pre-application consultations with the County, but a formal application has not been filed.

IX.1 Potential Cumulative Impact 1: Implementation of the proposed project, in conjunction with other development, would potentially result in increased demand for fire protection services within the service area boundaries of the TCFD.

IX.1.1 Background: Projects considered in the cumulative analysis include the Under Canvas project, the Terra Vi project, and the Thousand Trails / Yosemite Lakes RV expansion project. The Berkeley Camp project will restore a past level of use and was not considered to be part of the existing fire protection service demand.

IX.1.2 Assessment of Potential for Significant Adverse Cumulative Impacts on fire protection services: All development projects in Tuolumne County are subject to compliance with applicable Tuolumne County General Plan policies pertaining to fire protection as well as applicable state and federal regulations. These specific policies requirements are detailed in the Project EIR. Consistent with these policies an Emergency Operation Plan will be developed for the proposed project and would be subject to review and approval by applicable emergency services providers. The Emergency Operation Plan includes, among other components, an annual training program for all employees, covering the Emergency Operation Plan and issues such as response to fire, fire extinguisher and firehose use, first aid and emergency medical response; an orientation briefing for guests concerning potential hazards and what to do in the event of an emergency incident; provision of a site fire and emergency alert system to notify site occupants in the event of an emergency; and a site evacuation plan, defining routes of ingress and egress, rally points, and protocols for disabled guests and/or guests without their own transport. To be consistent with General Plan policies, the Terra Vi and Yosemite Lakes Expansion projects would also require development of Emergency Operation Plans. Cumulatively, these plans will likely result in operational requirements that will reduce the need for additional staff or resources. The potential for a significant cumulative impact is unlikely

IX.1.3 Likelihood of adverse cumulative impacts from changes on fire protection services: To be consistent with General Plan policies, the Terra Vi and Yosemite Lakes Expansion projects would require development of Emergency Operation Plans. Cumulatively, these plans will likely result in operational requirements that will reduce the need for additional staff or resources. The potential for a significant cumulative impact is unlikely

VIX.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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IX.2 Potential Cumulative Impact 2: Implementation of the proposed project, in conjunction with other development, would potentially result in increased demand for police protection services within the service area boundaries of the TCSO.

IX.2.1 Background: Projects considered in the cumulative analysis include the Terra Vi Lodge Yosemite project, the Berkeley Tuolumne Restoration project, and the Thousand Trails / Yosemite Lakes RV expansion project.

IX.2.2 Assessment of Potential for Significant Adverse Cumulative Impacts: The proposed project and all development projects in Tuolumne County are subject to compliance with applicable Tuolumne County General Plan policies pertaining to police protection, including Policy 9.D.4, which requires new development to be designed so as to discourage criminal activity and Implementation Program 9.D.h, which requires the active involvement of the Tuolumne County Sheriff's Office in the review of land development applications and incorporation of law enforcement recommendations as conditions of land use entitlements.

IX.2.3 Determination relative to potential for Cumulative Impacts: Cumulatively, the construction and operation of the Under Canvas, the Terra Vi project, expansion of the Yosemite Lakes facility and reconstruction of the Berkeley Camp facility could potentially result in accidents or incidents which could require a response from the TCSO.

The project and all development projects in Tuolumne County are subject to compliance with to applicable Tuolumne County General Plan policies pertaining to police protection, including Policy 9.D.4, which requires new development to be designed so as to discourage criminal activity and Implementation Program 9.D.h, which requires the active involvement of the Tuolumne County Sheriff's Office in the review of land development applications and incorporation of law enforcement recommendations as conditions of land use entitlements.

TCSO has reviewed the project and has confirmed that police protection services can be provided to the project without the need for additional personnel or new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. Response times to the site would continue to be dependent on travel distance from the nearest available resource to the site, as is the case currently in the more rural areas of the County. Per the requirements of the General Plan, other cumulative projects would also be required to conform to the same requirements, as outlined above. Consequently, the cumulative impact of the project, when combined with other past, present, and reasonably foreseeable projects, would be **less than significant**.

IX.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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X. Transportation

X.1 Potential for Adverse Cumulative Impacts to the Transportation Network: The Project could have a potentially adverse cumulative impact if implementation of the project, in conjunction with other development, would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

X.1.1 Background: The past, present, and reasonably foreseeable future conditions of the project site and vicinity are considered for the cumulative analysis of transportation. Projects considered in the cumulative analysis include the Terra Vi Lodge Yosemite project, a proposed master-planned lodging development that would be located directly north of the project site across SR-120 and include a public market, a general lodge with multipurpose indoor and outdoor areas, 100 guestrooms, seven cabins providing 26 guestrooms, and five employee housing units; the Berkeley Tuolumne Restoration project, approximately 2.7 miles southeast of the project site at 31585 Hardin Flat Road, which would include 90 cabins to replace a similar use lost during the 2013 Rim Fire; and the Thousand Trails / Yosemite Lakes RV expansion project, a proposed 150-site expansion of the existing Yosemite Lakes RV Resort, divided between RV sites, cabins, and employee model home sites, approximately 0.8 mile southeast of the project site at 31191 Hardin Flat Road.

X.1.2 Assessment of Potential Impacts: The project and all development projects in Tuolumne County are subject to compliance with applicable Tuolumne County General Plan policies pertaining to transportation.. All projects would also be subject to payment of TIMF fees to offset their impacts to the transportation system.

X.1.3 Assessment of Significance of potential impacts: With full compliance with General Plan policies, as well as the payment of applicable TIMF fees as a condition of project approval, the impacts of the project with respect to conflicts with an adopted transportation policy or plan would be **less than significant**.

X.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

X.2.1 Potential for Project to Result in Adverse Cumulative Impacts relative to Existing Road Design and Capacity: Implementation of the project, in conjunction with other development, could potentially result in adverse impacts if it would substantially increase hazards due to a geometric design or incompatible uses.

X.2.1.1 Background: The past, present, and reasonably foreseeable future conditions of the project site and vicinity are considered for the cumulative analysis of roadway design hazards. Projects considered in the cumulative analysis include the Terra Vi Lodge Yosemite project, the Berkeley Tuolumne Restoration project, and the Thousand Trails / Yosemite Lakes RV expansion project described above.

All projects in the County undergo review and approval by applicable County agencies to ensure that development proceeds in accordance with applicable regulations and requirements. In the case of roadways, the Engineering Development Division reviews, conditions, and inspects development projects to ensure

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compliance with the County ordinance code, Board policy, and State and federal laws relating to roads and safety.

X.2.2 Assessment of Potential for Cumulative Adverse Impacts: The County's Traffic Signal and Safety Program includes monitoring traffic signals, traffic signage, engineering and traffic studies, traffic counts, and evaluation of road safety audits.

X.2.3 Assessment of Significance of potential impacts: Compliance with these and other requirements would ensure that other cumulative projects would not introduce design hazards to area roadways. Therefore, the impact would be **less than significant**.

X.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XI. Groundwater, Waste Water, and Other Services

For assessment purposes, the assessment of cumulative impacts included the following projects:

- The Terra Vi project, located immediately north and across the highway from the proposed project, would include a public market, a general lodge with multipurpose indoor and outdoor areas, 100 guestrooms, 7 cabins providing 26 guestrooms, and 5 employee housing units.
- The Berkeley Tuolumne Restoration project, located approximately 2.7 miles southeast of the proposed project at 31585 Hardin Flat Road, would include 90 cabins to replace a similar use lost during the 2013 Rim Fire.
- The Thousand Trails/Yosemite Lakes RV expansion project, a proposed 150-site expansion of the existing Yosemite Lakes RV Resort, divided between RV sites, cabins, and employee model home sites, is located approximately 0.8 mile southeast of the project site at 31191 Hardin Flat Road.

Based on the EIR analysis of potential project impacts, there would be no impact due to the proposed project relative to flood hazard, tsunami, or seiche zones, wastewater treatment providers, and compliance with federal, state, and local solid waste statutes and regulations. Therefore, these topics could not combine with cumulative projects to result in a cumulatively considerable impact and are not discussed further.

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XI.1 Potential Cumulative Impacts to Water Quality or Surface runoff: The project could have potential adverse cumulative impacts if implementation of the proposed project, in conjunction with other development, would violate any water quality standard or waste discharge requirement or otherwise substantially degrade surface water quality.

XI.1.1 Background: Construction projects that disturb more than one acre are required to obtain coverage under the state Construction General Permit (CGP). All three of the cumulative projects listed above would disturb more than one acre and would all be required to obtain coverage under the County General Plan (CGP). As required by the permit, each project would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) with Best Management Practices (BMPs) to control runoff.

XI.1.2 Assessment of Potential for Adverse Cumulative Impacts: If the projects are constructed at the same time, the erosion effects could be cumulatively significant. However, the state CGP would require each project to prepare and implement a SWPPP. The SWPPPs would describe BMPs to control runoff and prevent erosion for each project. Through compliance with this requirement, the potential for adverse erosion impacts would be reduced to a level of less than significant. Further, the CGP has been developed to address cumulative conditions arising from construction throughout the state, and is intended to maintain cumulative effects of projects subject to this requirement below levels that would be considered significant. For example, two adjacent construction sites would be required to implement BMPs to reduce and control the release of sediment and/or other pollutants in any runoff leaving their respective sites. The runoff water from both sites would be required to achieve the same action levels, measured as a maximum amount of sediment or pollutant allowed per unit volume of runoff water. Thus, even if the runoff waters were to combine after leaving the sites, the sediments and/or pollutants in the combined runoff would still be at concentrations (amount of sediment or pollutants per volume of runoff water) below action levels.

XI.1.3 Determination of Significance: The proposed project would have no impact relative to additional impervious surfaces. Therefore, relative to impervious surfaces and recharge, the proposed project could not combine with other projects to result in cumulatively considerable impacts. In addition, with compliance with existing regulations, water quality standards and waste discharge requirements would not be violated and impacts would not be cumulatively considerable resulting is a **less than significant** impact.

XI.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XI.2 Potential Cumulative Impacts to Groundwater Supplies: The project would have potentially adverse cumulative impacts if implementation of the proposed project, in conjunction with other development, would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

XI.2.1 Background: The proposed project would use groundwater as the water supply. The aquifer pumping tests of Wells 1 and 2 indicated that the maximum distance where drawdown was observed would be less than 1,256 feet from Wells 1 and 2. The only cumulative project within that distance would

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be the Terra Vi project; the other two cumulative projects are too far away to combine with the proposed project for a considerably cumulative impact.

XI.2.2 Assessment of Potential for Adverse Cumulative Impacts: As discussed in the hydrogeologic report (WRA 2020, provided in Appendix G of the DEIR), the aquifer pumping tests for onsite Well 2 and the two Terra Vi site wells (TV-1 and TV-2) were conducted at the same time, with the Terra Vi aquifer pumping tests starting about one day prior to the Well 2 aquifer pumping test (see Figure 14 in WRA 2020 in Appendix G of the DEIR). Thus, the aquifer pumping tests were conducted in such a manner to quantify the cumulative impact of both sites being operational at the same time. Prior to beginning the Well 2 aquifer pumping test, Well 1, the well closest to the Terra Vi site, experienced a water level drawdown of about a one foot due to the Terra Vi pumping test; no drawdown was observed in Wells 2 and 3 (see Figure 15 in WRA 2020 in EIR Appendix G). This indicates that the pumping of the Terra Vi wells has a negligible effect on the proposed project site. A drawdown on one foot or less is considered negligible because well pumps are set in wells at depths well below pumping water levels to prevent exposing the pump to air that could damage the pump.

XI.2.3 Determination of Significance: A decrease of one foot or less of drawdown would not expose the pump. Further, the commencement of the aquifer pumping test on Well 2 and the later pumping test on Well 1 did not produce observable drawdowns in the two Terra Vi wells. Therefore, the aquifer pumping tests results indicate that the proposed project and the Terra Vi project would be able to operate simultaneously without adversely affecting each other's operations. Finally, because the proposed project would operate at 20 gpm, not the 40 gpm used for the aquifer pumping tests and not operate in the winter, the cumulative impact would be even smaller. Therefore, the two projects would not combine to result in a cumulatively considerable impact and the potential for adverse cumulative impacts would be **less than significant**.

XI.2.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XI.3 Potential for Adverse Cumulative Impacts Trough Alteration of Surface Drainage: Implementation of the proposed project, could potentially, in conjunction with other development, have a significant adverse cumulative impact if it substantially altered the existing drainage pattern of the site or area through the alteration of the course of a stream or river or through the addition of impervious surfaces. (Less than Significant)

XI.3.1 Background: The Under Canvas project would result in minimal changes to drainage patterns at the project site. Nonetheless, the minimal changes would be required to comply with the state CGP and the Tuolumne County ordinance codes.

XI.3.2 Assessment of Potential for Adverse Cumulative Impacts: While it is likely that the cumulative projects may also result in at least some changes to drainages on their respective sites, each cumulative project would also be required to comply with the same regulations requiring development of grading permits. Grading permits would include grading plans and erosion control plans that would describe

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changes to existing drainages, if any, and the runoff control measures and best management practices to prevent erosion and polluted runoff. In addition, the grading and erosion control plans would include measures to control runoff from the addition of impervious surfaces.

XI.3.3 Determination of Significance: With compliance with existing regulations, impacts from individual projects would be reduced to a level of less than significant. Concentrations of materials from the combined projects from a cumulative impacts perspective would not combine to impact flows in a manner that is likely to cause alterations of downslope stream channels. Therefore it is unlikely that the creation of impervious surfaces, in conjunction with project level SWPPs and adherence to associated BMPs would lead to a significant cumulative adverse impact. The potential for significant adverse cumulative impacts would **less than significant**.

XI.3.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XI.4 Potential for Adverse Impacts to Obstruct Implementation of a Sustainable Groundwater Management Plan: The project could potentially have a significant adverse cumulative impact if implementation of the proposed project, in conjunction with other development, would conflict with or obstruct implementation of a sustainable groundwater management plan.

XI.4.1 Background: The project site is not located within a basin that is subject to a sustainable groundwater management plan. The cumulative projects are also not located within basin that is subject to a sustainable groundwater management plan.

XI.4.2 Assessment of Potential for Adverse Cumulative Impacts The proposed project would use groundwater as the campground's water supply. It is assumed that the cumulative projects would also use groundwater beneath their sites for water supply. If the onsite water usage exceeds the capacity of aquifers beneath each site, the pumping of groundwater could conflict with the Basin Plan by adversely affecting water supply and water quality. As discussed above, aquifer pumping tests were conducted at the Under Canvas site to confirm that the onsite aquifer can support the proposed use as a condition of site use permits. The aquifer pumping tests for onsite Well 2 and the two Terra Vi site wells (TV-1 and TV-2) were conducted at the same time, with the Terra Vi aquifer pumping tests starting about one day prior to the Well 2 aquifer pumping test (see Figure 14 in WRA 2020 in Appendix G of the DEIR). Thus, the aquifer pumping tests were conducted in such a manner to quantify the cumulative impact of both sites being operational at the same time. Because the proposed project would operate at 20 gpm, not the 40 gpm used for the aquifer pumping tests and not operate in the winter, the cumulative impact would be even smaller.

XI.4.3 Determination of Significance: Based on the information from the pumping tests, operational use levels on the project site, the two projects would not combine to result in a cumulatively considerable impact and the potential for adverse cumulative impacts. With compliance with existing regulations and use permits, impacts relative to the Basin Plan would not be cumulatively considerable and would be **less than significant**.

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XI.4.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XI.5 Potential Impact on Existing Infrastructure and Facilities: Implementation of the proposed project could, in conjunction with other development, result in a significant cumulative impact if it would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

XI.5.1 Background: The proposed project would not use natural gas, propane, or telecommunication facilities. Accordingly, these topics would not result in cumulative impacts and are not considered further. The project would develop its own water supply and wastewater treatment facilities. As discussed in Section III, while power will be supplied through the use of solar energy to the extent feasible, the project will connect to PG&E's power grid.

XI.5.2 Assessment of Potential Adverse Cumulative Impacts: The proposed project would construct and operate an onsite water supply system that would use onsite groundwater. All water supply components would be constructed and operated onsite; no offsite changes to public water supply infrastructure would be needed. The Terra Vi project is the only cumulative project close enough to combine with the proposed project for a cumulatively considerable impact. As discussed previously, the combined aquifer pumping tests conducted on both sites demonstrated that both sites would be able to operate at the same time without adversely affecting each other's operations and no expansion of water delivery systems would be required.

With respect to wastewater disposal the proposed project would construct and operate an onsite wastewater treatment and disposal system. All wastewater supply components would be constructed and operated onsite; no offsite changes to public wastewater supply infrastructure would be needed. Given the rural nature of the area, it is assumed that the cumulative projects would also construct and operate onsite wastewater treatment and disposal systems. Similar to the proposed project, the cumulative projects would also be required to comply with the relevant Tuolumne County regulations. With compliance with the existing regulations, the onsite wastewater treatment and disposal systems would not adversely affect water quality and the impacts would not be cumulatively considerable.

The proposed project would also include the construction and operation of solar power facilities, which would reduce the demand on the public electrical power grid. However, the project would also connect to the existing PG&E electrical power grid. It is assumed that the cumulative projects would also connect to the existing PG&E electrical power grid. Similar to the proposed project, the cumulative projects would also need to apply to PGE for service. To verify that PG&E has the capacity to supply electrical power, the cumulative projects would also be required to submit application packages to PG&E, as described in Mitigation Measure UTIL 3.5-1. It is assumed that the cumulative electricity demands would be within PG&E's capacity and impacts would not be cumulatively considerable.

XI.5.3 Determination of Significance: Given the above, no significant adverse impacts are anticipated and impacts will be **less than significant with implementation of mitigation UTIL-1.**

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XI.5.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

XII. Air Quality

XII.1 Potential for Project to Combine with Impacts of Other Related Projects to Create a Significant Cumulative Adverse Impact: : Implementation of the project, in conjunction with other development, potentially result in significant adverse cumulative impact if it would, in combination with other Projects, conflict with or obstruct implementation of the applicable air quality plan for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

XII.1.1 Background: The assessment area was 1600' from the project boundary which included the nearest sensitive receptor. Air quality data was derived from the Table Mountain station. Similar projects considered included Terra Vi, Berkeley Camp, and Yosemite Lakes.

In general, TAC emissions and emissions of PM_{2.5} are localized health impacts which may affect sensitive receptors near the point of emissions. As discussed earlier in Impact 3.3-3, methodologies have been developed for analyzing health risk impacts, and in doing so have established a 1,000-foot zone of influence from a source beyond which impacts from TAC exposure in most common instances are assumed to be less than significant.

The past, present, and reasonably foreseeable future conditions of the Under Canvas project site and vicinity include the Terra Vi Lodge Yosemite project, the Berkeley Tuolumne Restoration project, and the Thousand Trails/Yosemite Lakes RV expansion project. Both the Berkeley Tuolumne Restoration project and the Thousand Trails/Yosemite Lakes RV expansion project would be sufficiently distant (beyond 1,000 feet) from the Under Canvas project to preclude a possible cumulative contribution to localized health effects.

XII.1.2 Assessment of Potential for Adverse Cumulative Impacts: The Terra Vi Lodge Yosemite project site is located north and across the highway from the Under Canvas project site and could be constructed concurrently. Like the Under Canvas project, the Terra Vi Lodge Yosemite project would generate TACs in the form of diesel particulate matter during construction activities. While isolated rural residential receptors approximately 250 feet north of the Terra Vi Lodge Yosemite project could be impacted by construction activity associated with Terra Vi, the Under Canvas project's contribution to this potential impact would be negligible, given its distance (approximately 1,400 feet) from those receptors.

With respect to other pollutants, the thresholds of significance applied to project emissions were developed by TCAPCD and are based on the trigger levels for the requirements of a general federal conformity analysis with respect to non-attainment criteria air pollutant, including ozone precursors ROG and NOx. The USEPA developed the General Conformity requirements in the 1990 Amendments to the Clean Air Act. The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. Therefore, the 100 tons per year screening threshold for general conformity represents the emissions beyond which a project would be considered to contribute to a cumulatively considerable air quality impact by exacerbating existing

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concentrations of criteria air pollutants or their precursors in an area designated as non-attainment for these pollutants.

XII.1.3 Potential for Significant Adverse Impacts: Based on the above, the potential for adverse cumulative impacts were determined to be less-than-significant. Therefore, the contribution of the project to the cumulative conditions within Tuolumne Country would not be cumulatively considerable and the cumulative impact with respect to obstruction of or conflict with implementation of air quality plans is **less than significant**.

XII.1.4 Mitigation(s) to Avoid Significant Adverse Impacts: None were determined to be necessary.

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Under Canvas Section V

Archaeological Addendum (Confidential)

NOTE: Cultural resources are protected under both federal and state law. Accordingly, information concerning the nature and location of identified resources is confidential, and the Archaeological Addendum is not included as part of this public document.

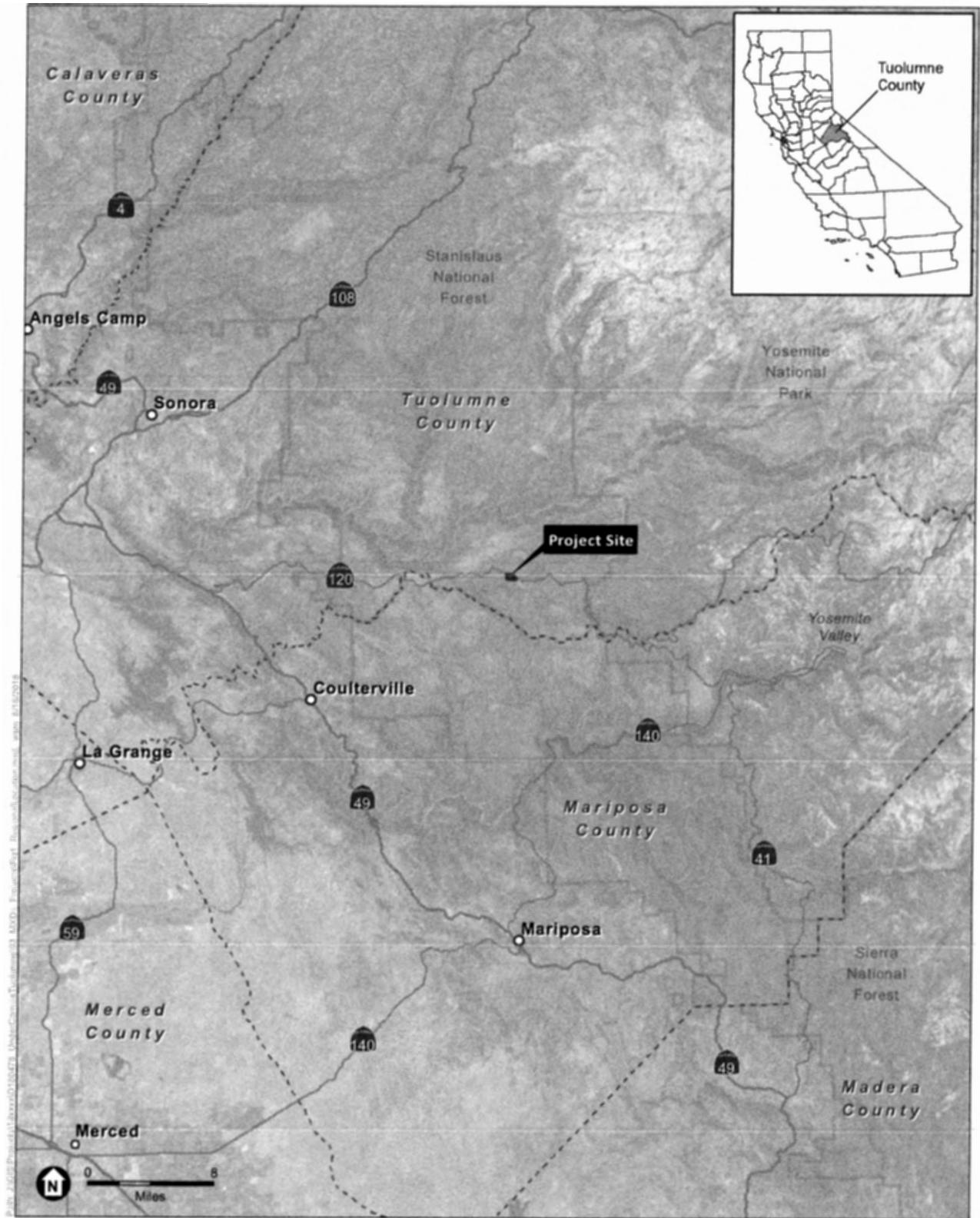
**Under Canvas Section VI
Maps and Attachments**

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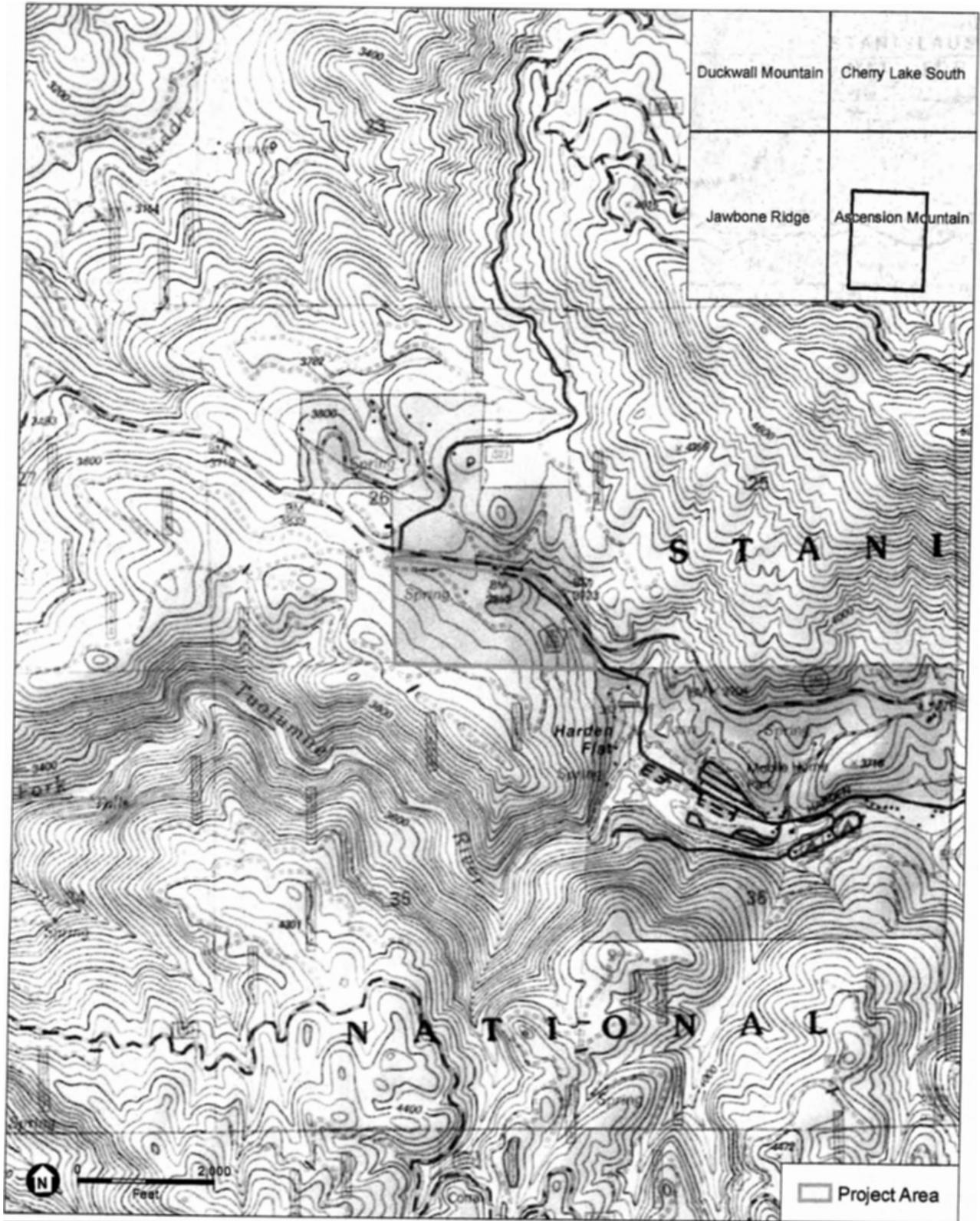
SOURCE: Esri, 2015; ESA, 2018

Yosemite Under Canvas Project

Figure 1
Regional Location



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SOURCE: USGS Ascension Mountain 7.5' quadrangle

Yosemite Under Canvas

Figure 1
Project Location and Vicinity

ESA

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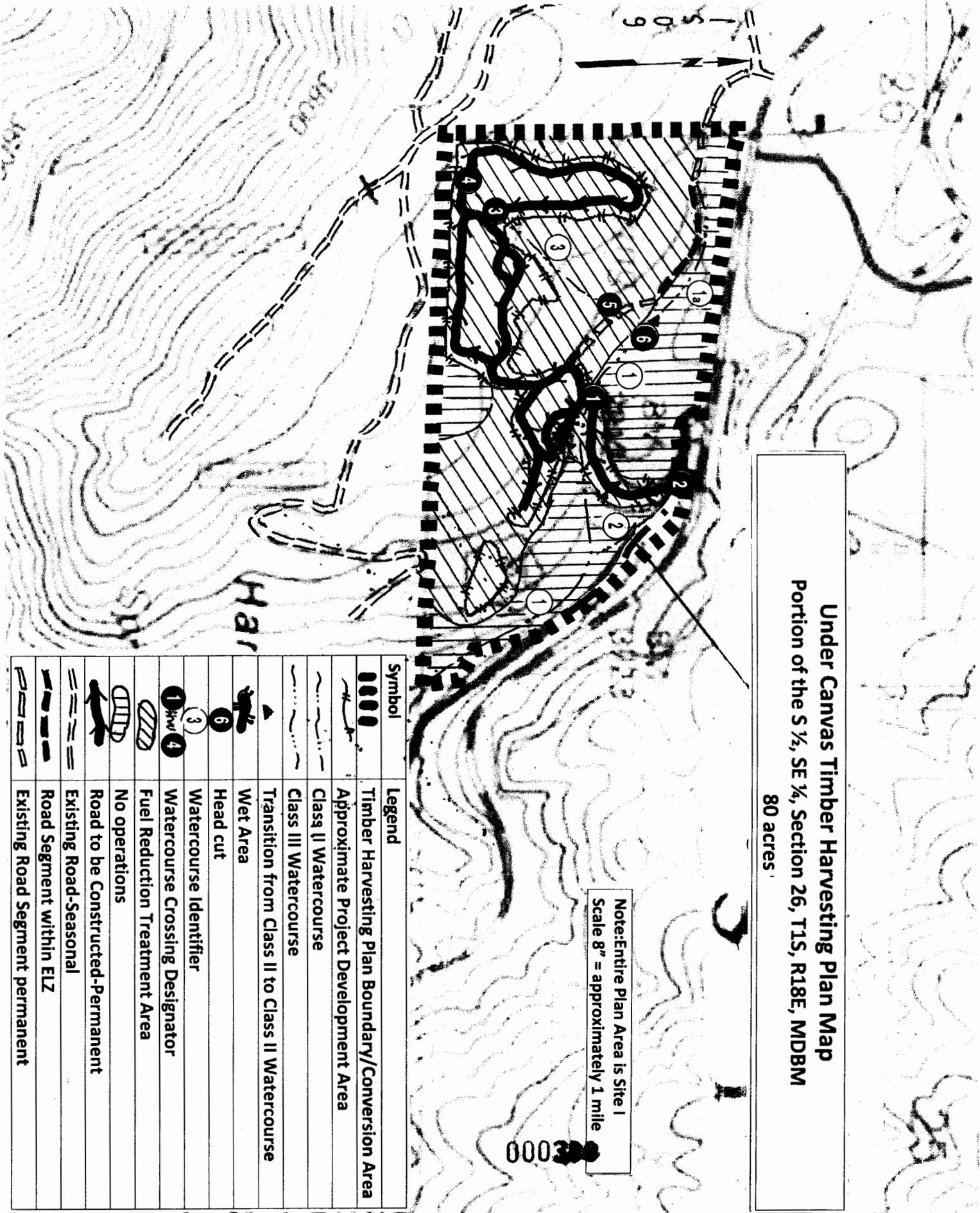
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SOURCE: USGS, 2001; ESA, 2020

Yosemite Under Canvas Project
Figure 1
 Project Site Plan



Under Canvas Timber Harvesting Plan Map
 Portion of the S 1/4, SE 1/4, Section 26, T1S, R18E, MDBM
 80 acres

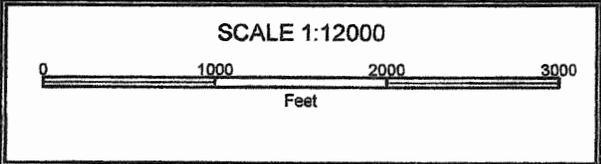
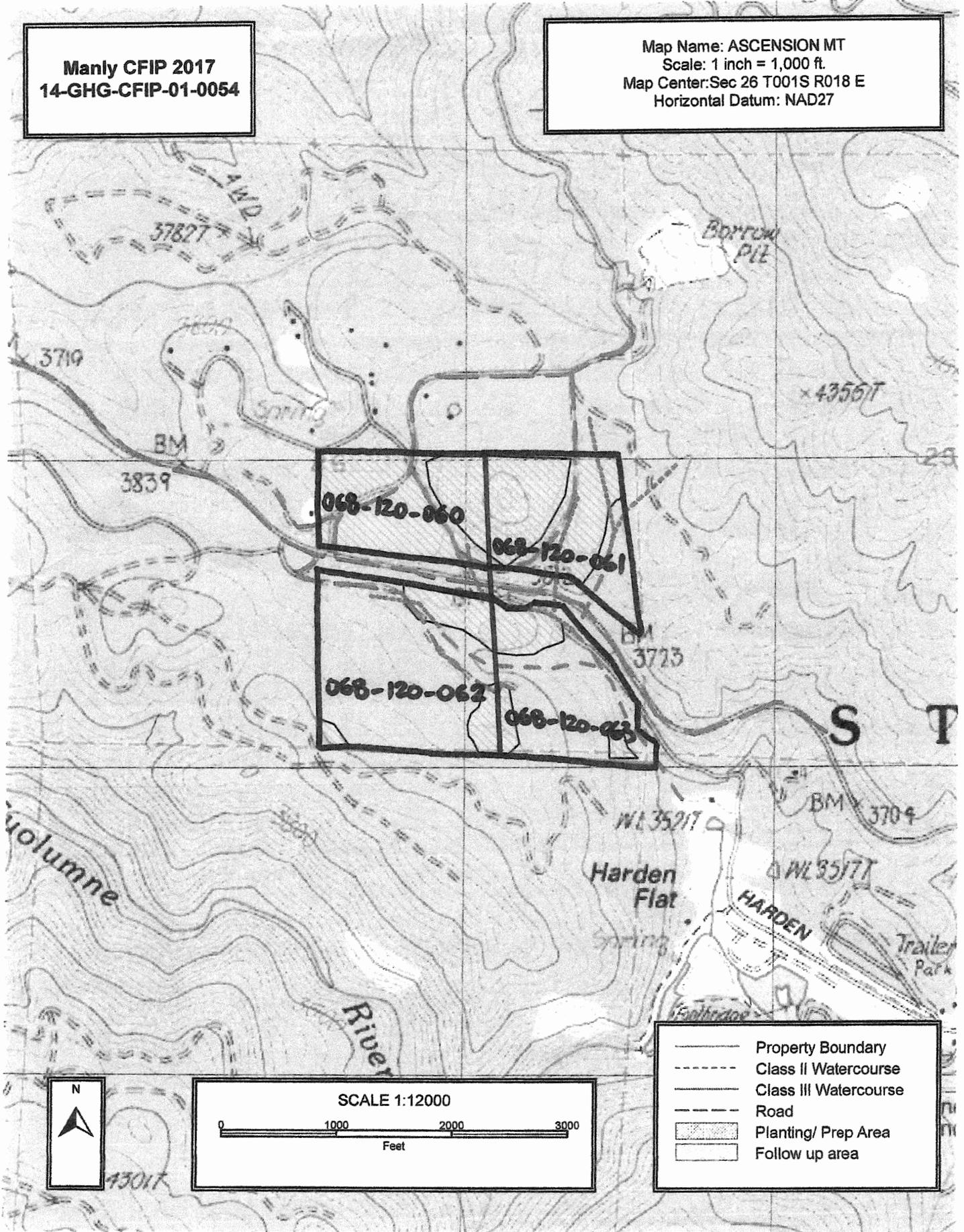


Note: Entire Plan Area is Site 1
 Scale 8" = approximately 1 mile

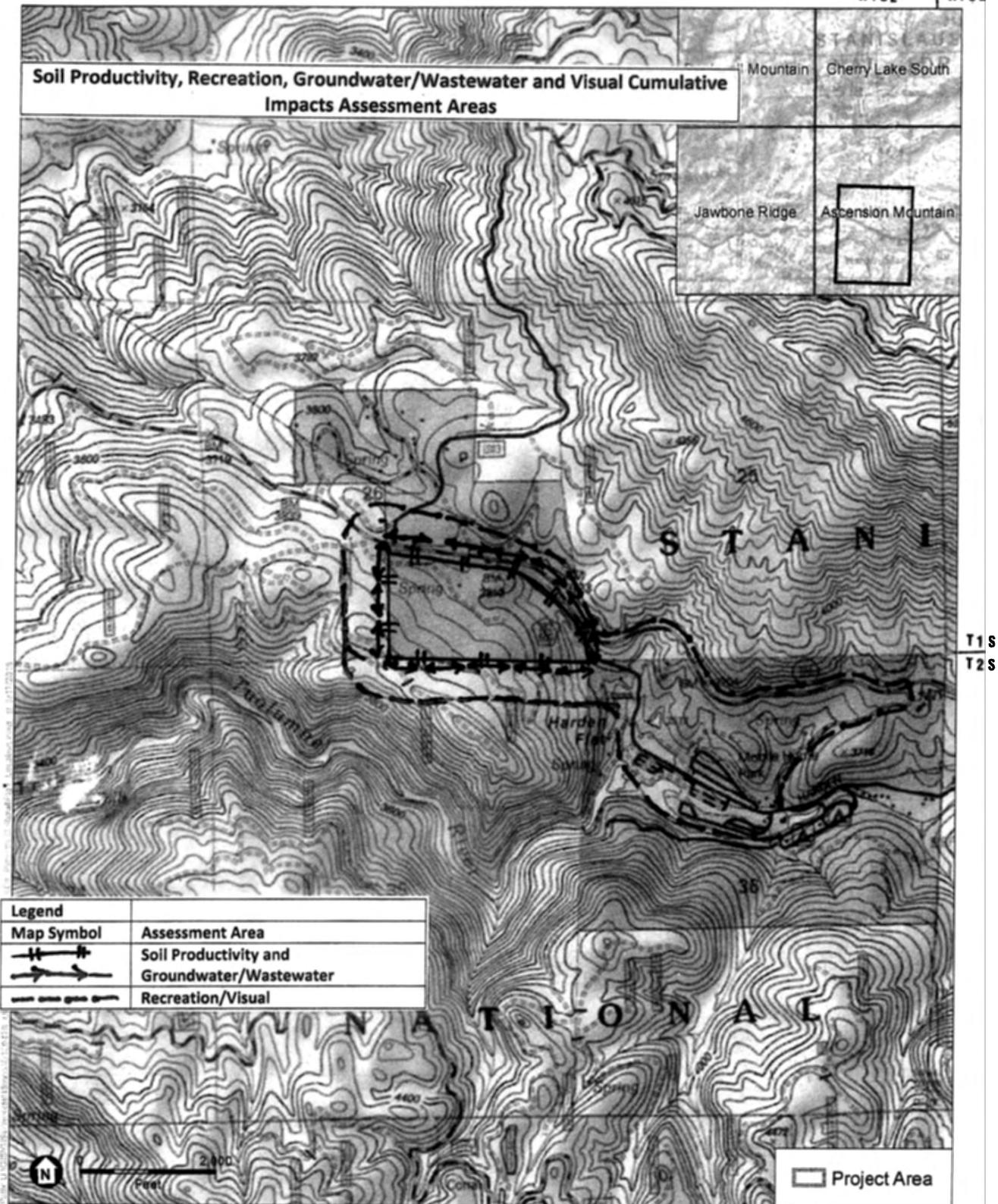
Symbol	Legend
	Timber Harvesting Plan Boundary/Conversion Area
	Approximate Project Development Area
	Class II Watercourse
	Class III Watercourse
	Transition from Class II to Class II Watercourse
	Wet Area
	Head cut
	Watercourse Identifier
	Watercourse Crossing Designator
	Fuel Reduction Treatment Area
	No operations
	Road to be Constructed-Permanent
	Existing Road-Seasonal
	Road Segment within ELZ
	Existing Road Segment permanent

Manly CFIP 2017
14-GHG-CFIP-01-0054

Map Name: ASCENSION MT
Scale: 1 inch = 1,000 ft.
Map Center: Sec 26 T001S R018 E
Horizontal Datum: NAD27



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SOURCE:USGS Ascension Mountain 7.5' quadrangle

Yosemite Under Canvas

Figure 1
Project Location and Vicinity



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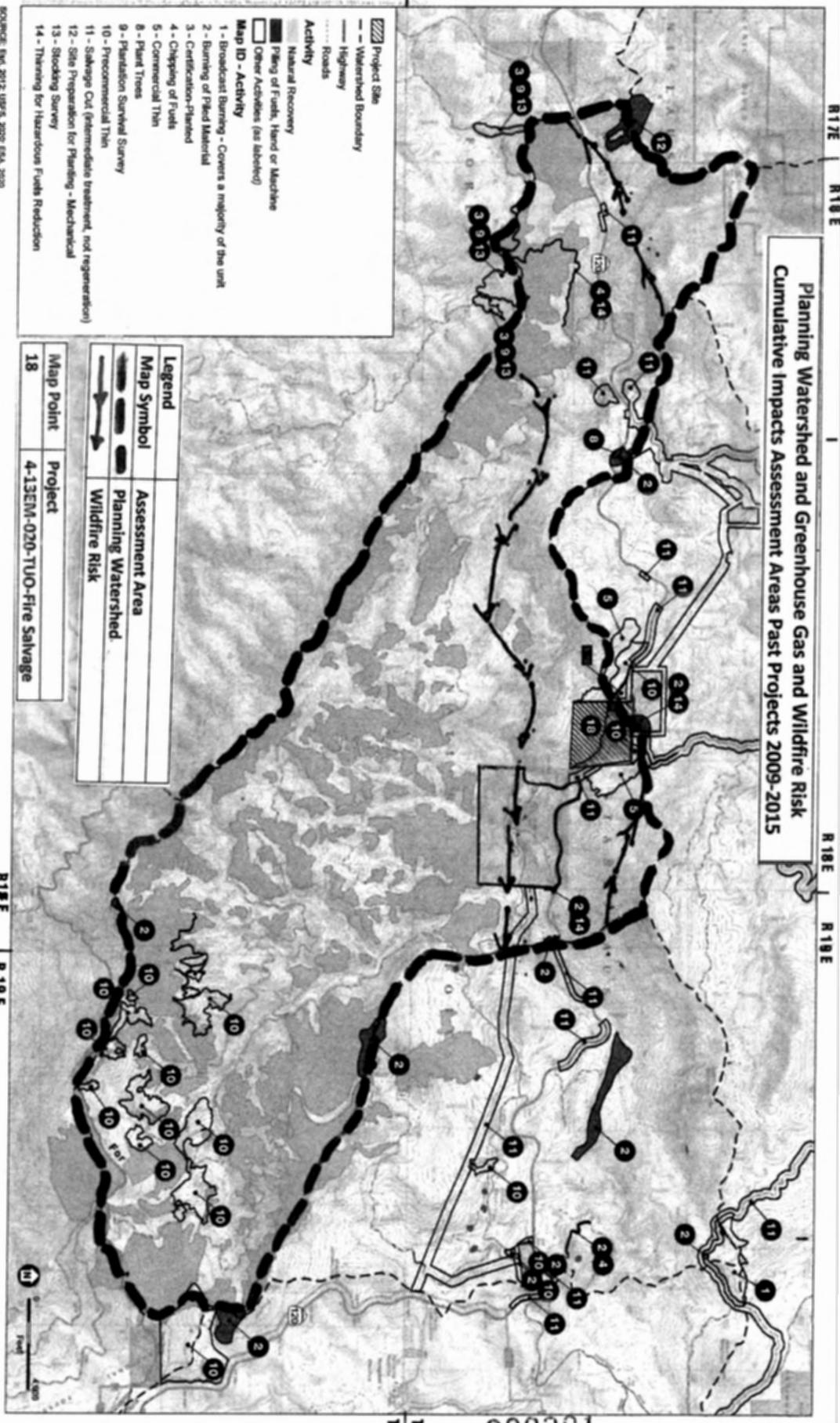
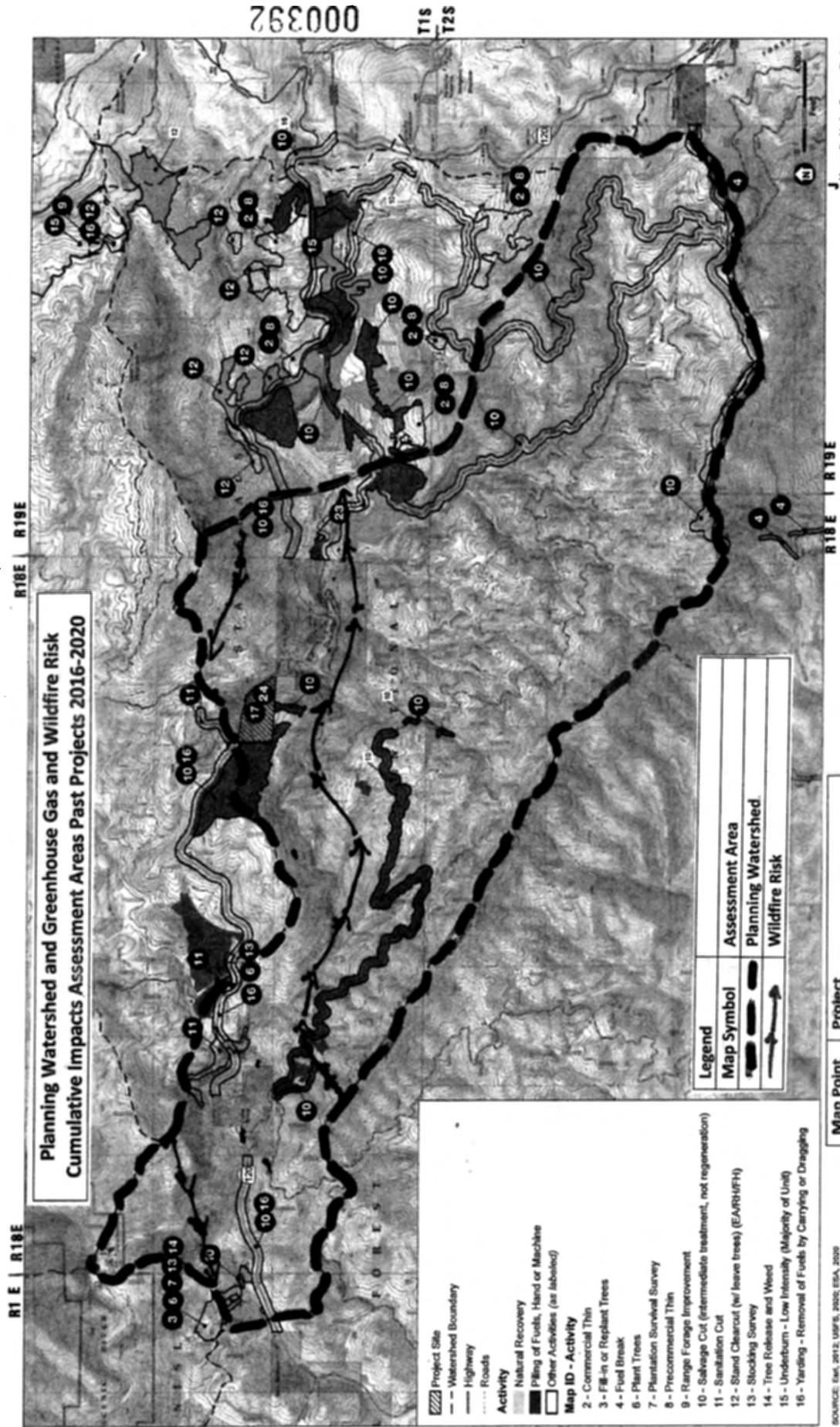


Figure 1
 Lower South Fork Tuolumne River (HU12) FACTS Activity
 Activities Completed 2009-2015



**Planning Watershed and Greenhouse Gas and Wildfire Risk
Cumulative Impacts Assessment Areas Past Projects 2016-2020**

- Project Site
- Watershed Boundary
- Highway
- Roads
- Activity**
- Natural Recovery
- Piling of Fuels, Hand or Machine
- Other Activities (as labeled)
- Map ID - Activity**
- 2 - Commercial Thin
- 3 - Fill-in or Replant Trees
- 4 - Fuel Break
- 6 - Plant Trees
- 7 - Plantation Survival Survey
- 8 - Precommercial Thin
- 9 - Range Forage Improvement
- 10 - Salvage Cut (intermediate treatment, not regeneration)
- 11 - Sanitation Cut
- 12 - Stand Clearcut (w/ leave trees) (EARS/HFH)
- 13 - Stocking Survey
- 14 - Tree Release and Weed
- 15 - Underburn - Low Intensity (Majority of Unit)
- 16 - Yarding - Removal of Fuels by Carrying or Dragging

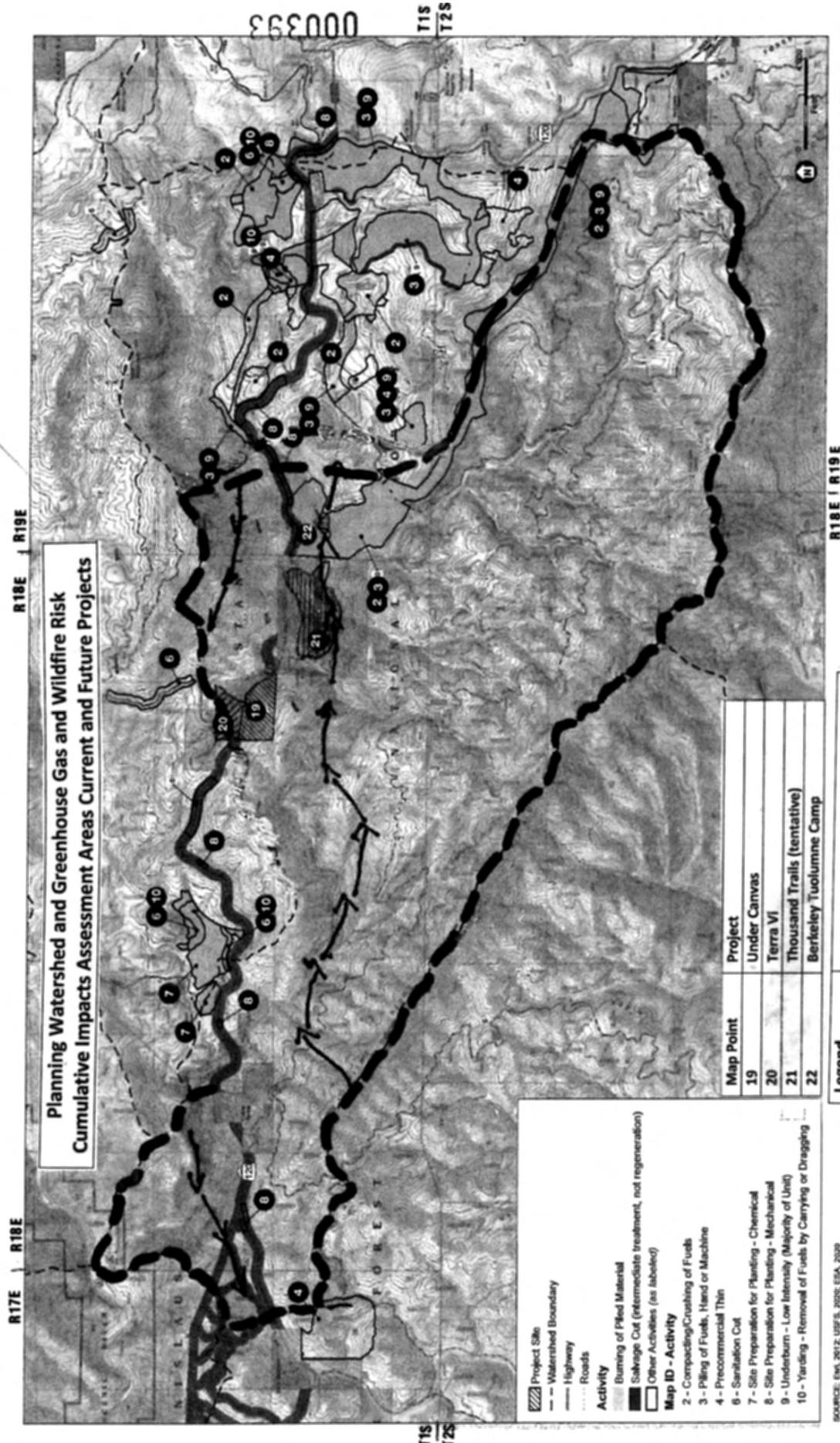
Legend	Assessment Area
	Planning Watershed
	Wildfire Risk

Map Point	Project
17	4-16EX-729-TUO-Insect Salvage
23	Hardin Flat Bridge
24	Manly CFIP

SOURCE: ESA, 2012, USFS, 2020; ESA, 2020



Yosemite Under Canvas Project
Figure 2
Lower South Fork Tuolumne River (HU12) FACTS Activity
Activities Completed 2016-2020



**Planning Watershed and Greenhouse Gas and Wildfire Risk
Cumulative Impacts Assessment Areas Current and Future Projects**

- Project Site
- Watershed Boundary
- Highway
- Roads
- Activity**
- Burning of Piled Material
- Salvage Cut (intermediate treatment, not regeneration)
- Other Activities (as labeled)
- Map ID - Activity**
- 1 - Site Preparation for Planting - Chemical
- 2 - Compacting/Crushing of Fuels
- 3 - Piling of Fuels, Hand or Machine
- 4 - Precommercial Thin
- 5 - Sanitation Cut
- 6 - Site Preparation for Planting - Mechanical
- 7 - Site Preparation for Planting - Mechanical
- 8 - Underburn - Low Intensity (Majority of Unit)
- 9 - Underburn - Low Intensity (Majority of Unit)
- 10 - Yarding - Removal of Fuels by Carrying or Dragging

Map Point	Project
19	Under Canvas
20	Terra Vi
21	Thousand Trails (tentative)
22	Berkeley Tuolumne Camp

Legend	Assessment Area
	Planning Watershed
	Wildfire Risk

SOURCE: EMA, 2012; USFS, 2020; ESA, 2020



Yosemite Under Canvas Project
Figure 3
Lower South Fork Tuolumne River (HU12) FACTS Activity
In Progress Activities

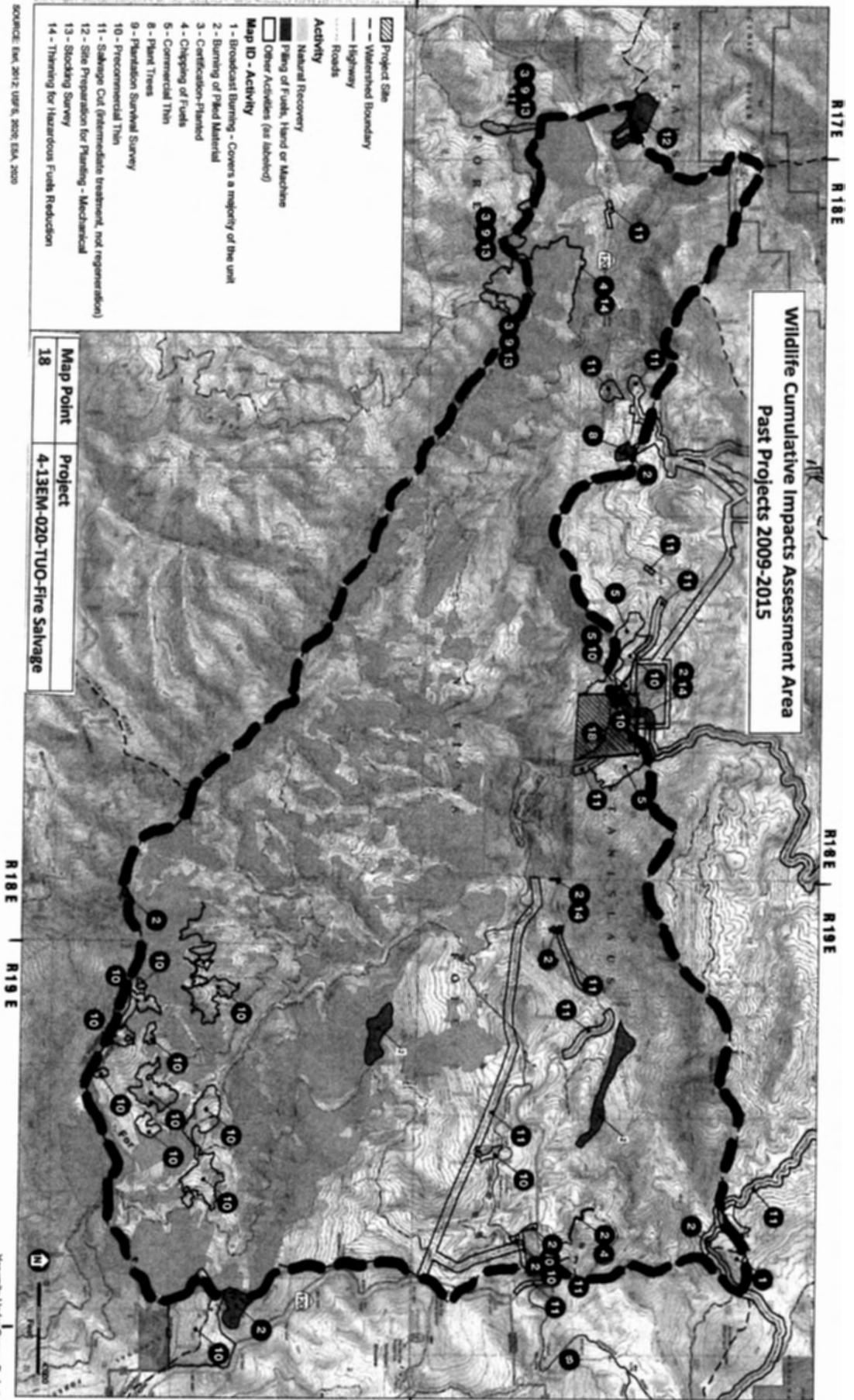
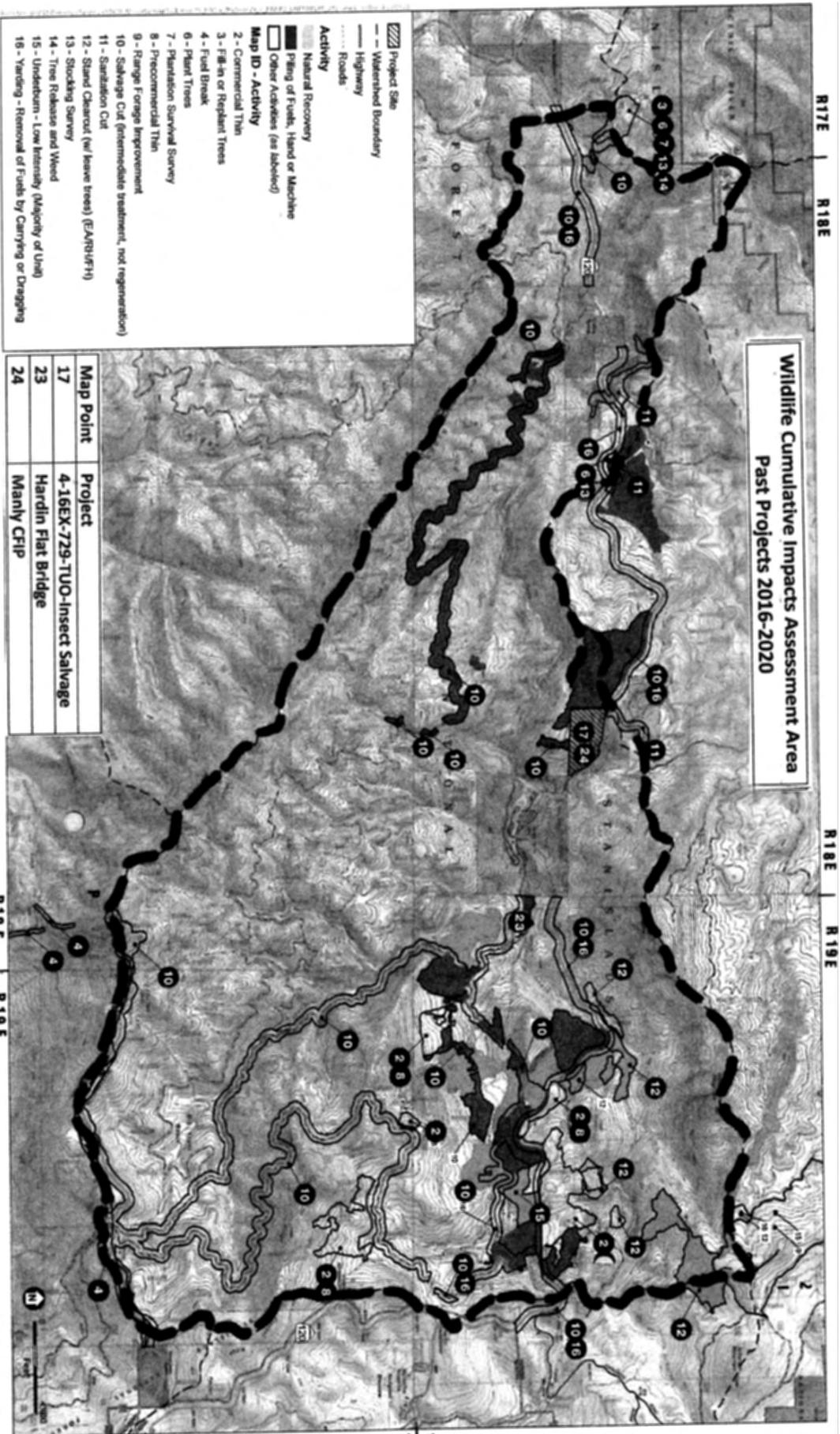


Figure 1
 Lower South Fork Tuolumne River (HU12) FACTS Activity
 Activities Completed 2009-2015



SOURCE: ERM, 2012; USFS, 2020; ESA, 2020



Figure 2
Lower South Fork Tuolumne River (HU12) FACTS Activity
Activities Completed 2016-2020

NOTICE OF INTENT TO HARVEST TIMBER

A Timber Harvesting Plan (Plan) or Amendment has been submitted to the California Department of Forestry & Fire Protection (CAL FIRE). CAL FIRE will be reviewing the proposed timber operation for compliance with State law and rules of the Board of Forestry and Fire Protection. The following briefly describes the proposed timber operation and where and how to get more information. In accordance with the timeline stated under Public Resources Code Section 4582.7, you may submit written public comments on the Plan or Amendment for CAL FIRE to consider.

This notice applies to (select one): New Timber Harvesting Plan Amendment Approved Timber Harvesting Plan

Applicant Information (Timberland Owner(s), Registered Professional Forester who prepared the plan and Plan Submitter should match those listed in the plan or amendment.)

1. The name(s) of the Timberland Owner(s) where timber operations are to occur: Hardin Flat, LLC

2. Registered Professional Forester who prepared the plan or amendment: William E. Snyder, RPF 1760

Registered Professional Forester Phone (optional): _____

3. The name of the Plan or Amendment Submitter: Under Canvas Inc.

Project Summary (County, legal description, acres proposed to be harvested and treatments to be used should match those listed in the plan or amendment.)

4. Location of the proposed timber operation (county, legal description, approximate direction & approximate distance of the timber operation from the nearest community or well-known landmark): Portion of the SW ¼, Section 26, T1S, R18E, MDBM
The project is located south of Highway 120 between the Sawmill Mtn and Hardin Flat turnoffs approximately 18 miles east on Highway 120 from the town of Groveland, CA

5. The name of, and distance from, the nearest perennial stream and major watercourse flowing through or downstream from the timber operation:
Project is located approximately ½ mile north of the South Fork of the Tuolumne River

6. Acres proposed to be harvested: approximately 80

7. The regeneration methods and intermediate treatments to be used:

Conversion of approximately 80 acres including 7 acres for roads and facilities and 55 acres of fuel treatment utilizing mastication equipment to remove standing dead trees and down logs and small trees.

POWERLINES: 14 CCR 1032.7(d)(10) & (e) (provide name and mailing addresses of the utilities for department distribution)

8. Yes No Overhead electrical power lines within the plan boundary? (except lines from transformers to service panels)

9. Yes No Overhead powerlines within 200 feet outside the plan boundary?

Public Information: The review times allowed for CAL FIRE to review the proposed timber operation are variable in length, but limited. To ensure CAL FIRE receives your comments please read the following:

The estimated earliest possible date CAL FIRE may APPROVE the Plan or Amendment is: May 15th, 2020

(This date is 15 calendar days from receipt of the Plan or Amendment by CAL FIRE, except in counties for which special rules have been adopted where the earliest date is 45 calendar days after receipt.)

NOTE: THE ESTIMATED EARLIEST APPROVAL DATE IS PROBABLY NOT THE ACTUAL APPROVAL DATE. Normally, a much longer period of time is available for public comment and preparation of CAL FIRE's responses to public comments. Please check with CAL FIRE, prior to the above listed date, to determine the actual date that the public comment period closes.

The public may review, or purchase a copy of, the Plan or Amendment at the CAL FIRE Review Team Office shown below. The cost to obtain a copy is 37 cents for each page, \$2.50 minimum per request. The cost to obtain a copy of this plan or amendment is: _____ (to be completed by CAL FIRE upon receipt of plan).

Questions or concerns regarding this plan should be directed to the CAL FIRE Review Team Office shown below or emailed to FresnoPublicComment@fire.ca.gov for incorporation into an Official Response Document. Please include the plan number on all correspondence.

Forest Practice Program Manager
CAL FIRE
1234 East Shaw Avenue
Fresno, CA 93710
(559) 222-3714

The plan may be viewed online at <https://caltreesplans.resources.ca.gov/caltrees/> A map showing the approximate boundary of the THP area, a map legend, and a scale is attached to help in locating where the proposed timber operation is to occur.

For CAL FIRE Use Only

Timber Harvest Plan Number:

000397

Date of Receipt:

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000407

William E. Snyder
Coastal-Sierra Silvics
4787 Hillsboro Circle
Santa Rosa, CA 95405
bill_e_snyder@att.net

June 2, 2020

Hardin Flat, LLC
Attn: Mr. Joel Manly
P.O. Box 130
Moccasin, CA 95437

Subject: Under Canvas Conversion Timber Harvesting Plan

Dear Mr. Manly,

As you are aware, a conversion Timber Harvesting Plan has been prepared for Under Canvas on property owned by Hardin Flat, LLC near Hardin Flat.

As the timberland owner, Hardin Flat, LLC will be responsible for either providing or ensuring that each Timber Operator with copies of both the recorded Timberland Conversion Permit, any amendments to the Conversion Permit as well as a copy of the approved Timber harvesting Plan. This letter is also to make you aware that no timber operations are to be conducted until the Timberland Conversion Permit has been issued and a Timber Harvesting Plan has been approved.

If at a future time you chose to cancel the Conversion Permit, CAL FIRE will set forth terms and conditions for such cancellation through a written agreement. The written agreement between you as the permittee and CAL FIRE will require that you record the cancellation agreement in Tuolumne County. Upon recording of the agreement the subject land shall revert back to Timberland and stocking shall be established pursuant to PRC 4561. If timber operation have occurred under the Conversion Timber Harvesting Plan, it is also likely that CAL FIRE will include provisions in the agreement to ensure compliance with provisions related to erosion control, maintenance of roads, removal of temporary watercourse crossings, etc.

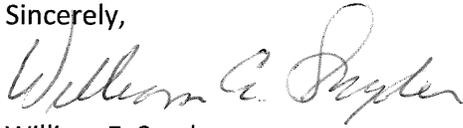
Also, you should be aware that, while the subject parcel is being converted to a recreational use, removal of trees in the future from the remaining forested stands for commercial purposes as defined in PRC 4527, would require submission and approval of a Timber Harvesting Plan.

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000408

In addition, as we have discussed previously, the subject parcel will need to be removed from NTMP N-2-91-2, if you have not already done so. Also, since this parcel is subject to a Land Use Addendum associated with the Manly CFIP 2017 (14-GHG-CFIP-01-0054), you will need to coordinate with CAL FIRE relative to appropriate actions to be taken.

Please advise if you have any questions.

Sincerely,



William E. Snyder
RPF 1760

cc: Jaimie Schmidt, Under Canvas
Luke, Evans, ESA



DEPARTMENT OF FORESTRY AND FIRE PROTECTION
Tuolumne-Calaveras Unit
785 Mountain Ranch Road
San Andreas, CA 95249
(209) 754-3831
(209) 754-1951 (fax)
www.fire.ca.gov



February 29, 2020

Mr. William Snyder
4787 Hillsboro Circle
Santa Rosa, Ca. 95405

RE: Under Canvas Conversion THP

Dear Mr. Williams

I reviewed your project related to the conversion Timber Harvest Plan. As discussed both over the phone and on site, the shaded fuel break you propose will compliment other fuel reduction work that is ongoing, completed, and planned in the vicinity. Protecting productive timber stands from catastrophic wildfires is beneficial to the residents in Tuolumne County and the state of California. Additionally, the proposed fuel breaks are expected to help protect communities and critical infrastructure along the Highway 120 corridor.

The Tuolumne-Calaveras Unit Pre-Fire Management Plan is designed to provide a comprehensive framework to assess anticipated hazard risks, and develop objectives to mitigate those risks. CAL FIRE works with private, non-profit, and public cooperators to achieve the goals of the Unit Fire Plan. The proposed fuel reduction under the above referenced THP is consistent with the goals and objectives of the Unit Fire Plan.

The Fuelbreak will compliment other fuel reduction work in the area and meets the objectives of a Community Fuelbreak Area as defined by 14 CCR 895.1. Thank you for the opportunity to review this project. If you have any questions, please contact me at the phone number listed below.

Sincerely,

Roger Petersen
Area Forester
Tuolumne-Calaveras Unit
18464 Striker Court
Sonora, CA 95370
(209) 532-7424

000410

CONSERVATION IS WISE-KEEP CALIFORNIA GREEN AND GOLDEN

PLEASE REMEMBER TO CONSERVE ENERGY. FOR TIPS AND INFORMATION, VISIT "FLEX YOUR POWER" AT WWW.CA.GOV.



DEPARTMENT OF FORESTRY AND FIRE PROTECTION
 SOUTHERN REGION HEADQUARTERS-FRESNO
 1234 East Shaw Ave
 Fresno, CA 93710
 (559) 243-4100
 Website: www.fire.ca.gov



TRANSFER OF RESPONSIBILITIES NOTICE

Notice Date: June 21, 2019

Pursuant to 14 CCR §1090.26(b), CAL FIRE is informing you that a portion of the lands subject to Nonindustrial Timber Management Plan 4-91NTMP-001 were sold or transferred to Hardin Flatt LLC. We became aware of this sale on 6/6/2019. If you wish to retain this plan, pursuant to 14 CCR §1090.26(c), you must inform the Department in writing of your desire to assume responsibility. You have one (1) year from the date of this notice to notify the Department. Failure to respond in the specified timeframe could result in cancellation of the plan.

If you have any questions, please call me at (559) 243-4114.

Sincerely,

KEVIN KINIERY
 Forester II, Review Team Chair
 RPF #2962

cc: TCU Unit
 Inspector Petersen
 Bill Snyder
 Cascade Forest Practice



Shaun Crook

PO Box 239
 Groveland, CA 95321

209-768-2744
shauncrook@sbcglobal.net

"The Department of Forestry and Fire Protection serves and safeguards the people and protects the property and resources of California."

000411



Under Canvas Timber Harvesting Plan Map
 Portion of the S ½, SE ¼, Section 26, T1S, R18E, M8BM
 Erosion Hazard Rating Map

Note: Entire Plan Area is Site 1
 Scale 8" = approximately 1 mile

Symbol	Legend-Erosion Hazard Rating
▬▬▬▬	Harvest Area Boundary
▬+▬	Approximate Project Development Area
▬▬▬▬	Low Erosion Hazard-Josephine Soils
▬▬▬▬	Low Erosion Hazard Rating-Holland Deep Soils
▬▬▬▬	Road to be Constructed-Permanent

ESTIMATED SURFACE SOIL EROSION HAZARD
RM-87 (4/84)

STATE OF CALIFORNIA
BOARD OF FORESTRY

SOIL FACTORS	A-130(Holland) B-159(Josphine)			FACTOR RATING BY AREA		
	Fine	Medium	Coarse	A	B	C
A. SOIL TEXTURE						
1. DETACHABILITY	Low	Moderate	High	12	14	
Rating	1-9	10-18	19-30			
2. PERMEABILITY	Slow	Moderate	Rapid	3	3	
Rating	5-4	3-2	1			

B. DEPTH TO RESTRICTIVE LAYER OR BEDROCK

	Shallow	Moderate	Deep	12	10	
	1"-19"	20"-39"	40"-60" (+)			
Rating	15-9	8-4	3-1			

C. PERCENT SURFACE COARSE FRAGMENTS GREATER THAN 2 MM IN SIZE INCLUDING ROCKS OR STONES

Rating	Low	Moderate	High	5	4		FACTOR RATING BY AREA		
	(-) 10-39%	40-70%	71-100%				A	B	C
	10-6	5-3	2-1						
SUBTOTAL ◊							32	31	

II. SLOPE FACTOR

Slope	5-15%	16-30%	31-40%	41-50%	51-70%	71-80% (+)	4	4	
Rating	1-3	4-6	7-10	11-15	16-25	26-35			

III. PROTECTIVE VEGETATIVE COVER REMAINING AFTER DISTURBANCE

	Low	Moderate	High	3	3	
	0-40%	41-80%	81-100%			
Rating	15-8%	7-4	3-1			

IV. TWO-YEAR, ONE-HOUR RAINFALL INTENSITY (Hundredths Inch)

	Low	Moderate	High	Extreme	6	6			
	(-) 30-39	40-59	60-69	70-80 (+)					
Rating	1-3	4-7	8-11	12-15					
TOTAL SUM OF FACTORS ◊							45	44	

EROSION HAZARD RATING

<50	50-65	66-75	>75	L	L	
LOW (L)	MODERATE (M)	HIGH (H)	EXTREME (E)			
THE DETERMINATION IS ◊						

7540-130-0435

000413



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Stanislaus National Forest, California, Parts



000414

April 18, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

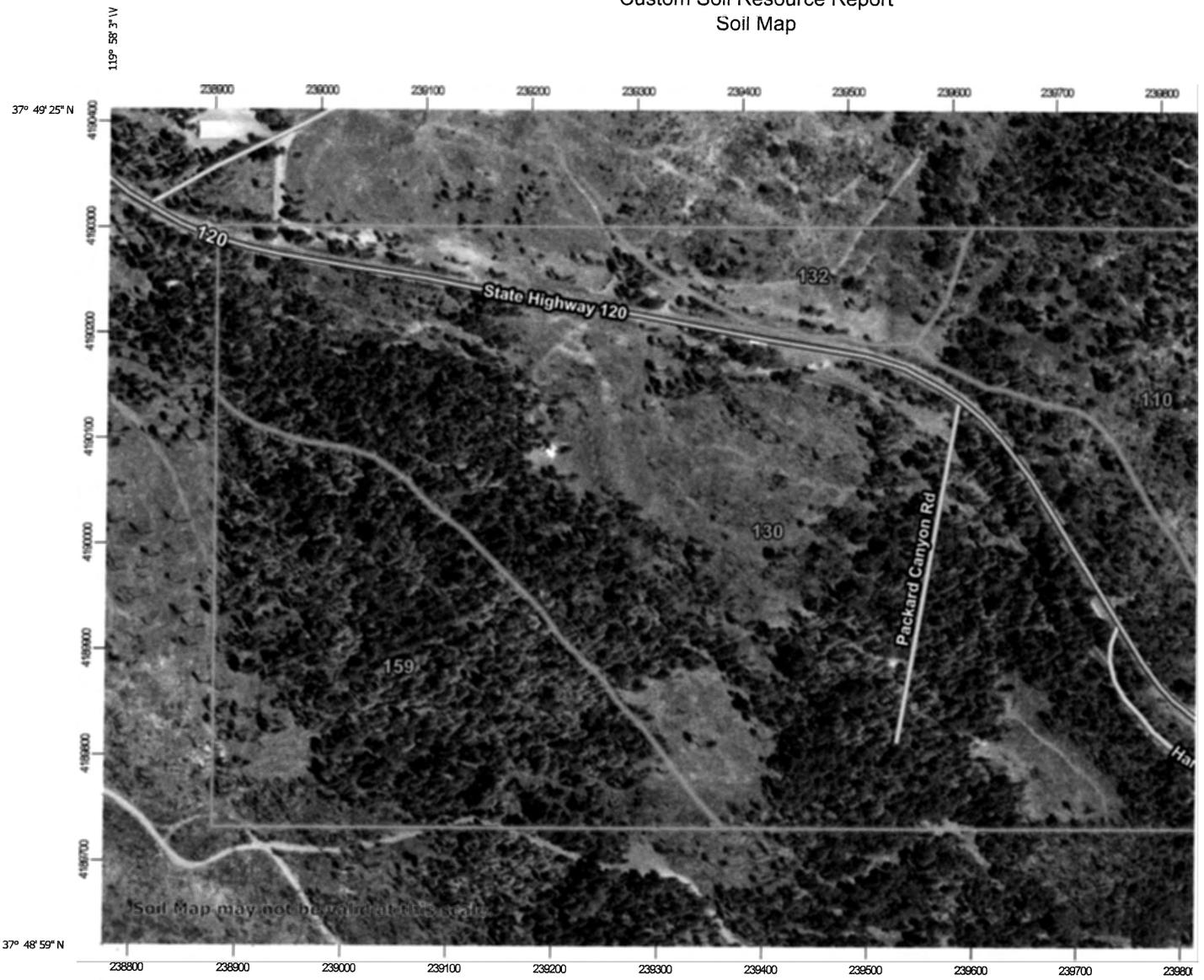
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:5,580 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

000422

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)		 Spoil Area	
	Area of Interest (AOI)	 Stony Spot	
Soils		 Very Stony Spot	
	Soil Map Unit Polygons	 Wet Spot	
	Soil Map Unit Lines	 Other	
	Soil Map Unit Points	 Special Line Features	
Special Point Features		Water Features	
	Blowout	 Streams and Canals	
	Borrow Pit	Transportation	
	Clay Spot	 Rails	
	Closed Depression	 Interstate Highways	
	Gravel Pit	 US Routes	
	Gravelly Spot	 Major Roads	
	Landfill	 Local Roads	
	Lava Flow	Background	
	Marsh or swamp	 Aerial Photography	
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI are at a scale of 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of 1:24,000 may result in a misunderstanding of the detail of mapping and line placement. The maps do not show the detail of contrasting soils that could have been shown at a smaller scale.

Please rely on the bar scale on each map for distance measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.sc.egov.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on a map projection, which preserves direction and distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used for accurate calculations of distance or area.

This product is generated from the USDA National Soil Survey Data of the version date(s) listed below.

Soil Survey Area: Stanislaus National Forest
 Survey Area Data: Version 12, Sep 16, 2017

Soil map units are labeled (as space allows) at a scale of 1:50,000 or larger.

Date(s) aerial images were photographed: 24, 2017

The orthophoto or other base map on which these maps are compiled and digitized probably differs from the imagery displayed on these maps. As a result, shifting of map unit boundaries may be observed.

000423¹⁰

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
110	Fiddletown family, moderately deep-Lithic Xerumbrepts complex, 15 to 35 percent slopes	20.8	14.5%
130	Holland family, deep-Moderately deep complex, 5 to 35 percent slopes	86.5	60.3%
132	Holland family, deep-Moderately deep, dark surface association, 10 to 35 percent slopes	6.6	4.6%
159	Josephine family, moderately deep-Deep complex, 5 to 35 slopes	29.5	20.6%
Totals for Area of Interest		143.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

Custom Soil Resource Report

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Stanislaus National Forest, California, Parts

110—Fiddletown family, moderately deep-Lithic Xerumbrepts c complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: hlvk
Elevation: 3,500 to 5,000 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 100 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Fiddletown family, moderately deep, and similar soils: 45 percent
Lithic xerumbrepts and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fiddletown Family, Moderately Deep

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 20 inches: gravelly sandy loam
H2 - 20 to 30 inches: very gravelly sandy loam
H3 - 30 to 60 inches: weathered bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 30 to 34 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Lithic Xerumbrepts

Setting

Landform: Mountains

Custom Soil Resource Report

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Upper third of mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 7 inches: loamy sand
H2 - 7 to 17 inches: sandy loam
H3 - 17 to 27 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 17 to 21 inches to lithic bedrock
Natural drainage class: Excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Wintoner family

Percent of map unit: 10 percent
Hydric soil rating: No

Unnamed, light colored surface

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Ultic haploxeralfs

Percent of map unit: 5 percent
Hydric soil rating: No

130—Holland family, deep-Moderately deep complex, 5 to 35 percent slopes

Map Unit Setting

National map unit symbol: hlw6
Elevation: 3,000 to 6,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 100 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Holland family, deep, and similar soils: 60 percent
Holland family, moderately deep, and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holland Family, Deep

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 60 inches: sandy clay loam
H3 - 60 to 79 inches: weathered bedrock

Properties and qualities

Slope: 5 to 35 percent
Depth to restrictive feature: 60 to 64 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

Custom Soil Resource Report

Hydric soil rating: No

Description of Holland Family, Moderately Deep

Setting

Landform: Mountains

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 5 inches: loam

H2 - 5 to 35 inches: sandy clay loam

H3 - 35 to 60 inches: weathered bedrock

Properties and qualities

Slope: 5 to 35 percent

Depth to restrictive feature: 35 to 39 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Lithic xerumbrepts

Percent of map unit: 10 percent

Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent

Hydric soil rating: No

Dystric xerochrepts

Percent of map unit: 5 percent

Hydric soil rating: No

**132—Holland family, deep-Moderately deep, dark surface asso ciation,
10 to 35 percent slopes**

Map Unit Setting

National map unit symbol: hlw8
Elevation: 3,000 to 6,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 100 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Holland family, deep, and similar soils: 70 percent
Holland family, moderately deep, darksurface, and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holland Family, Deep

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 60 inches: sandy clay loam
H3 - 60 to 79 inches: weathered bedrock

Properties and qualities

Slope: 10 to 35 percent
Depth to restrictive feature: 60 to 64 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

Custom Soil Resource Report

Hydric soil rating: No

Description of Holland Family, Moderately Deep, Darksurface

Setting

Landform: Mountains

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Residuum weathered from tuff breccia

Typical profile

H1 - 0 to 10 inches: loam

H2 - 10 to 39 inches: sandy clay loam

H3 - 39 to 43 inches: weathered bedrock

Properties and qualities

Slope: 10 to 35 percent

Depth to restrictive feature: 39 to 43 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Holland family, dark surface

Percent of map unit: 5 percent

Hydric soil rating: No

Lithic xerumbrepts

Percent of map unit: 5 percent

Hydric soil rating: No

159—Josephine family, moderately deep-Deep complex, 5 to 35 slopes

Map Unit Setting

National map unit symbol: hlx4

Elevation: 3,000 to 5,000 feet

Mean annual precipitation: 30 to 50 inches

Custom Soil Resource Report

Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 125 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Josephine family, moderately deep, and similar soils: 40 percent
Josephine family, deep, and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Josephine Family, Moderately Deep

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from metasedimentary rock

Typical profile

H1 - 0 to 5 inches: gravelly loam
H2 - 5 to 35 inches: clay loam
H3 - 35 to 60 inches: weathered bedrock

Properties and qualities

Slope: 5 to 35 percent
Depth to restrictive feature: 35 to 39 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Josephine Family, Deep

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from metasedimentary rock

Typical profile

H1 - 0 to 7 inches: gravelly loam
H2 - 7 to 22 inches: gravelly clay loam
H3 - 22 to 41 inches: clay loam

Custom Soil Resource Report

H4 - 41 to 65 inches: clay loam

H5 - 65 to 79 inches: weathered bedrock

Properties and qualities

Slope: 5 to 35 percent

Depth to restrictive feature: 65 to 69 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Sites family, moderately deep

Percent of map unit: 10 percent

Hydric soil rating: No

Sites family, deep

Percent of map unit: 10 percent

Hydric soil rating: No

Dystric lithic xerochrepts

Percent of map unit: 10 percent

Hydric soil rating: No

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Yosemite Under Canvas Adjacent Landowners List

April 4, 2020

WES

Parcel	Address	Zoning
068-360-004	Matthew Moore & Kathryn Ruddon, etal Unit 4550, Box 3158 DPO AP 96504-3158	RE-5
068-120-061	Hardin Flat, LLC P.O. Box 130 Moccasin, CA 95437	C-K,
068-120-060	Hardin Flat, LLC P.O. Box 130 Moccasin, CA 5437	C-K
068-120-054	USDA Forest Service 19777 Greenley Road Sonora, CA 95370	P
068-120-055	USDA Forest Service 19777 Greenley Road Sonora, CA 95370	P
068-120-052	USDA Forest Service 19777 Greenley Road Sonora, CA 95370	P
068-120-051	MHC T1000 Trust P.O. Box 9022 Coppell, TX 75019	K & O, O-1
068-120-059	State of California Department of Transportation P.O. Box 2048 Stockton, CA 95201	K

Zoning Descriptions

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- RE-5 Residential estate five acre minimum-provides for low density offering country estate living while maintaining large areas of open space.
- C-K Commercial Recreational-purpose is to encourage well planned and integrated resort and vacation oriented commercial complexes.
- P Public District-Includes public lands over which the county has limited jurisdictional authority.
- K General Recreational-provides for development of indoor and outdoor sports, recreation facilities, and commercial places of amusement.
- O-1 Open space-provides for protection of open spaces for protection of wildlife habitat or areas with significant cultural resources.
- O Open space-purpose is to protect the public in areas not suitable for development and for protection of wildlife habitat and scenic quality.

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PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

GROVELAND CA 95321

Parcel # (APN):

068-120-055-000

General Information

Parcel # (APN): **068-120-055-000**

Owner: **USA DIV OF FORESTRY
STANISLAUS NATIONAL
FOREST**

Mailing Address: **19777 GREENLEY RD
SONORA CA 95370**

Legal Description: **POR SEC 35 T1S R18E 480AC**

Use Type: **NO VALUE**

Tax Rate Area: **054-009**



Assessment

Total Value:	Year Assd:	2019
Land:	Zoning:	
Structures:	Use Code:	
Other:	Census Tract:	42.00/1
% Improved:	Price/SqFt:	
0%		
Exempt Amt:		
HO Exempt:		N

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				
Document Number:				
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 480.000	Spaces:	Site Influence:
Lot SqFt: 20,908,800	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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FULL PROPERTY DETAIL REPORT

Property Address:

GROVELAND CA 95321

Parcel # (APN):

068-120-063-000

General Information

Parcel # (APN): **068-120-063-000**

Owner: **HARDIN FLAT LLC**

Mailing Address: **PO BOX 130 MOCCASIN CA
95347**

Legal Description: **PAR D LLA 2004006668 POR
SE 1/4 SEC 26 T1S R18E 36**

Use Type: **VACANT**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$30,318**

Year Assd: **2019**

Land: **\$30,318**

Zoning:

Structures:

Use Code: **05**

Other:

Census Tract: **42.00/1**

% Improved: **0%**

Price/SqFt:

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				07/25/2018
Document Number:				2018R0008599
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 36.000	Spaces:	Site Influence:
Lot SqFt: 1,568,160	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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FULL PROPERTY DETAIL REPORT

Property Address:

GROVELAND CA 95321

Parcel # (APN):

068-120-062-000

General Information

Parcel # (APN): **068-120-062-000**

Owner: **HARDIN FLAT LLC**

Mailing Address: **PO BOX 130 MOCCASIN CA
95347**

Legal Description: **PAR C LLA 2004006668 POR
SE 1/4 SEC 26 T1S R18E 49**

Use Type: **VACANT**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$41,350**

Year Assd: **2019**

Land: **\$41,350**

Zoning:

Structures:

Use Code: **06**

Other:

Census Tract: **42.00/1**

% Improved: **0%**

Price/SqFt:

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				07/25/2018
Document Number:				2018R0008599
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 49.100	Spaces:	Site Influence:
Lot SqFt: 2,138,796	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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FULL PROPERTY DETAIL REPORT

Property Address:

30835 HARDIN FLAT RD GROVELAND CA 95321-9603

Parcel # (APN):

068-360-004-000

General Information

Parcel # (APN): **068-360-004-000**

Owner: **MOORE MATTHEW ETAL
RUDDON KATHRYN**

Mailing Address: **UNIT 4550 BOX 3158 DP AP
96504-3158**

Legal Description: **PAR 1 R/S 15-75 POR NW1/4
SEC 36 T1S R18E 8.90AC**

Use Type: **RESID.
MOBILE/MANUFACTURED
HOMES**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$191,220**

Year Assd: **2019**

Land: **\$114,847**

Zoning:

Structures: **\$76,373**

Use Code: **22**

Other:

Census Tract: **42.00/1**

% Improved: **39%**

Price/SqFt:

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	11/12/2010			11/12/2010
Document Number:	2010R0003860			2010R0003860
Document Type:	GRANT DEED			
Transfer Amount:	\$191,500			
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 8.900	Spaces:	Site Influence:
Lot SqFt: 387,684	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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FULL PROPERTY DETAIL REPORT

Property Address:
GROVELAND CA 95321

Parcel # (APN):
068-120-054-000

General Information

Parcel # (APN): **068-120-054-000**

Owner: **USA DIV OF FORESTRY
STANISLAUS NATIONAL
FOREST**

Mailing Address: **19777 GREENLEY RD
SONORA CA 95370**

Legal Description: **POR SEC 26 T1S R18E 400AC**

Use Type: **NO VALUE**

Tax Rate Area: **054-009**



Assessment

Total Value:	Year Assd:	2019
Land:	Zoning:	
Structures:	Use Code:	
Other:	Census Tract:	42.00/1
% Improved:	Price/SqFt:	
Exempt Amt:		
HO Exempt:		N

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				
Document Number:				
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 400.000	Spaces:	Site Influence:
Lot SqFt: 17,424,000	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

31383 STATE HWY 120 GROVELAND CA 95321-9704

Parcel # (APN):

068-120-051-000

General Information

Parcel # (APN): **068-120-051-000**

Owner: **MHC T1000 TRUST**

Mailing Address: **PO BOX 9022 COPPELL TX
75019**

Legal Description: **POR SEC 36 T1S R18E
213.94AC**

Use Type: **RESID.
MOBILE/MANUFACTURED
HOME PARK**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$2,159,026**

Year Assd: **2019**

Land: **\$685,997**

Zoning:

Structures: **\$1,473,029**

Use Code: **83**

Other:

Census Tract: **42.00/1**

% Improved: **68%**

Price/SqFt:

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				
Document Number:				
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 213.940	Spaces:	Site Influence:
Lot SqFt: 9,319,226	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

GROVELAND CA 95321

Parcel # (APN):

068-120-059-000

General Information

Parcel # (APN): **068-120-059-000**

Owner: **CALIF STATE DEPT TRANS**

Mailing Address: **PO BOX 2048 STOCKTON CA
95201**

Legal Description: **POR SE 1/4 SEC 26 T1S R18E
19.63AC**

Use Type: **NO VALUE**

Tax Rate Area: **054-009**



Assessment

Total Value:	Year Assd:	2019
Land:	Zoning:	
Structures:	Use Code:	
Other:	Census Tract:	42.00/1
% Improved:	Price/SqFt:	
0%		
Exempt Amt:		
HO Exempt:		N

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				
Document Number:				
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 19.630	Spaces:	Site Influence:
Lot SqFt: 855,082	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

5 CA 95321

Parcel # (APN):

068-120-052-000

General Information

Parcel # (APN): **068-120-052-000**

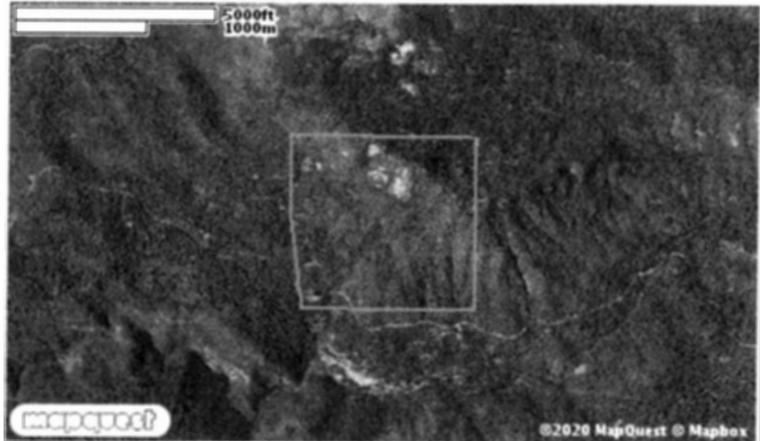
Owner: **USA DIV OF FORESTRY
STANISLAUS NATIONAL
FOREST**

Mailing Address: **19777 GREENLEY RD
SONORA CA 95370**

Legal Description: **SEC 25 T1S R18E 640AC**

Use Type: **999**

Tax Rate Area: **054-009**



Assessment

Total Value:	Year Assd:	2019
Land:	Zoning:	
Structures:	Use Code:	
Other:	Census Tract:	42.00/1
% Improved:	Price/SqFt:	
0%		
Exempt Amt:		
HO Exempt:		N

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				
Document Number:				
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 640.000	Spaces:	Site Influence:
Lot SqFt: 27,878,400	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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FULL PROPERTY DETAIL REPORT

Property Address:

GROVELAND CA 95321

Parcel # (APN):

068-120-060-000

General Information

Parcel # (APN): **068-120-060-000**

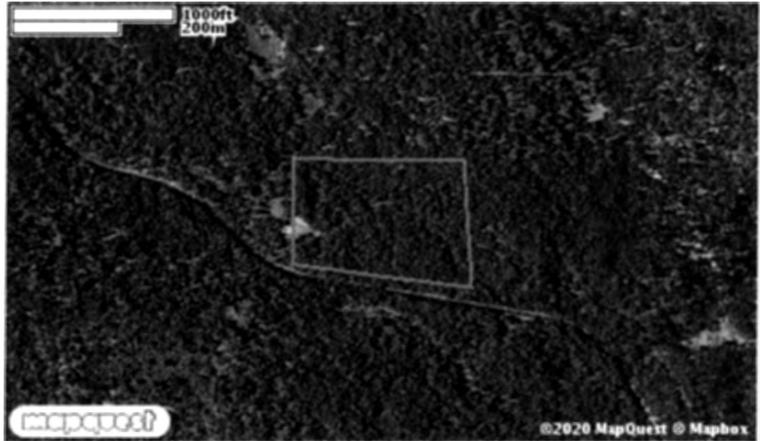
Owner: **HARDIN FLAT LLC**

Mailing Address: **PO BOX 130 MOCCASIN CA
95347**

Legal Description: **PAR A LLA 200406668 POR
SE 1/4 SEC 26 T1S R18E 27.**

Use Type: **VACANT**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$23,394**

Year Assd: **2019**

Land: **\$23,394**

Zoning:

Structures:

Use Code: **05**

Other:

Census Tract: **42.00/1**

% Improved: **0%**

Price/SqFt:

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	07/18/2018			07/25/2018
Document Number:	2018R0008320			2018R0008599
Document Type:	GRANT DEED			
Transfer Amount:				
Seller (Grantor):	MANLY CAROL L & MANLY GR			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 27.780	Spaces:	Site Influence:
Lot SqFt: 1,210,096	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

GROVELAND CA 95321

Parcel # (APN):

068-120-061-000

General Information

Parcel # (APN): **068-120-061-000**

Owner: **HARDIN FLAT LLC**

Mailing Address: **PO BOX 130 MOCCASIN CA
95347**

Legal Description: **PAR B LLA 2004006668 POR
SE 1/4 SEC 26 T1S R18E 35**

Use Type: **VACANT**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$29,981**

Land: **\$29,981**

Structures:

Other:

% Improved: **0%**

Exempt Amt:

HO Exempt: **N**

Year Assd: **2019**

Zoning:

Use Code: **05**

Census Tract: **42.00/1**

Price/SqFt:

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:				07/25/2018
Document Number:				2018R0008599
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 35.600	Spaces:	Site Influence:
Lot SqFt: 1,550,736	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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Yosemite Under Canvas Domestic Water Supply Notification List

April 15, 2020

WES

Parcel	Address
068-360-004	Matthew Moore & Kathryn Ruddon, etal Unit 4550, Box 3158 DPO AP 96504-3158
068-120-001	Maria Porges and William McMahon III 5174 Track Street Oakland, CA 94601
068-120-002	Howard and Linda Wight 15380 Lupe Road Pine Grove, CA 95665
068-120-003	Paul Swartz 30869 Hardin Flat Rd. Groveland, CA 95321

000449

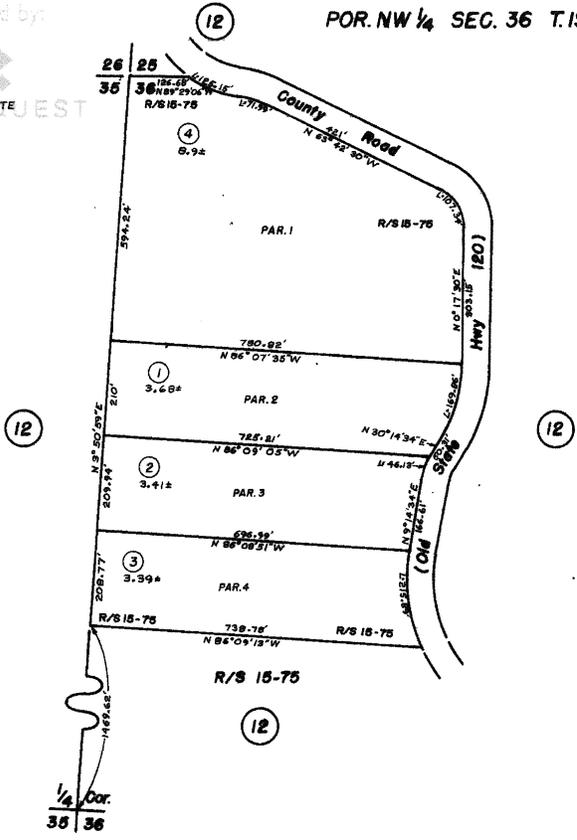
Provided by:

4

REVISION DATE PARCELQUEST

POR. NW 1/4 SEC. 36 T.1S R.18E

Tax Area Code 68-36
54-009



Note: This Plat is For Assessment Purposes Only And Not An Official Map
Copyright © 1998 by Tuol. Co. Assessor

Assessor's Map
68-36
County of Tuolumne, Calif.
1972

000450



FULL PROPERTY DETAIL REPORT

Property Address:

30835 HARDIN FLAT RD GROVELAND CA 95321-9603

Parcel # (APN):

068-360-004-000

General Information

Parcel # (APN): **068-360-004-000**

Owner: **MOORE MATTHEW ETAL
RUDDON KATHRYN**

Mailing Address: **UNIT 4550 BOX 3158 DP AP
96504-3158**

Legal Description: **PAR 1 R/S 15-75 POR NW1/4
SEC 36 T1S R18E 8.90AC**

Use Type: **RESID.
MOBILE/MANUFACTURED
HOMES**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$191,220**

Year Assd: **2019**

Land: **\$114,847**

Zoning:

Structures: **\$76,373**

Use Code: **22**

Other:

Census Tract: **42.00/1**

% Improved: **39%**

Price/SqFt:

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	11/12/2010			11/12/2010
Document Number:	2010R0003860			2010R0003860
Document Type:	GRANT DEED			
Transfer Amount:	\$191,500			
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 8.900	Spaces:	Site Influence:
Lot SqFt: 387,684	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

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PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

30851 HARDIN FLAT RD GROVELAND CA 95321-9603

Parcel # (APN):

068-360-002-000

General Information

Parcel # (APN): **068-360-002-000**

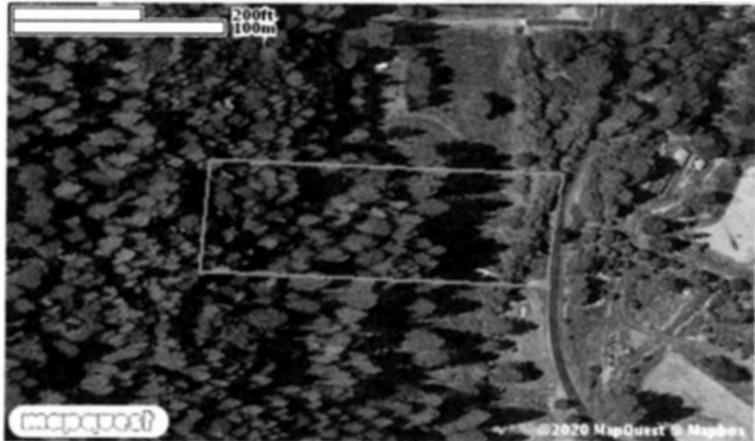
Owner: **WIGHT HOWARD TR LINDA**

Mailing Address: **15380 LUPE RD PINE GROVE
CA 95665**

Legal Description: **PAR 3 R/S 15-75 POR NW1/4
SEC 36 T1S R18E 3.41AC**

Use Type: **RESID.
MOBILE/MANUFACTURED
HOMES**

Tax Rate Area: **054-009**



Assessment

Total Value:	\$67,523	Year Assd:	2019
Land:	\$60,778	Zoning:	
Structures:	\$6,745	Use Code:	22
Other:		Census Tract:	42.00/1
% Improved:	9%	Price/SqFt:	
Exempt Amt:			
HO Exempt:	N		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	06/14/2000			06/14/2000
Document Number:	16770562			16770562
Document Type:				
Transfer Amount:	\$50,000			
Seller (Grantor):	GRANGER			

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres: 3.410	Spaces:	Site Influence:
Lot SqFt: 148,539	Garage SqFt:	Ag Preserve:
Year Built:		
Effective Year:		

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000452



FULL PROPERTY DETAIL REPORT

Property Address:

30869 HARDIN FLAT RD GROVELAND CA 95321-9603

Parcel # (APN):

068-360-003-000

General Information

Parcel # (APN): **068-360-003-000**

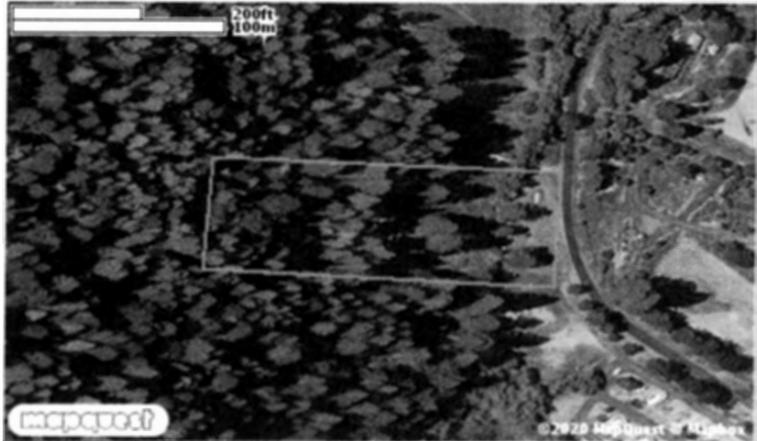
Owner: **SWARTZ PAUL**

Mailing Address: **30869 HARDIN FLAT RD
GROVELAND CA 95321**

Legal Description: **PAR 4 R/S 15-75 POR NW1/4
SEC 36 T1S R18E 3.39AC**

Use Type: **RESID.
MOBILE/MANUFACTURED
HOMES**

Tax Rate Area: **054-009**



Assessment

Total Value:	\$140,025	Year Assd:	2019
Land:	\$74,025	Zoning:	
Structures:	\$21,000	Use Code:	22
Other:	\$45,000	Census Tract:	42.00/1
% Improved:	22%	Price/SqFt:	\$90.49
Exempt Amt:	\$7,000		
HO Exempt:	Y		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	01/20/2004			01/20/2004
Document Number:	2004R0001817			2004R0001817
Document Type:	GRANT DEED			
Transfer Amount:	\$139,000			
Seller (Grantor):				

Property Characteristics

Bedrooms:	2	Fireplace:		Units:	
Baths (Full):	2	A/C:		Stories:	1.0
Baths (Half):		Heating:		Quality:	6.5
Total Rooms:	2	Pool:		Building Class:	
Bldg/Liv Area:	1,536	Park Type:		Condition:	
Lot Acres:	3.390	Spaces:		Site Influence:	
Lot SqFt:	147,668	Garage SqFt:		Timber Preserve:	
Year Built:	1985			Ag Preserve:	
Effective Year:					

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000453



PARCELQUEST LITE

FULL PROPERTY DETAIL REPORT

County, Kaenan Whitman, Assessor

Property Address:

30843 HARDIN FLAT RD GROVELAND CA 95321-9603

Parcel # (APN):

068-360-001-000

General Information

Parcel # (APN): **068-360-001-000**

Owner: **PORGES MARIA TR 1/2 MC
MAHON WILLIAM III**

Mailing Address: **5174 TRASK ST OAKLAND
CA 94601**

Legal Description: **PAR 2 R/S 15-75 POR NW1/4
SEC 36 T1S R18E 3.68AC**

Use Type: **RESIDENTIAL**

Tax Rate Area: **054-009**



Assessment

Total Value: **\$138,075**

Year Assd: **2019**

Land: **\$78,750**

Zoning:

Structures: **\$59,325**

Use Code: **21**

Other:

Census Tract: **42.00/1**

% Improved: **42%**

Price/SqFt: **\$324.07**

Exempt Amt:

HO Exempt: **N**

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	03/13/2007	04/09/2001		05/29/2019
Document Number:	2007R0010458	17440469		2019R0005017
Document Type:	GRANT DEED			
Transfer Amount:	\$140,000	\$90,000		
Seller (Grantor):				

Property Characteristics

Bedrooms:	1	Fireplace:		Units:	
Baths (Full):	1	A/C:		Stories:	1.0
Baths (Half):		Heating:		Quality:	5.0
Total Rooms:	1	Pool:		Building Class:	D
Bldg/Liv Area:	432	Park Type:		Condition:	
Lot Acres:	3.680	Spaces:		Site Influence:	
Lot SqFt:	160,300	Garage SqFt:		Timber Preserve:	
Year Built:	1988			Ag Preserve:	
Effective Year:	1988				

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000454

You are receiving this letter because your parcel has been identified through a review of the Assessor Records as being within 1000' feet of the project area. If you have information regarding the presence of surface domestic water sources on your parcel or within 1000' of the project boundary that could be impacted by this project, please respond within 10 days of the post-mark on the return receipt you received with delivery of this letter to:

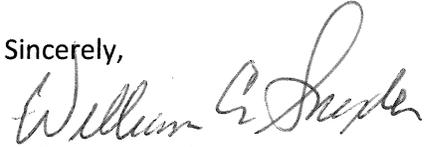
William Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405
(707) 583-3400

If you prefer, you may respond by e-mail at the following e-mail address:

bill_e_snyder@att.net

Please direct questions you may have regarding this notice to William Snyder at the above address utilizing the contact information above. Questions you may have about the project and Tuolumne County's review of the project should be directed to Natalie Rizzi at nrizzi@co.tuolumne.ca.us or (209) 533-5633.

Sincerely,



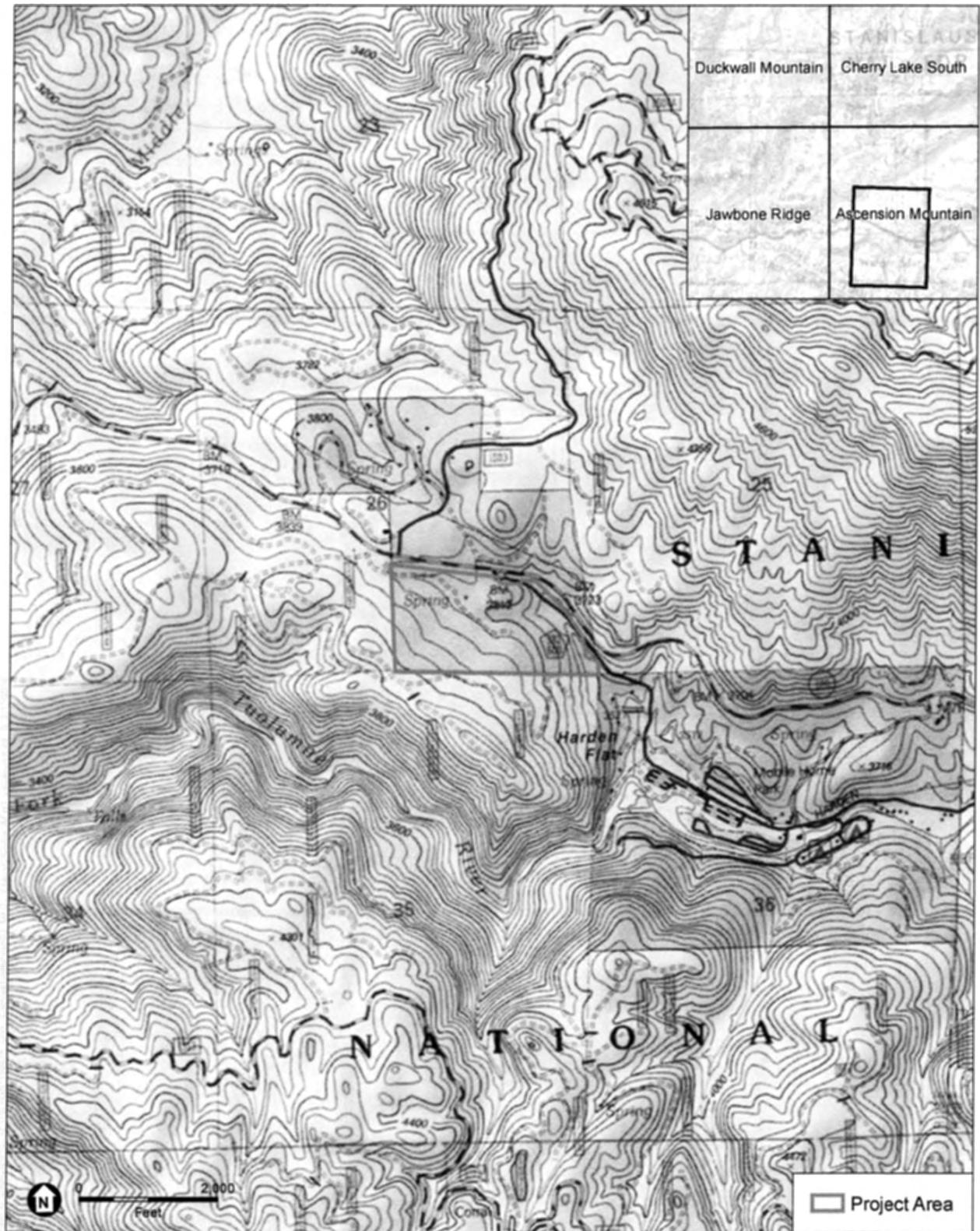
William E. Snyder

Registered Professional Forester 1760



CC: Luke Evans, ESA
Jaimie Schmidt, Under Canvas
Natalie Rizzi, Tuolumne County Community Resources Agency

000456



SOURCE:USGS Ascension Mountain 7.5' quadrangle

Yosemite Under Canvas

Figure 1
Project Location and Vicinity

ESA

000457

August 21, 2019

William E. Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405

Paul Swartz
30869 Hardin Flat Rd.
Groveland, CA 95321

Dear Mr. Swartz,

Under Canvas, Inc. is proposing a Timber Harvesting Operation on lands owned by Hardin Flat, LLC. The proposed operations will facilitate development of roads and infrastructure for construction of a destination camping facility primarily to serve visitors to Yosemite National Park. An Environmental Impact Report (EIR) will be done to analyze potential impacts of the project. The lead agency for review of the EIR is the Tuolumne County Community Resources Agency.

The project is located south of the intersection of Hardin Flat and State Highway 120 in the vicinity of Sawmill Mountain in the S ½ of the SE ¼ of Section 26, Township 1 South, Section 18 East, Mount Diablo Base Meridian. Two assessor's parcels that will be included in this project and are identified in the County Assessor records as APNs 68-120-062 and 68-120-063. For your reference, please find attached a copy of a map which outlines the footprint of the project along with a Notice of Intent.

The project proposes development of a campground consisting of 99 on-site tent structures. The project also proposes a mobile kitchen, dining and reception tent, laundry facilities, communal bathrooms, a swimming pool and internal access roads. The project will cover approximately 80 acres and will result in the conversion of approximately 7 acres of forest lands for infrastructure, and conduct of tree removal operations on the balance of the area to remove standing dead and dead fallen trees as necessary for user safety and reduction of fire risk.

Because the construction activities will require clearing of forest lands, the project proponent will be required to obtain a Timber Land Conversion Permit and Timber Harvesting Plan from the California Department of Forestry and Fire Protection. Regulations associated with the review process for Timber Harvesting Plans require notification of landowners within 1000' of the project boundary who will receive surface runoff from the operation and request information landowners may have regarding the presence of surface domestic water sources that could potentially be impacted by the project.

7018 1830 0000 8006 0435

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<input type="checkbox"/> Return Receipt (hardcopy) \$ _____	
<input type="checkbox"/> Return Receipt (electronic) \$ _____	
<input type="checkbox"/> Certified Mail Restricted Delivery \$ _____	
<input type="checkbox"/> Adult Signature Required \$ _____	
<input type="checkbox"/> Adult Signature Restricted Delivery \$ _____	
Postage \$ _____	
Total Postage and Fees \$ _____	
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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

000458

You are receiving this letter because your parcel has been identified through a review of the Assessor Records as being within 1000' feet of the project area. If you have information regarding the presence of surface domestic water sources on your parcel or within 1000' of the project boundary that could be impacted by this project, please respond within 10 days of the post-mark on the return receipt you received with delivery of this letter to:

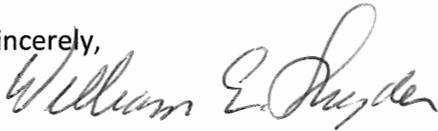
William Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405
(707) 583-3400

If you prefer, you may respond by e-mail at the following e-mail address:

bill_e_snyder@att.net

Please direct questions you may have regarding this notice to William Snyder at the above address utilizing the contact information above. Questions you may have about the project and Tuolumne County's review of the project should be directed to Natalie Rizzi at nrizzi@co.tuolumne.ca.us or (209) 533-5633.

Sincerely,

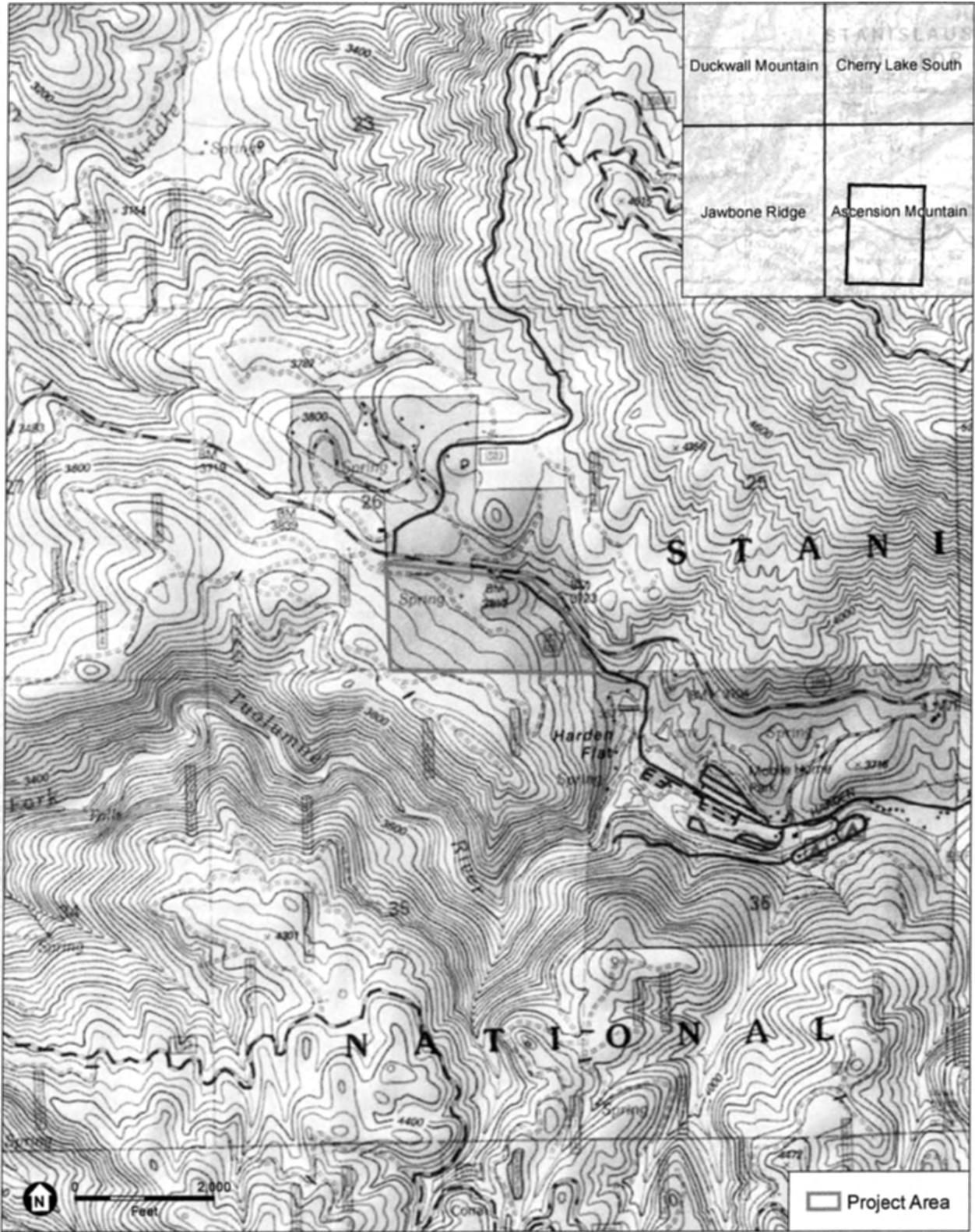


William E. Snyder
Registered Professional Forester 1760



CC: Luke Evans, ESA
Jaimie Schmidt, Under Canvas
Natalie Rizzi, Tuolumne County Community Resources Agency

000459



SOURCE:USGS Ascension Mountain 7.5' quadrangle

Yosemite Under Canvas

Figure 1
Project Location and Vicinity

ESA

000460

NOTICE OF INTENT TO HARVEST TIMBER

A Timber Harvesting Plan (Plan) or Amendment has been submitted to the California Department of Forestry & Fire Protection (CAL FIRE). CAL FIRE will be reviewing the proposed timber operation for compliance with State law and rules of the Board of Forestry and Fire Protection. The following briefly describes the proposed timber operation and where and how to get more information. In accordance with the timeline stated under Public Resources Code Section 4582.7, you may submit written public comments on the Plan or Amendment for CAL FIRE to consider.

This notice applies to (select one): New Timber Harvesting Plan Amendment Approved Timber Harvesting Plan

Applicant Information (Timberland Owner(s), Registered Professional Forester who prepared the plan and Plan Submitter should match those listed in the plan or amendment.)

1. The name(s) of the Timberland Owner(s) where timber operations are to occur: Hardin Flat, LLC
2. Registered Professional Forester who prepared the plan or amendment: William E. Snyder, RPF 1760
Registered Professional Forester Phone (optional): _____
3. The name of the Plan or Amendment Submitter: Under Canvas Inc.

Project Summary (County, legal description, acres proposed to be harvested and treatments to be used should match those listed in the plan or amendment.)

4. Location of the proposed timber operation (county, legal description, approximate direction & approximate distance of the timber operation from the nearest community or well-known landmark):
The project is located south of Highway 120 between the Sawmill Mtn and Hardin Flat turnoffs approximately 18 miles east on Highway 120 from the town of Groveland, CA
 5. The name of, and distance from, the nearest perennial stream and major watercourse flowing through or downstream from the timber operation:
Project is located approximately 1/2 mile north of the South Fork of the Tuolumne River
 6. Acres proposed to be harvested: approximately 80
 7. The regeneration methods and intermediate treatments to be used:
Conversion of approximately 7 acres for roads and facilities and up o 73 acres of Fuelbreak/Defensible Space to remove standing dead trees, dead trees which have fallen, cull logs from previous operations, and small trees less than 6" in dbh.
- POWERLINES: 14 CCR 1032.7(d)(10) & (e) (provide name and mailing addresses of the utilities for department distribution)
8. Yes No Overhead electrical power lines within the plan boundary? (except lines from transformers to service panels)
 9. Yes No Overhead powerlines within 200 feet outside the plan boundary?

Public Information: The review times allowed for CAL FIRE to review the proposed timber operation are variable in length, but limited. To ensure CAL FIRE receives your comments please read the following:

The estimated earliest possible date CAL FIRE may APPROVE the Plan or Amendment is: September 1, 2019
(This date is 15 calendar days from receipt of the Plan or Amendment by CAL FIRE, except in counties for which special rules have been adopted where the earliest date is 45 calendar days after receipt.)

NOTE: THE ESTIMATED EARLIEST APPROVAL DATE IS PROBABLY NOT THE ACTUAL APPROVAL DATE. Normally, a much longer period of time is available for public comment and preparation of CAL FIRE's responses to public comments. Please check with CAL FIRE, prior to the above listed date, to determine the actual date that the public comment period closes.

The public may review, or purchase a copy of, the Plan or Amendment at the CAL FIRE Review Team Office shown below. The cost to obtain a copy is 37 cents for each page, \$2.50 minimum per request. The cost to obtain a copy of this plan or amendment is: _____
(to be completed by CAL FIRE upon receipt of plan).

Questions or concerns regarding this plan should be directed to the CAL FIRE Review Team Office shown below or emailed to FresnoPublicComment@fire.ca.gov for incorporation into an Official Response Document. Please include the plan number on all correspondence.

Forest Practice Program Manager
CAL FIRE
1234 East Shaw Avenue
Fresno, CA 93710
(559) 222-3714

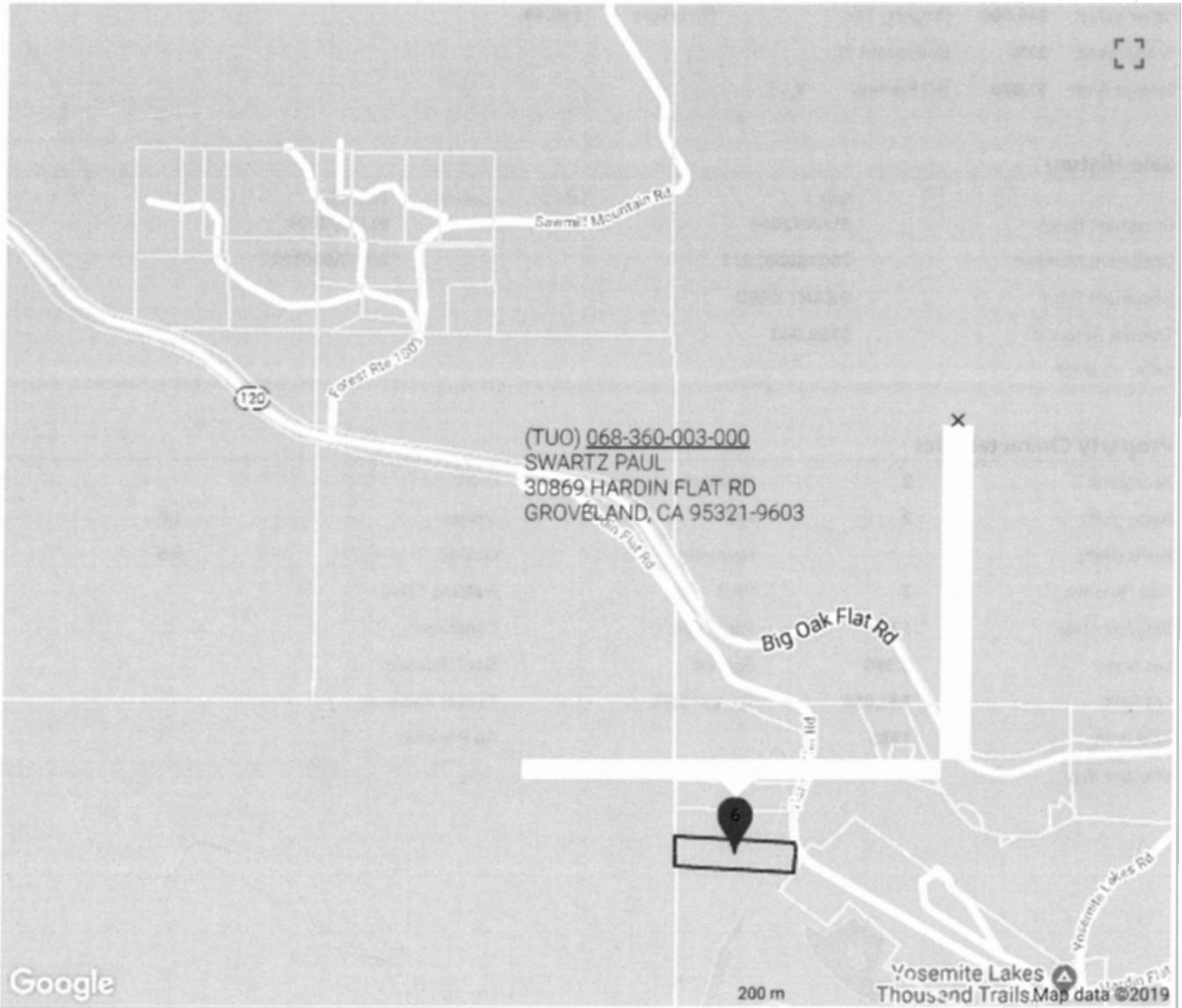
The plan may be viewed online at <https://caltreesplans.resources.ca.gov/caltrees/> A map showing the approximate boundary of the THP area, a map legend, and a scale is attached to help in locating where the proposed timber operation is to occur.

For CAL FIRE Use Only

Timber Harvest Plan Number:

000461

Date of Receipt:



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6 Property Address: 30869 HARDIN FLAT RD GROVELAND CA 95321-9603

Ownership

County: **TUOLUMNE, CA**
 Assessor: **KAENAN WHITMAN, ASSESSOR**
 Parcel # (APN): **068-360-003-000**
 Parcel Status: **ACTIVE**
 Owner Name: **SWARTZ PAUL**
 Mailing Address: **30869 HARDIN FLAT RD GROVELAND CA 95321**
 Legal Description: **PAR 4 R/S 15-75 POR NW1/4 SEC 36 T1S R18E 3.39AC**

Assessment

Total Value: **\$140,025** Use Code: **22** Use Type: **RESID. MOBILE/MANUFACTURED HOMES**
 Land Value: **\$74,025** Tax Rate Area: **054-009** Zoning:

000462

August 21, 2019

William E. Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405

Maria Porges and William McMahon, ETAL
PO Box 72121
Oakland, CA 94612

Dear Ms. Porges and Ms. McMahon,

Under Canvas, Inc. is proposing a Timber Harvesting Operation on lands owned by Hardin Flat, LLC. The proposed operations will facilitate development of roads and infrastructure for construction of a destination camping facility primarily to serve visitors to Yosemite National Park. An Environmental Impact Report (EIR) will be done to analyze potential impacts of the project. The lead agency for review of the EIR is the Tuolumne County Community Resources Agency.

The project is located south of the intersection of Hardin Flat and State Highway 120 in the vicinity of Sawmill Mountain in the S ½ of the SE ¼ of Section 26, Township 1 South, Section 18 East, Mount Diablo Base Meridian. Two assessor's parcels that will be included in this project and are identified in the County Assessor records as APNs 68-120-062 and 68-120-063. For your reference, please find attached a copy of a map which outlines the footprint of the project along with a Notice of Intent.

The project proposes development of a campground consisting of 99 on-site tent structures. The project also proposes a mobile kitchen, dining and reception tent, laundry facilities, communal bathrooms, a swimming pool and internal access roads. The project will cover approximately 80 acres and will result in the conversion of approximately 7 acres of forest lands for infrastructure, and conduct of tree removal operations on the balance of the area to remove standing dead and dead fallen trees as necessary for user safety and reduction of fire risk.

Because the construction activities will require clearing of forest lands, the project proponent will be required to obtain a Timber Land Conversion Permit and Timber Harvesting Plan from the California Department of Forestry and Fire Protection. Regulations associated with the review process for Timber Harvesting Plans require notification of landowners within 1000' of the project boundary who will receive surface runoff from the operation and request information landowners may have regarding the presence of surface domestic water sources that could potentially be impacted by the project.

7018 1830 0000 8006 0411

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<input type="checkbox"/> Return Receipt (electronic) \$ _____	
<input type="checkbox"/> Certified Mail Restricted Delivery \$ _____	
<input type="checkbox"/> Adult Signature Required \$ _____	
<input type="checkbox"/> Adult Signature Restricted Delivery \$ _____	
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000463

You are receiving this letter because your parcel has been identified through a review of the Assessor Records as being within 1000' feet of the project area. If you have information regarding the presence of surface domestic water sources on your parcel or within 1000' of the project boundary that could be impacted by this project, please respond within 10 days of the post-mark on the return receipt you received with delivery of this letter to:

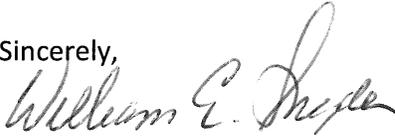
William Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405
(707) 583-3400

If you prefer, you may respond by e-mail at the following e-mail address:

bill_e_snyder@att.net

Please direct questions you may have regarding this notice to William Snyder at the above address utilizing the contact information above. Questions you may have about the project and Tuolumne County's review of the project should be directed to Natalie Rizzi at nrizzi@co.tuolumne.ca.us or (209) 533-5633.

Sincerely,

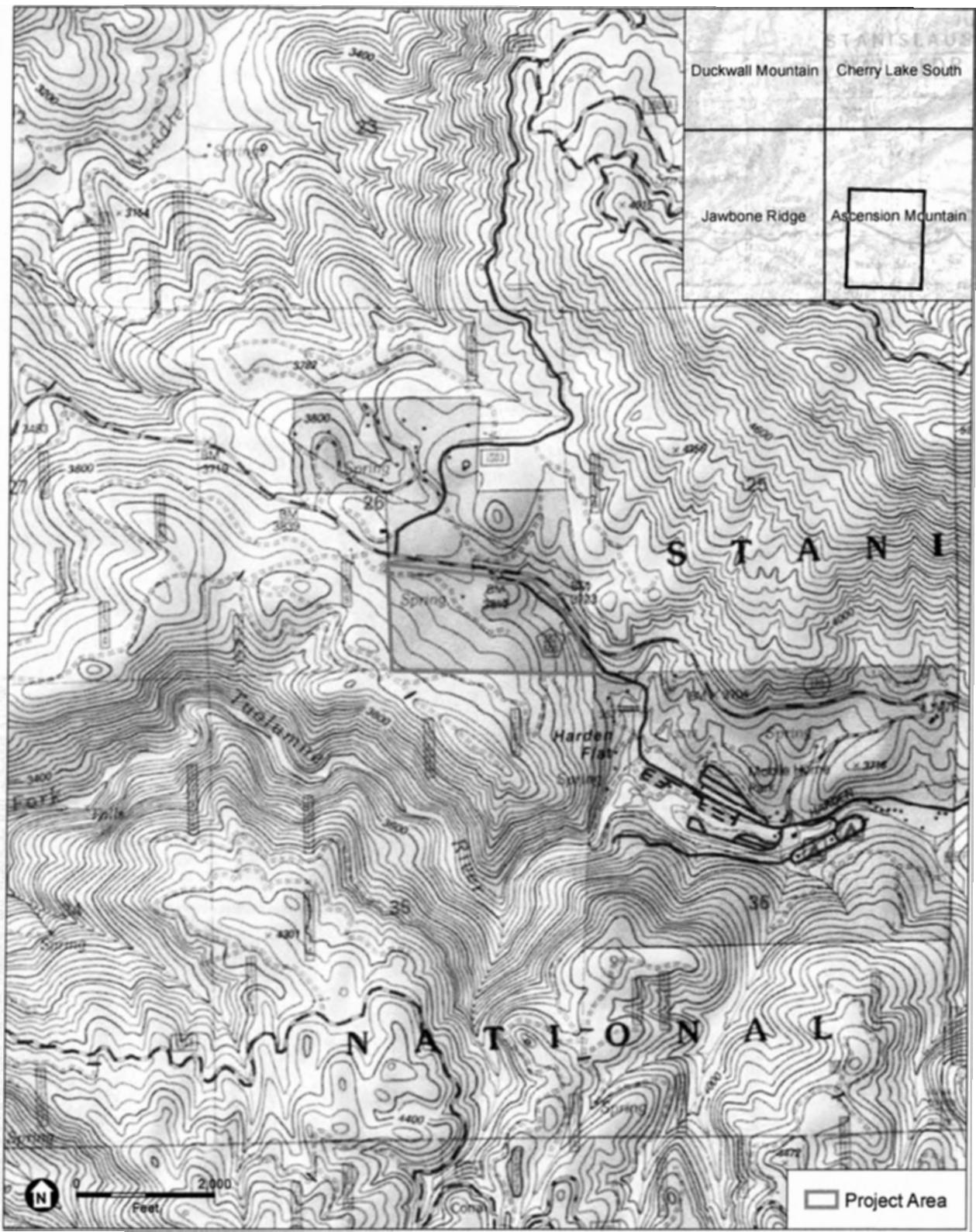


William E. Snyder
Registered Professional Forester 1760



CC: Luke Evans, ESA
Jaimie Schmidt, Under Canvas
Natalie Rizzi, Tuolumne County Community Resources Agency

000464



SOURCE:USGS Ascension Mountain 7.5' quadrangle

Yosemite Under Canvas

Figure 1
Project Location and Vicinity

ESA

000465

NOTICE OF INTENT TO HARVEST TIMBER

A Timber Harvesting Plan (Plan) or Amendment has been submitted to the California Department of Forestry & Fire Protection (CAL FIRE). CAL FIRE will be reviewing the proposed timber operation for compliance with State law and rules of the Board of Forestry and Fire Protection. The following briefly describes the proposed timber operation and where and how to get more information. In accordance with the timeline stated under Public Resources Code Section 4582.7, you may submit written public comments on the Plan or Amendment for CAL FIRE to consider.

This notice applies to (select one): New Timber Harvesting Plan Amendment Approved Timber Harvesting Plan

Applicant Information (Timberland Owner(s), Registered Professional Forester who prepared the plan and Plan Submitter should match those listed in the plan or amendment.)

1. The name(s) of the Timberland Owner(s) where timber operations are to occur: Hardin Flat, LLC
2. Registered Professional Forester who prepared the plan or amendment: William E. Snyder, RPF 1760
Registered Professional Forester Phone (optional): _____
3. The name of the Plan or Amendment Submitter: Under Canvas Inc.

Project Summary (County, legal description, acres proposed to be harvested and treatments to be used should match those listed in the plan or amendment.)

4. Location of the proposed timber operation (county, legal description, approximate direction & approximate distance of the timber operation from the nearest community or well-known landmark):
The project is located south of Highway 120 between the Sawmill Mtn and Hardin Flat turnoffs approximately 18 miles east on Highway 120 from the town of Groveland, CA
 5. The name of, and distance from, the nearest perennial stream and major watercourse flowing through or downstream from the timber operation:
Project is located approximately 1/2 mile north of the South Fork of the Tuolumne River
 6. Acres proposed to be harvested: approximately 80
 7. The regeneration methods and intermediate treatments to be used:
Conversion of approximately 7 acres for roads and facilities and up o 73 acres of Fuelbreak/Defensible Space to remove standing dead trees, dead trees which have fallen, cull logs from previous operations, and small trees less than 6" in dbh.
- POWERLINES: 14 CCR 1032.7(d)(10) & (e) (provide name and mailing addresses of the utilities for department distribution)
8. Yes No Overhead electrical power lines within the plan boundary? (except lines from transformers to service panels)
 9. Yes No Overhead powerlines within 200 feet outside the plan boundary?

Public Information: The review times allowed for CAL FIRE to review the proposed timber operation are variable in length, but limited. To ensure CAL FIRE receives your comments please read the following:

The estimated earliest possible date CAL FIRE may **APPROVE** the Plan or Amendment is: September 1, 2019
(This date is 15 calendar days from receipt of the Plan or Amendment by CAL FIRE, except in counties for which special rules have been adopted where the earliest date is 45 calendar days after receipt.)

NOTE: THE ESTIMATED EARLIEST APPROVAL DATE IS PROBABLY NOT THE ACTUAL APPROVAL DATE. Normally, a much longer period of time is available for public comment and preparation of CAL FIRE's responses to public comments. Please check with CAL FIRE, prior to the above listed date, to determine the actual date that the public comment period closes.

The public may review, or purchase a copy of, the Plan or Amendment at the CAL FIRE Review Team Office shown below. The cost to obtain a copy is 37 cents for each page, \$2.50 minimum per request. The cost to obtain a copy of this plan or amendment is: _____
(to be completed by CAL FIRE upon receipt of plan).

Questions or concerns regarding this plan should be directed to the CAL FIRE Review Team Office shown below or emailed to FresnoPublicComment@fire.ca.gov for incorporation into an Official Response Document. Please include the plan number on all correspondence.

Forest Practice Program Manager
CAL FIRE
1234 East Shaw Avenue
Fresno, CA 93710
(559) 222-3714

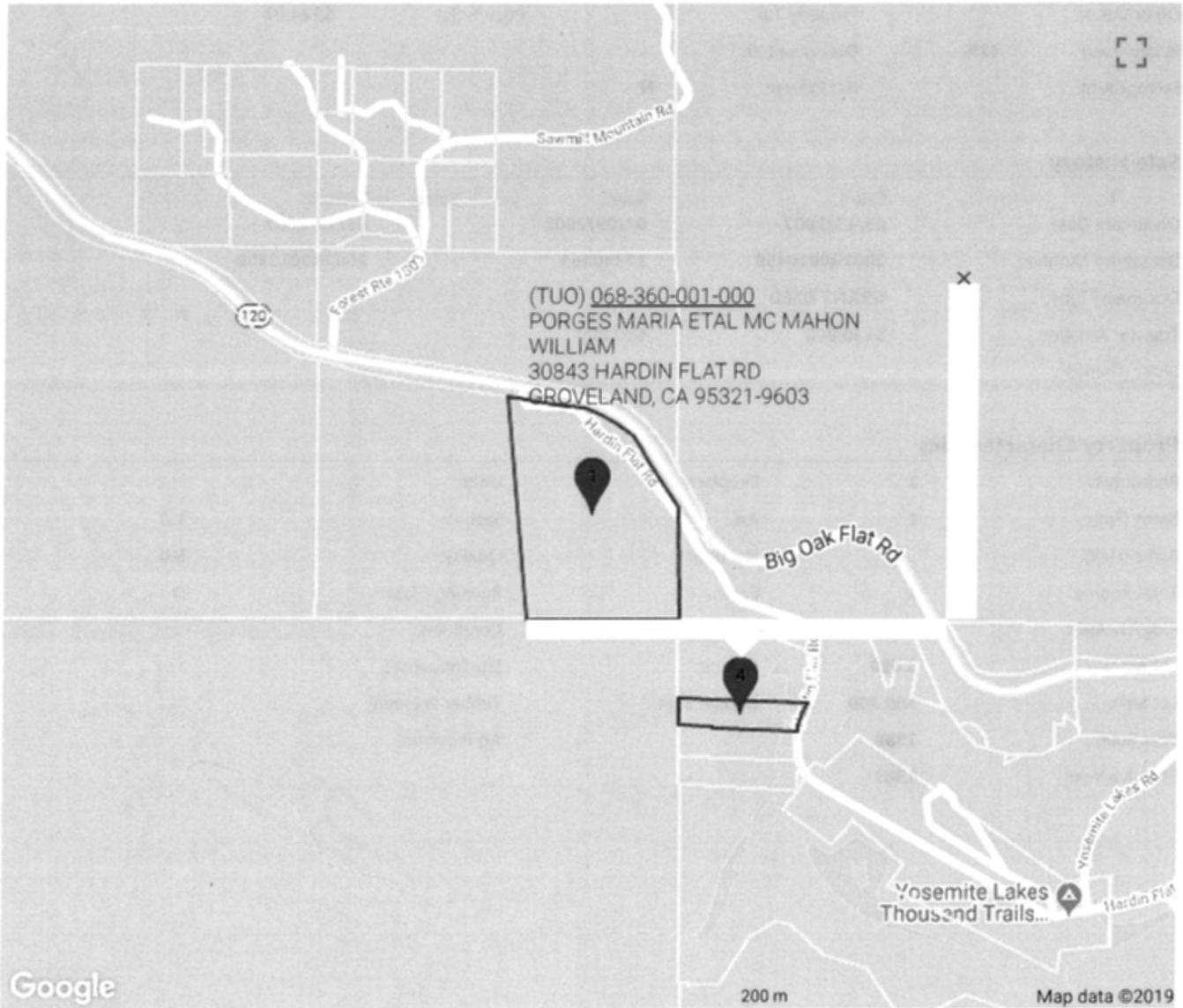
The plan may be viewed online at <https://caltreesplans.resources.ca.gov/caltrees/> A map showing the approximate boundary of the THP area, a map legend, and a scale is attached to help in locating where the proposed timber operation is to occur.

For CAL FIRE Use Only

Timber Harvest Plan Number:

000466

Date of Receipt:



© 2015 ParcelQuest www.parcelquest.com (888) 217-8999



4 Property Address: 30843 HARDIN FLAT RD GROVELAND CA 95321-9603

Ownership

County: **TUOLUMNE, CA**
 Assessor: **KAENAN WHITMAN, ASSESSOR**
 Parcel # (APN): **068-360-001-000**
 Parcel Status: **ACTIVE**
 Owner Name: **PORGES MARIA ETAL MC MAHON WILLIAM**
 Mailing Address: **PO BOX 72121 OAKLAND CA 94612**
 Legal Description: **PAR 2 R/S 15-75 POR NW1/4 SEC 36 T1S R18E 3.68AC**

Assessment

Total Value:	\$138,075	Use Code:	21	Use Type:	RESIDENTIAL
Land Value:	\$78,750	Tax Rate Area:	054-009	Zoning:	000467

August 21, 2019

William E. Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405

Matthew Moore and Kathryn Ruddon, ETAL
Unit 450 Box 3156
DP AP 96504-3158

Dear Mr. Moore and Ms. Ruddon,

Under Canvas, Inc. is proposing a Timber Harvesting Operation on lands owned by Hardin Flat, LLC. The proposed operations will facilitate development of roads and infrastructure for construction of a destination camping facility primarily to serve visitors to Yosemite National Park. An Environmental Impact Report (EIR) will be done to analyze potential impacts of the project. The lead agency for review of the EIR is the Tuolumne County Community Resources Agency.

The project is located south of the intersection of Hardin Flat and State Highway 120 in the vicinity of Sawmill Mountain in the S ½ of the SE ¼ of Section 26, Township 1 South, Section 18 East, Mount Diablo Base Meridian. Two assessor's parcels that will be included in this project and are identified in the County Assessor records as APNs 68-120-062 and 68-120-063. For your reference, please find attached a copy of a map which outlines the footprint of the project along with a Notice of Intent.

The project proposes development of a campground consisting of 99 on-site tent structures. The project also proposes a mobile kitchen, dining and reception tent, laundry facilities, communal bathrooms, a swimming pool and internal access roads. The project will cover approximately 80 acres and will result in the conversion of approximately 7 acres of forest lands for infrastructure, and conduct of tree removal operations on the balance of the area to remove standing dead and dead fallen trees as necessary for user safety and reduction of fire risk.

Because the construction activities will require clearing of forest lands, the project proponent will be required to obtain a Timber Land Conversion Permit and Timber Harvesting Plan from the California Department of Forestry and Fire Protection. Regulations associated with the review process for Timber Harvesting Plans require notification of landowners within 1000' of the project boundary who will receive surface runoff from the operation and request information landowners may have regarding the presence of surface domestic water sources that could potentially be impacted by the project.

7018 1830 0000 8006 0442

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT <i>Domestic Mail Only</i>	
For delivery information, visit our website at www.usps.com ®	
OFFICIAL USE	
Certified Mail Fee \$ _____ Extra Services & Fees (check box, add fee as appropriate) <input type="checkbox"/> Return Receipt (hardcopy) \$ _____ <input type="checkbox"/> Return Receipt (electronic) \$ _____ <input type="checkbox"/> Certified Mail Restricted Delivery \$ _____ <input type="checkbox"/> Adult Signature Required \$ _____ <input type="checkbox"/> Adult Signature Restricted Delivery \$ _____	Postmark Here <i>Moore</i>
Postage \$ _____ Total Postage and Fees \$ _____	
Sent To Street and Apt. No., or PO Box No. _____ City, State, ZIP+4® _____	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

000468

You are receiving this letter because your parcel has been identified through a review of the Assessor Records as being within 1000' feet of the project area. If you have information regarding the presence of surface domestic water sources on your parcel or within 1000' of the project boundary that could be impacted by this project, please respond within 10 days of the post-mark on the return receipt you received with delivery of this letter to:

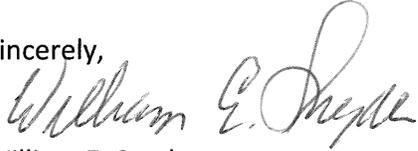
William Snyder
4787 Hillsboro Circle
Santa Rosa, CA 95405
(707) 583-3400

If you prefer, you may respond by e-mail at the following e-mail address:

bill_e_snyder@att.net

Please direct questions you may have regarding this notice to William Snyder at the above address utilizing the contact information above. Questions you may have about the project and Tuolumne County's review of the project should be directed to Natalie Rizzi at nrizzi@co.tuolumne.ca.us or (209) 533-5633.

Sincerely,

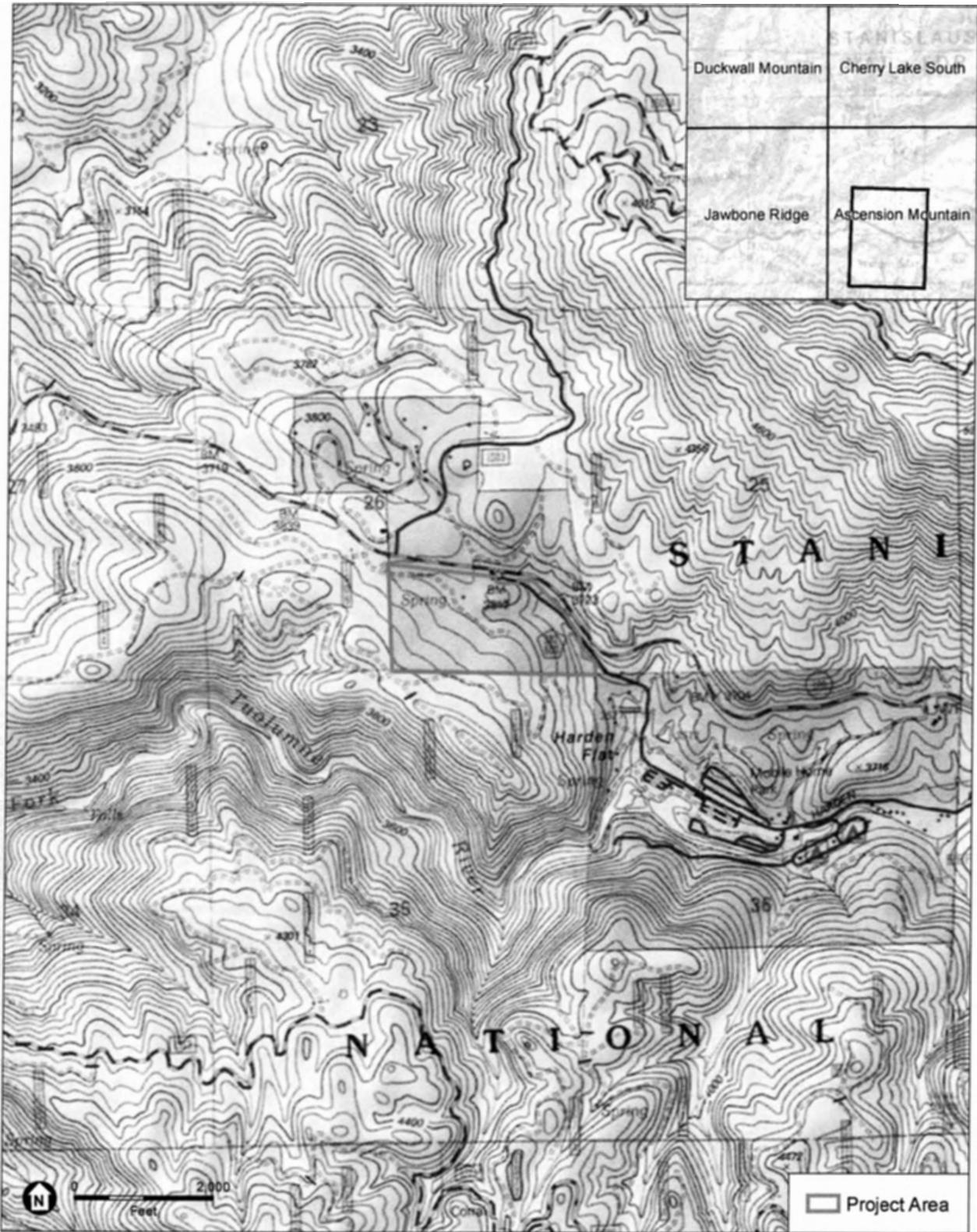


William E. Snyder
Registered Professional Forester 1760



CC: Luke Evans, ESA
Jaimie Schmidt, Under Canvas
Natalie Rizzi, Tuolumne County Community Resources Agency

000469



SOURCE:USGS Ascension Mountain 7.5' quadrangle

Yosemite Under Canvas

Figure 1
Project Location and Vicinity

ESA

000470

NOTICE OF INTENT TO HARVEST TIMBER

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2. Registered Professional Forester who prepared the plan or amendment: William E. Snyder, RPF 1760
Registered Professional Forester Phone (optional): _____
3. The name of the Plan or Amendment Submitter: Under Canvas Inc.

Project Summary (County, legal description, acres proposed to be harvested and treatments to be used should match those listed in the plan or amendment.)

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 9. Yes No Overhead powerlines within 200 feet outside the plan boundary?

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The public may review, or purchase a copy of, the Plan or Amendment at the CAL FIRE Review Team Office shown below. The cost to obtain a copy is 37 cents for each page, \$2.50 minimum per request. The cost to obtain a copy of this plan or amendment is: _____
(to be completed by CAL FIRE upon receipt of plan).

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Forest Practice Program Manager
CAL FIRE
1234 East Shaw Avenue
Fresno, CA 93710
(559) 222-3714

The plan may be viewed online at <https://caltreesplans.resources.ca.gov/caltrees/> A map showing the approximate boundary of the THP area, a map legend, and a scale is attached to help in locating where the proposed timber operation is to occur.

For CAL FIRE Use Only

Timber Harvest Plan Number:

000471

Date of Receipt:



© 2015 ParcelQuest www.parcelquest.com (888) 217-8999



3 Property Address: 30835 HARDIN FLAT RD GROVELAND CA 95321-9603

Ownership

County: **TUOLUMNE, CA**
 Assessor: **KAENAN WHITMAN, ASSESSOR**
 Parcel # (APN): **068-360-004-000**
 Parcel Status: **ACTIVE**
 Owner Name: **MOORE MATTHEW ETAL RUDDON KATHRYN**
 Mailing Address: **UNIT 4550 BOX 3158 DP AP 96504-3158**
 Legal Description: **PAR 1 R/S 15-75 POR NW1/4 SEC 36 T1S R18E 8.90AC**

Assessment

Total Value: **\$191,220** Use Code: **22** Use Type: **RESID. MOBILE/MANUFACTURED HOMES**
 Land Value: **\$114,847** Tax Rate Area: **054-009** Zoning:

000472

AFFP

This is notification that a Ti

Affidavit of Publication

STATE OF CALIFORNIA } SS
COUNTY OF TUOLUMNE }

Bev Woodland, being duly sworn, says:

That she is Principal Clerk of the Union-Democrat, a daily newspaper of general circulation, printed and published in Sonora, Tuolumne County, California; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

November 23, 2019

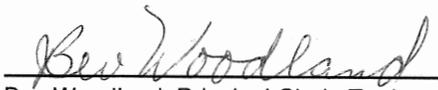
This is notification that a Timber Harvesting Plan (THP) is being prepared in Tuolumne County in the S 12 of the SE 14, of Section 26, T1S, R18E, MDBM in the vicinity of Sawmill Mountain and Hardin Flat. An unnamed tributary to the South Fork of the Tuolumne River is located within the projects area. It is requested that the THP Plan Submitter be advised within 10 days of the publication date of publication date of this notice of any domestic surface water supply or within 1000 feet of the THP boundary. The plan submitter is Under Canvas Inc., 1172 Happy Lane, Belgrade, MT, 59714. If you have information regarding surface water supplies, please contact the plan submitter's representative William E. Snyder by mail at 4787 Hillsboro Circle, Santa Rosa, CA 95495 or by phone at (707) 583-3400. Publication date: 11/23/19 The Union Democrat, Sonora, CA

That said newspaper was regularly issued and circulated on those dates.

SIGNED:


Principal Clerk

Subscribed to and sworn to me this 23rd day of November 2019.


Bev Woodland, Principal Clerk, Tuolumne County, California

00003130 00001457

William Snyder
4787 Hillsboro Circle
SANTA ROSA, CA 95405

000473

Cal Mapper - Harvest Information
 Planning Watershed: Big Creek CAL WATNYM-6536.800201
 May 22, 2020 WES

OBJECTID	Year	County	HarvestDoc_Num	Silviculture	Silviculture	Yarding	Status_of_	Completion_Date	Timber_Owner	Landowner	CALWNUM	Acres
26	1991	Tuolumne	4-91NTMP-001	Sanitation Salvage	Commerce	Tractor or Skidder	Approved	NULL	Timothy & Carol Manly	Timothy & Carol Manly	6536.800201	155.6
4316	1997	Tuolumne	4-97-004-TUO	Commercial Thin		Tractor or Skidder	Completed	July 20, 1997	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	100.0
4317	1997	Tuolumne	4-97-004-TUO	Selection		Tractor or Skidder	Completed	July 20, 1997	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	27.4
8095	1998	Tuolumne	4-98-016-TUO	Selection		Tractor or Skidder	Completed	September 28, 1998	Ray Dovik et al	Ray Dovik et al	6536.800201	62.2
8125	1998	Tuolumne	4-98-092-TUO	No Harvest Area		Tractor or Skidder	Completed	April 27, 2003	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	5.9
8126	1998	Tuolumne	4-98-092-TUO	Rehabilitation of Unders		Tractor or Skidder	Completed	April 27, 2003	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	10.6
8127	1998	Tuolumne	4-98-092-TUO	Sanitation Salvage		Tractor or Skidder	Completed	April 27, 2003	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	34.8
8128	1998	Tuolumne	4-98-092-TUO	Selection		Tractor or Skidder	Completed	April 27, 2003	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	66.8
8129	1998	Tuolumne	4-98-092-TUO	Shelterwood Removal St		Tractor or Skidder	Completed	April 27, 2003	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	15.7
8130	1998	Tuolumne	4-98-092-TUO	Transition		Tractor or Skidder	Completed	April 27, 2003	Yosemite Lakes Camper Park Inc	Yosemite Lakes Camper Park Inc	6536.800201	15.9

000474



Alley Tree and Landscape

Dean Alley
Lic. # 1005909
20815 Longway Road
Sonoma, CA 95370

Alleytrees.com
Alley.dean@alleytrees.com
Phone: 209-352-7920
Fax: 209-533-3448

Between the dates of March 9, 2019 and April 30, 2019, Alley Tree and Landscape Certified Arborists performed an arborist inspection that included a detailed inventory of all significant tree species on site. Not all trees on site will have metal tagging ID's. Trees selected for tagging were based on multiple factors including: DBH (diameter at breast height), height, and potential for future hazard.

This inspection, in regards to the overall health of the trees on site, was recorded by means of a ground level inspection by a Certified Arborist through the International Society of Arboriculture and in accordance with their field inspection standards. This report does not guarantee the safety or stability of your trees, nor assumes any liability for any accidents caused by biotic or abiotic tree failures or natural acts of God.

It is important to note that this area was affected by the 2013 – 2014 Rim Fire which has resulted in the large number of dead standing and fallen trees within the property boundaries. These trees were defoliated by fire sweeping through the region which resulted in a quick decline that many of the younger and more vulnerable trees could not recover from. At this point, we are seeing many old-growth Incense-cedars (*Calocedrus decurrens*) and Ponderosa pines (*Pinus ponderosa*) dominating the area. Undergrowth is beginning to recover, including Mountain Misery (*Chamaebatia foliolosa*), Incense-cedar and Ponderosa pine saplings, and others. The understory will continue to fill in beneath the open canopy once downed slash and logs are removed from the site.

There were 511 dead standing trees that we have marked with pink paint. We did not collect further data on these trees nor did we include them in our inventory as they are clearly dead and hazardous and require immediate removal.

We have attached the tree inventory spreadsheet below. Each tree is listed with a tag ID number, tree species, approximate height, diameter at breast height (DBH), tree defects, and recommended action.

We have listed 11 trees for recommend removal. The Tag ID numbers for these trees are: 2, 116, 647, 955, 1165, 1223, 1231, 1232, 1332, 1403, 1419. We have listed two trees for possible removal: tag ID numbers 194 and 195. These two trees have some bark damage, but we do not believe that immediate removal is necessary. We have listed four other trees with a "Monitor health" note. These four trees are showing early signs of decline, but we have not recommended them for removal at this time. They are tag ID numbers: 54, 81, 82, 85.

A few tag ID numbers in the inventory have no tree data and a "VOID (disregard)" note. These include ID numbers: 66, 702-770, 842, 952, and 1019. Those are not associated with any trees, and should be ignored.

On the final page of this document we have included a map that shows the general locations of the trees inventoried on the property. This is intended to help locate trees based on their tag ID number.

000475

Tag ID #	Species		Approx. Height (ft)	DBH (inches)	Tree Defects 1. Tree 2. Roots 3. Trunk 4. Crown 5. Branch 6. Top 7. Fork 8. Other A. Attachment C. Cavity D. Dead/Dying Dm. Damage Df. Deform F. Fracture L. Lean	Action Recommended	Additional Notes
	DF: Douglas fir	IC: Incense cedar					
1	DF		140	33		NA	Edge near road
2	BO		55	21	2, 3, 4, 5, 6, A, Dm	Remove	Edge road, green ribbon
3	IC		100	22		NA	Edge road
4	IC		60	13		NA	
5	IC		70	20		NA	
6	IC		110	35		NA	
7	IC		100	24		NA	
8	DF		80	14		NA	
9	PP		140	34		NA	
10	DF		100	19		NA	
11	PP		130	26		NA	
12	BO		90	28		NA	
13	IC		90	24		NA	
14	PP		105	18		NA	
15	PP		110	37		NA	
16	PP		65	17		NA	
17	PP		95	20		NA	
18	PP		140	33		NA	
19	PP		140	20		NA	
20	PP		100	14		NA	
21	PP			26		NA	
22	PP			27		NA	
23	IC		100	20		NA	
24	IC		90	17		NA	
25	SP		100	17		NA	
26	DF		140	29		NA	
27	DF		150	34		NA	
28	PP		150	26		NA	
29	DF		150	33		NA	
30	DF		130	22		NA	
31	DF		130	20		NA	
32	DF		140	26		NA	
33	DF		130	18		NA	
34	DF		130	26		NA	
35	DF		150	35		NA	
36	SP		120	20		NA	
37	DF		145	34		NA	

000476

38	DF	130	26		NA	
39	IC	70	18		NA	
40	IC	95	27		NA	
41	WF	160	37		NA	
42	DF	70	18		NA	
43	DF	80	16		NA	
44	SP	95	23		NA	
45	DF	120	31		NA	
46	DF	120	24		NA	
47	BO	100	24		NA	
48	BO	100	24		NA	
49	BO	105	24		NA	
50	BO	105	27		NA	
51	DF	70	14		NA	
52	IC	75	18		NA	
53	DF	140	41		NA	
54	IC	95	19		Monitor health	10 degree lean, heavy lean
55	IC	100	17		NA	
56	DF	110	18		NA	
57	DF	160	41		NA	
58	WF	105	24		NA	
59	WF	105	22		NA	
60	IC	105	24		NA	
61	IC	110	26		NA	
62	IC	110	28		NA	
63	DF	130	22		NA	
64	IC	95	18		NA	
65	IC	110	26		NA	
66					NA	VOID (disregard)
67	IC	95	25		NA	
68	DF	95	17		NA	
69	IC	95	21		NA	
70	IC	85	16		NA	
71	IC	90	17		NA	
72	IC	95	26		NA	
73	BO	95	14		NA	
74	SP	95	15		NA	
75	DF	130	41		NA	
76	DF	90	18		NA	
77	SP	105	20		NA	
78	IC	90	16		NA	
79	SP	130	38		NA	
80	PP	155	32		NA	

000477

81	BO	110	28		Monitor health	Declining
82	BO	110	16		Monitor health	Declining
83	DF	125	23		NA	
84	WF	125	25		NA	
85	WF	110	20		Monitor health	Declining
86	BO	110	23		NA	
87	IC	65	20		NA	
88	PP	130	21		NA	
89	PP	130	26		NA	
90	PP	130	27		NA	
91	PP	130	29		NA	
92	PP	140	26		NA	
93	PP	140	26		NA	
94	PP	135	25		NA	
95	PP	140	28		NA	
96	IC	120	22		NA	
97	DF	100	17		NA	
98	DF	105	13		NA	
99	SP	95	12		NA	
100	IC	110	18		NA	
101	IC	110	33		NA	
102	IC	90	23		NA	
103	BO	95	33		NA	
104	IC	85	25		NA	
105	DF	100	14		NA	
106	DF	100	16		NA	
107	IC	120	25		NA	
108	IC	80	16		NA	
109	BO	110	20		NA	
110	BO	110	24		NA	
111	IC	95	18		NA	
112	BO	100	14		NA	
113	BO	105	23		NA	
114	IC	130	41		NA	
115	IC	105	23		NA	
116	IC	120	33	D	Remove	95% dead
117	BO	130	34	D	Remove	60-70% dead
118	IC	85	19		NA	
119	SP	140	35		NA	
120	IC	90	22		NA	
121	IC	65	22		NA	
122	DF	125	33		NA	
123	DF	125	32		NA	

000478

124	DF	120	28	NA
125	IC	130	45	NA
126	DF	130	28	NA
127	DF	125	24	NA
128	DF	125	22	NA
129	DF	125	22	NA
130	DF	125	21	NA
131	DF	75	12	NA
132	DF	110	32	NA
133	DF	110	28	NA
134	IC	65	19	NA
135	DF	130	25	NA
136	DF	130	33	NA
137	DF	130	34	NA
138	IC	90	16	NA
139	SP	125	21	NA
140	SP	135	28	NA
141	DF	140	39	NA
142	DF	150	40	NA
143	DF	150	39	NA
144	BO	110	43	NA
145	DF	130	38	NA
146	IC	75	15	NA
147	DF	130	24	NA
148	DF	125	17	NA
149	DF	120	19	NA
150	DF	130	31	NA
151	DF	130	27	NA
152	DF	110	19	NA
153	SP	95	21	NA
154	SP	105	25	NA
155	IC	90	17	NA
156	DF	115	25	NA
157	IC	115	29	NA
158	DF	100	13	NA
159	SP	95	12	NA
160	DF	105	21	NA
161	IC	120	24	NA
162	IC	120	25	NA
163	IC	100	21	NA
164	IC	100	25	NA
165	DF	130	23	NA
166	DF	130	27	NA

000479

167	DF	125	34		NA	
168	DF	120	20		NA	
169	DF	125	32		NA	
170	DF	125	25		NA	
171	IC	100	18		NA	
172	PP	140	25		NA	
173	IC	120	26		NA	
174	DF	130	22		NA	
175	IC	120	23		NA	
176	DF	120	27		NA	
177	DF	95	23		NA	
178	DF	90	13		NA	
179	PP	140	33		NA	
180	PP	140	33		NA	
181	DF	140	29		NA	
182	DF	95	15		NA	
183	DF	95	16		NA	
184	DF	140	21		NA	
185	IC	130	33		NA	
186	DF	135	25		NA	
187	SP	105	20		NA	
188	DF	125	32		NA	
189	IC	95	21		NA	
190	PP	100	13		NA	
191	PP	110	19		NA	
192	PP	110	22		NA	
193	DF	140	25		NA	
194	BO	110	27	3, DM	Maybe remove	3 - DM 50% bark loss
195	BO	110	27	3, DM	Maybe remove	3 - DM 50% bark loss
196	DF	130	32		NA	
197	IC	130	34		NA	
198	DF	60	14		NA	
199	IC	95	21		NA	
200	SP	95	12		NA	
201	SP	100	18		NA	
202	DF	130	23		NA	
203	DF	130	26		NA	
204	IC	120	25		NA	
205	DF	95	13		NA	
206	DF	125	25		NA	
207	IC	125	34		NA	
208	SP	95	13		NA	
209	DF	130	33		NA	

000480

210	SP	120	14		NA	
211	IC	60	12		NA	
212	IC	75	22		NA	In road right of way
213	IC	75	21		NA	In road right of way
214	PP	135	35		NA	
215	PP	135	39		NA	
216	PP	130	31		NA	
217	PP	80	16		NA	
218	PP	90	15		NA	
219	PP	100	20		NA	
220	PP	100	20		NA	
221	IC	90	18		NA	
222	PP	90	11		NA	
223	PP	60	15		NA	
224	PP	120	33		NA	
225	PP	120	18		NA	
226	IC	110	32		NA	2 trunks
227	PP	120	14		NA	
228	IC	110	16		NA	
229	DF	65	14		NA	
230	IC	65	14		NA	
231	IC	105	20		NA	
232	SP	110	24		NA	
233	IC	45	15		NA	
234	DF	70	20		NA	
235	DF	105	22		NA	
236	IC	55	14		NA	
237	DF	75	14		NA	
238	IC	110	28		NA	
239	IC	110	23		NA	
240	PP	130	33		NA	
241	SP	60	14		NA	
242	PP	110	17		NA	
243	PP	110	15		NA	
244	PP	110	10		NA	
245	PP	105	15		NA	
246	DF	125	21		NA	
247	DF	125	25		NA	
248	DF	125	23		NA	
249	DF	115	18		NA	
250	PP	90	14		NA	
251	PP	125	25		NA	
252	DF	130	25		NA	

000481

253	SP	120	15		NA	
254	IC	130	64		NA	
255	DF	130	36		NA	
256	SP	50	11		NA	
257	SP	110	18		NA	
258	PP	65	6		NA	
259	DF	130	25		NA	
260	DF	130	25		NA	
261	PP	140	25		NA	
262	DF	130	24		NA	
263	DF	130	36		NA	
264	BO	120	39		NA	
265	DF	110	17		NA	
266	SP	110	17		NA	
267	PP	130	25		NA	
268	PP	130	26		NA	
269	PP	110	14		NA	
270	PP	120	22		NA	
271	IC	125	36		NA	
272	PP	130	18		NA	
273	IC	125	36		NA	
274	PP	140	24		NA	
275	DF	140	32		NA	
276	PP	110	13		NA	
277	PP	125	15		NA	
278	PP	125	25		NA	
279	PP	130	33		NA	
280	PP	140	27		NA	
281	DF	140	25		NA	
282	PP	150	30		NA	
283	IC	130	30		NA	
284	IC	65	15		NA	
285	IC	125	26		NA	
286	IC	60	16		NA	
287	SP	125	35		NA	
288	DF	110	24		NA	
289	SP	95	19		NA	
290	IC	55	14		NA	
291	SP	110	31		NA	
292	IC	110	23		NA	
293	IC	105	26		NA	
294	IC	100	24		NA	
295	IC	100	18		NA	

000482

296	IC	110	31	NA
297	SP	65	10	NA
298	DF	100	17	NA
299	IC	100	21	NA
300	DF	100	13	NA
301	DF	150	41	NA
302	SP	100	18	NA
303	DF	50	13	NA
304	IC	60	16	NA
305	DF	110	23	NA
306	IC	110	33	NA
307	DF	100	16	NA
308	DF	95	15	NA
309	IC	90	18	NA
310	DF	130	31	NA
311	DF	130	26	NA
312	DF	125	24	NA
313	SP	120	22	NA
314	BO	120	41	NA
315	SP	45	10	NA
316	PP	100	18	NA
317	DF	85	12	NA
318	PP	90	15	NA
319	DF	125	27	NA
320	DF	130	34	NA
321	BO	130	36	NA
322	DF	130	23	NA
323	BO	130	36	NA
324	SP	125	20	NA
325	SP	125	25	NA
326	DF	105	15	NA
327	DF	110	22	NA
328	SP	90	14	NA
329	IC	140	36	NA
330	DF	150	29	NA
331	SP	75	13	NA
332	DF	105	24	NA
333	IC	125	32	NA
334	IC	125	32	NA
335	IC	115	24	NA
336	IC	125	28	NA
337	SP	125	21	NA
338	DF	140	31	NA

000483

339	IC	85	27		NA	
340	DF	65	15		NA	
341	DF	130	24		NA	
342	DF	150	28		NA	
343	IC	95	23		NA	
344	IC	90	19		NA	
345	SP	135	33		NA	
346	BO	125	42		NA	
347	DF	105	22		NA	
348	BO	100	16		NA	
349	DF	130	30		NA	
350	BO	95	15		NA	
351	SP	130	28		NA	
352	DF	125	25		NA	
353	DF	90	12		NA	
354	DF	95	16		NA	
355	DF	105	18		NA	
356	SP	110	20		NA	
357	DF	110	22		NA	
358	DF	140	33		NA	
359	DF	125	25		NA	
360	DF	130	25		NA	
361	DF	130	34		NA	
362	DF	130	31		NA	
363	DF	75	13		NA	
364	DF	130	30		NA	
365	DF	125	24		NA	
366	IC	125	45		NA	
367	DF	130	28		NA	
368	DF	130	23		NA	
369	DF	145	36		NA	
370	DF	150	34		NA	
371	DF	150	34		NA	
372	DF	150	34		NA	
373	DF	155	35		NA	
374	DF	145	27		NA	
375	DF	105	19		NA	
376	DF	100	16		NA	
377	DF	120	20		NA	
378	DF	120	19		NA	
379	DF	125	23		NA	
380	SP	70	13		NA	
381	DF	80	15		NA	

000484

382	PP	125	22	NA
383	PP	120	20	NA
384	IC	55	19	NA
385	DF	125	21	NA
386	IC	110	18	NA
387	SP	95	15	NA
388	DF	110	23	NA
389	DF	110	22	NA
390	SP	85	12	NA
391	DF	120	25	NA
392	DF	85	13	NA
393	DF	130	25	NA
394	DF	95	16	NA
395	DF	150	30	NA
396	DF	140	21	NA
397	DF	130	25	NA
398	SP	110	17	NA
399	DF	110	20	NA
400	DF	150	28	NA
401	DF	150	36	NA
402	DF	70	16	NA
403	IC	140	63	NA
404	DF	130	22	NA
405	IC	60	16	NA
406	IC	70	20	NA
407	SP	50	10	NA
408	DF	125	24	NA
409	DF	115	20	NA
410	IC	125	43	NA
411	SP	65	12	NA
412	DF	50	10	NA
413	DF	50	10	NA
414	IC	115	31	NA
415	SP	45	9	NA
416	SP	55	11	NA
417	DF	135	28	NA
418	IC	110	24	NA
419	IC	115	27	NA
420	SP	75	12	NA
421	BO	80	21	NA
422	IC	75	14	NA
423	DF	75	12	NA
424	DF	110	20	NA

000485

425	DF	100	16		NA	
426	PP	140	35		NA	
427	DF	80	13		NA	
428	SP	80	13		NA	
429	PP	140	26		NA	
430	PP	140	27		NA	
431	PP	150	35		NA	
432	PP	150	25		NA	
433	DF	60	15		NA	
434	IC	65	17		NA	
435	PP	125	25		NA	
436	PP	75	13		NA	
437	PP	130	24		NA	
438	PP	130	22		NA	
439	PP	140	30		NA	
440	PP	135	30		NA	
441	IC	115	22		NA	
442	IC	125	40		NA	
443	DF	125	20		NA	
444	IC	110	16		NA	
445	IC	125	43		NA	
446	DF	75	11		NA	
447	DF	80	14		NA	
448	IC	95	18		NA	
449	PP	145	32		NA	
450	IC	85	22		NA	
451	IC	140	46		NA	
452	DF	140	25		NA	
453	IC	130	36		NA	
454	DF	120	16		NA	
455	DF	120	16		NA	
456	SP	125	21		NA	
457	PP	130	19		NA	
458	DF	120	16		NA	
459	IC	130	49		NA	
460	SP	160	38		NA	
461	DF	120	20		NA	
462	IC	120	26		NA	
463	SP	130	25		NA	
464	IC	110	19		NA	
465	DF	70	12		NA	
466	DF	105	18		NA	
467	DF	110	18		NA	

000486

468	DF	130	26	NA
469	DF	120	17	NA
470	DF	80	13	NA
471	BO	110	37	NA
472	IC	70	12	NA
473	PP	70	12	NA
474	IC	140	48	NA
475	DF	105	16	NA
476	IC	120	25	NA
477	IC	125	29	NA
478	DF	105	15	NA
479	IC	95	18	NA
480	DF	130	28	NA
481	IC	100	18	NA
482	IC	100	21	NA
483	IC	90	18	NA
484	DF	70	10	NA
485	DF	60	11	NA
486	DF	95	16	NA
487	IC	130	38	NA
488	IC	90	15	NA
489	IC	90	15	NA
490	DF	105	16	NA
491	DF	90	14	NA
492	DF	85	16	NA
493	DF	120	22	NA
494	IC	110	53	NA
495	DF	95	15	NA
496	DF	110	22	NA
497	DF	130	25	NA
498	IC	125	47	NA
499	IC	125	47	NA
500	DF	130	44	NA
501	DF	120	22	NA
502	DF	120	22	NA
503	DF	120	25	NA
504	DF	120	21	NA
505	SP	95	15	NA
506	IC	125	31	NA
507	IC	125	44	NA
508	DF	120	26	NA
509	DF	125	26	NA
510	DF	125	26	NA

000487

511	DF	125	25		NA	
512	SP	130	29		NA	
513	IC	95	21		NA	
514	DF	125	25		NA	
515	SP	120	20		NA	
516	IC	130	36		NA	
517	DF	140	34		NA	
518	SP	90	14		NA	
519	IC	70	14		NA	
520	BO	110	32		NA	
521	DF	130	23		NA	
522	IC	120	37		NA	
523	SP	120	37		NA	
524	DF	130	29		NA	
525	DF	120	18		NA	
526	PP	110	18		NA	
527	SP	125	31		NA	
528	SP	75	15		NA	
529	DF	45	11		NA	
530	PP	120	23		NA	
531	PP	120	20		NA	
532	PP	95	13		NA	
533	DF	140	26		NA	
534	DF	140	32		NA	
535	IC	130	55		NA	
536	SP	50	15		NA	
537	IC	125	40		NA	
538	PP	95	13		NA	
539	PP	110	19		NA	
540	DF	140	32		NA	
541	IC	40	10		NA	
542	IC	50	14		NA	
543	IC	55	14		NA	
544	IC	45	11		NA	
545	PP	135	17		NA	
546	PP	125	28		NA	
547	PP	140	33		NA	
548	SP	140	22		NA	
549	PP	110	16		NA	
550	PP	110	15		NA	
551	DF	85	15		NA	
552	IC	45	13		NA	
553	IC	65	17		NA	

000488

554	SP	120	29	NA
555	DF	110	18	NA
556	IC	110	22	NA
557	IC	70	15	NA
558	PP	90	14	NA
559	PP	130	30	NA
560	DF	130	31	NA
561	PP	100	13	NA
562	DF	120	20	NA
563	PP	110	11	NA
564	IC	60	12	NA
565	DF	110	21	NA
566	DF	90	14	NA
567	DF	110	18	NA
568	DF	90	15	NA
569	DF	140	35	NA
570	DF	110	15	NA
571	DF	140	30	NA
572	PP	100	14	NA
573	SP	150	36	NA
574	PP	110	15	NA
575	DF	105	15	NA
576	PP	140	26	NA
577	IC	110	23	NA
578	PP	150	31	NA
579	PP	110	17	NA
580	PP	110	16	NA
581	PP	130	26	NA
582	PP	150	31	NA
583	IC	75	15	NA
584	IC	90	19	NA
585	IC	70	16	NA
586	DF	40	11	NA
587	PP	150	28	NA
588	PP	150	28	NA
589	PP	110	17	NA
590	SP	120	18	NA
591	PP	130	24	NA
592	PP	140	30	NA
593	SP	140	22	NA
594	PP	150	34	NA
595	PP	140	30	NA
596	PP	140	29	NA

000489

597	PP	150	33		NA	
598	IC	85	21		NA	
599	PP	140	26		NA	
600	IC	70	17		NA	
601	PP	120	18		NA	
602	SP	110	21		NA	
603	IC	85	21		NA	
604	PP	110	18		NA	
605	BO	40	13		NA	
606	PP	100	15		NA	
607	PP	130	23		NA	
608	DF	145	26		NA	
609	DF	120	17		NA	
610	DF	130	26		NA	
611	DF	150	29		NA	
612	DF	140	24		NA	
613	IC	70	20		NA	
614	DF	140	28		NA	
615	PP	105	15		NA	
616	DF	130	31		NA	
617	SP	130	18		NA	
618	DF	140	33		NA	
619	DF	120	22		NA	
620	SP	110	16		NA	
621	IC	105	21		NA	
622	SP	140	26		NA	
623	DF	140	29		NA	
624	IC	100	19		NA	
625	PP	150	31		NA	
626	DF	130	19		NA	
627	DF	90	12		NA	
628	IC	90	17		NA	
629	DF	95	15		NA	
630	DF	90	17		NA	
631	DF	90	15		NA	
632	PP	120	23		NA	
633	PP	130	24		NA	
634	IC	120	25		NA	
635	DF	110	17		NA	
636	DF	100	15		NA	
637	SP	130	32		NA	
638	SP	110	17		NA	
639	PP	70	11		NA	

000490

640	SP	110	19		NA	
641	DF	95	17		NA	
642	SP	75	14		NA	
643	PP	85	11		NA	
644	PP	90	15		NA	
645	PP	95	16		NA	
646	PP	90	12		NA	
647	PP	145	29	D	Remove	Bark beetle infestation, near camper
648	PP	135	32		NA	
649	PP	80	15		NA	
650	DF	80	14		NA	
651	PP	70	13		NA	
652	IC	100	27		NA	
653	DF	110	20		NA	
654	PP	65	10		NA	
655	SP	100	21		NA	
656	DF	100	20		NA	
657	DF	90	20		NA	
658	DF	50	10		NA	
659	BO	100	20		NA	
660	PP	120	21		NA	
661	IC	120	26		NA	
662	PP	130	28		NA	
663	DF	120	19		NA	
664	IC	110	24		NA	
665	PP	120	20		NA	
666	PP	120	21		NA	
667	SP	130	24		NA	
668	SP	120	12		NA	
669	SP	120	22		NA	
670	DF	140	25		NA	
671	DF	140	25		NA	
672	DF	140	30		NA	
673	DF	140	29		NA	
674	DF	130	20		NA	
675	DF	140	28		NA	
676	SP	150	29		NA	
677	DF	140	30		NA	
678	SP	95	15		NA	
679	BO	110	21		NA	
680	SP	140	33		NA	
681	PP	130	21		NA	

000491

682	PP	85	10		NA	
683	DF	120	24		NA	
684	PP	100	14		NA	
685	PP	100	15		NA	
686	PP	110	18		NA	
687	PP	120	21		NA	
688	PP	120	24		NA	
689	DF	130	25		NA	
690	DF	140	26		NA	
691	DF	140	27		NA	
692	DF	130	27		NA	
693	SP	120	21		NA	
694	SP	120	19		NA	
695	DF	140	27		NA	
696	SP	140	29		NA	
697	DF	130	22		NA	
698	DF	130	33		NA	
699	DF	130	31		NA	
700	SP	140	26		NA	
701	PP	110	16		NA	
702-770					NA	702-770 nonexistent (disregard)
771	PP	120	15		NA	
772	PP	120	17		NA	
773	IC	120	28		NA	
774	DF	130	33		NA	
775	DF	130	29		NA	
776	IC	130	28		NA	
777	IC	120	28		NA	
778	BO	75	23		NA	
779	PP	125	25		NA	
780	DF	125	24		NA	
781	PP	120	16		NA	
782	IC	120	36		NA	
783	DF	140	41		NA	
784	DF	45	10		NA	
785	IC	130	36		NA	
786	DF	130	29		NA	
787	DF	140	34		NA	
788	PP	90	11		NA	
789	PP	120	19		NA	
790	PP	120	17		NA	
791	PP	120	24		NA	
792	IC	140	40		NA	

000492

793	SP	140	31		NA	
794	BO	100	29		NA	
795	SP	100	16		NA	
796	PP	110	16		NA	
797	SP	85	12		NA	
798	DF	140	35		NA	
799	SP	110	17		NA	
800	PP	125	27		NA	
801	PP	120	19		NA	
802	PP	125	28		NA	
803	IC	70	12		NA	
804	IC	80	16		NA	
805	DF	120	20		NA	
806	IC	100	11		NA	
807	PP	80	12		NA	
808	PP	110	17		NA	
809	IC	70	13		NA	
810	PP	90	17		NA	
811	IC	50	13		NA	
812	IC	70	18		NA	
813	IC	75	17		NA	
814	IC	120	29		NA	
815	IC	65	18		NA	
816	PP	100	14		NA	
817	PP	100	17		NA	
818	PP	120	27		NA	
819	DF	140	37		NA	
820	PP	125	11		NA	
821	PP	90	24		NA	
822	DF	90	11		NA	
823	IC	110	17		NA	
824	BO	110	24		NA	
825	BO	110	30		NA	
826	DF	80	15		NA	
827	DF	140	30		NA	
828	DF	130	26		NA	
829	PP	140	22		NA	
830	PP	140	28		NA	
831	DF	105	21		NA	
832	SP	70	16		NA	
833	DF	115	23		NA	
834	DF	115	23		NA	
835	BO	115	27		NA	

000493

836	IC	140	58	NA	
837	IC	80	18	NA	
838	DF	80	12	NA	
839	SP	125	19	NA	
840	DF	95	20	NA	
841	DF	90	18	NA	
842				NA	VOID (disregard)
843	DF	85	15	NA	
844	SP	100	17	NA	
845	SP	90	15	NA	
846	SP	75	12	NA	
847	DF	75	15	NA	
848	DF	75	16	NA	
849	DF	130	24	NA	
850	DF	150	43	NA	
851	DF	85	13	NA	
852	IC	90	20	NA	
853	PP	120	13	NA	
854	PP	125	17	NA	
855	IC	130	57	NA	
856	IC	65	15	NA	
857	IC	70	15	NA	
858	DF	70	13	NA	
859	IC	120	43	NA	
860	SP	100	15	NA	
861	SP	100	16	NA	
862	IC	130	31	NA	
863	PP	110	15	NA	
864	PP	110	12	NA	
865	PP	110	17	NA	
866	PP	140	27	NA	
867	PP	135	25	NA	
868	IC	125	33	NA	
869	IC	90	20	NA	
870	IC	90	16	NA	
871	PP	110	18	NA	
872	PP	110	21	NA	
873	PP	90	16	NA	
874	PP	120	24	NA	
875	PP	120	17	NA	
876	PP	120	22	NA	
877	IC	70	18	NA	
878	PP	120	22	NA	

000494

879	PP	120	26		NA	
880	PP	130	24		NA	
881	PP	140	32		NA	
882	PP	120	16		NA	
883	IC	90	15		NA	
884	IC	110	25		NA	
885	IC	80	17		NA	
886	BO	40	8		NA	
887	IC	60	21		NA	Twin trunks
888	IC	60	13		NA	
889	IC	90	27		NA	
890	IC	95	19		NA	
891	IC	50	14		NA	
892	IC	90	21		NA	
893	PP	120	24		NA	
894	PP	120	28		NA	
895	SP	120	28		NA	
896	PP	110	16		NA	
897	IC	120	35		NA	
898	IC	130	50		NA	
899	PP	160	40		NA	
900	IC	110	32		NA	
901	IC	110	32		NA	
902	PP	130	33		NA	
903	IC	95	23		NA	
904	PP	100	16		NA	
905	PP	100	18		NA	
906	PP	90	14		NA	
907	PP	120	22		NA	
908	PP	120	22		NA	
909	PP	110	16		NA	
910	IC	120	34		NA	
911	PP	120	17		NA	
912	PP	120	18		NA	
913	PP	120	18		NA	
914	PP	120	22		NA	
915	PP	120	18		NA	
916	PP	120	19		NA	
917	SP	120	19		NA	
918	PP	130	26		NA	
919	IC	120	36		NA	
920	IC	120	28		NA	
921	PP	100	15		NA	

000495

922	PP	120	20		NA	
923	PP	110	15		NA	
924	PP	120	28		NA	
925	PP	80	14		NA	
926	SP	125	28		NA	
927	IC	40	10		NA	
928	IC	40	11		NA	
929	IC	50	16		NA	
930	SP	120	26		NA	
931	IC	90	18		NA	
932	PP	160	39		NA	
933	PP	125	19		NA	
934	DF	85	13		NA	
935	SP	95	16		NA	
936	BO	100	33		NA	
937	SP	95	19		NA	
938	PP	130	21		NA	
939	PP	130	21		NA	
940	PP	125	26		NA	
941	PP	130	30		NA	
942	PP	55	10		NA	
943	IC	60	13		NA	
944	PP	130	30		NA	
945	IC	60	14		NA	
946	PP	120	23		NA	
947	IC	130	40		NA	
948	PP	100	14		NA	
949	PP	100	14		NA	
950	PP	100	12		NA	
951	IC	120	50		NA	
952					NA	VOID (disregard)
953	IC	90	19		NA	
954	DF	40	10		NA	
955	BO	110	35	D	Remove	rotten, green ribbon, unsafe
956	SP	110	19		NA	
957	IC	120	41		NA	
958	BO	95	30		NA	
959	IC	120	30		NA	
960	IC	65	15		NA	
961	IC	110	29		NA	
962	IC	110	29		NA	
963	IC	130	40		NA	
964	DF	130	23		NA	

000496

965	IC	120	30	NA	
966	IC	80	47	NA	
967	IC	125	40	NA	
968	DF	125	24	NA	
969	DF	95	11	NA	
970	PP	120	14	NA	
971	PP	120	18	NA	
972	PP	120	28	NA	
973	PP	90	12	NA	
974	PP	110	24	NA	
975	DF	140	30	NA	
976	IC	140	47	NA	
977	SP	85	11	NA	
978	PP	110	15	NA	
979	PP	80	12	NA	
980	PP	120	20	NA	
981	PP	120	16	NA	
982	SP	120	26	NA	
983	PP	120	16	NA	
984	PP	120	21	NA	
985	PP	120	16	NA	
986	PP	120	18	NA	
987	PP	120	18	NA	
988	IC	110	24	NA	
989	IC	110	24	NA	
990	IC	95	21	NA	
991	IC	65	24	NA	
992	PP	95	14	NA	
993	BO	110	50	NA	
994	DF	130	35	NA	
995	BO	110	32	NA	
996	IC	85	17	NA	
997	IC	105	28	NA	
998	IC	120	24	NA	
999	DF	110	27	NA	
1000	SP	130	29	NA	
1001	DF	130	18	NA	
1002	DF	125	19	NA	
1003	SP	90	11	NA	
1004	IC	100	22	NA	
1005	IC	90	16	NA	
1006	IC	90	13	NA	
1007	IC	60	12	NA	

000497

1008	IC	60	14		NA	
1009	DF	90	12		NA	
1010	IC	95	15		NA	
1011	SP	120	23		NA	
1012	DF	125	27		NA	
1013	SP	130	23		NA	
1014	SP	120	19		NA	
1015	IC	50	11		NA	
1016	IC	95	21		NA	
1017	IC	75	18		NA	
1018	IC	60	15		NA	
1019					NA	VOID (disregard)
1020	DF	160	25		NA	
1021	DF	140	25		NA	
1022	DF	120	16		NA	
1023	IC	150	54		NA	
1024	DF	140	31		NA	
1025	DF	125	27		NA	
1026	DF	45	10		NA	
1027	DF	105	18		NA	
1028	PP	150	27		NA	
1029	PP	95	15		NA	
1030	BO	110	36		NA	
1031	IC	45	12		NA	
1032	IC	45	12		NA	
1033	PP	110	18		NA	
1034	PP	140	28		NA	
1035	PP	105	15		NA	
1036	PP	95	12		NA	
1037	PP	105	13		NA	
1038	PP	110	14		NA	
1039	PP	120	17		NA	
1040	PP	140	33		NA	
1041	SP	140	27		NA	
1042	IC	120	28		NA	
1043	DF	110	14		NA	
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1045	DF	110	15		NA	
1046	SP	40	8		NA	
1047	IC	40	12		NA	
1048	IC	50	14		NA	
1049	IC	80	18		NA	
1050	DF	95	12		NA	

000498

1051	DF	105	24		NA	
1052	IC	65	17		NA	
1053	DF	125	26		NA	
1054	IC	40	15		NA	
1055	IC	50	15		NA	
1056	WF	125	25		NA	
1057	SP	45	9		NA	
1058	IC	140	65		NA	
1059	DF	140	31		NA	
1060	DF	130	28		NA	
1061	DF	125	18		NA	
1062	IC	130	36		NA	
1063	DF	120	23		NA	
1064	IC	120	26		NA	
1065	IC	120	26		NA	
1066	DF	130	25		NA	
1067	DF	140	28		NA	
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1079	DF	30	9		NA	
1080	DF	110	16		NA	
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1082	DF	105	15		NA	
1083	IC	130	41		NA	
1084	BO	110	29		NA	
1085	SP	70	14		NA	
1086	DF	110	24		NA	
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1088	PP	150	30		NA	
1089	PP	130	20		NA	
1090	PP	130	20		NA	
1091	IC	100	25		NA	
1092	IC	105	22		NA	
1093	PP	125	15		NA	

000499

1094	SP	150	33	NA
1095	PP	150	26	NA
1096	DF	50	10	NA
1097	IC	130	38	NA
1098	IC	130	33	NA
1099	SP	85	13	NA
1100	F	105	18	NA
1101	IC	130	37	NA
1102	DF	125	22	NA
1103	IC	125	34	NA
1104	IC	120	24	NA
1105	PP	140	27	NA
1106	DF	115	17	NA
1107	DF	120	24	NA
1108	DF	130	40	NA
1109	DF	120	14	NA
1110	IC	130	40	NA
1111	IC	130	48	NA
1112	DF	130	28	NA
1113	SP	130	22	NA
1114	BO	70	39	NA
1115	SP	110	15	NA
1116	PP	150	28	NA
1117	PP	150	28	NA
1118	PP	110	17	NA
1119	PP	110	18	NA
1120	PP	100	13	NA
1121	PP	90	9	NA
1122	PP	85	10	NA
1123	PP	100	13	NA
1124	PP	130	33	NA
1125	DF	130	25	NA
1126	PP	130	18	NA
1127	IC	120	23	NA
1128	IC	110	15	NA
1129	IC	100	24	NA
1130	PP	130	32	NA
1131	PP	100	15	NA
1132	BO	55	25	NA
1133	SP	140	26	NA
1134	DF	150	29	NA
1135	DF	125	35	NA
1136	IC	100	43	NA

000500

1137	IC	100	44		NA	
1138	DF	140	35		NA	
1139	IC	130	51		NA	
1140	DF	125	17		NA	
1141	DF	125	20		NA	
1142	SP	95	14		NA	
1143	DF	140	28		NA	
1144	DF	140	28		NA	
1145	PP	140	25		NA	
1146	DF	150	30		NA	
1147	PP	150	25		NA	
1148	PP	130	23		NA	
1149	SP	150	35		NA	
1150	IC	140	37		NA	
1151	DF	125	21		NA	
1152	PP	150	18		NA	
1153	PP	150	23		NA	
1154	DF	120	15		NA	
1155	IC	120	28		NA	
1156	IC	140	29		NA	
1157	DF	120	22		NA	
1158	DF	120	22		NA	
1159	DF	110	19		NA	
1160	DF	120	22		NA	
1161	DF	130	28		NA	
1162	IC	100	22		NA	
1163	PP	120	20		NA	
1164	DF	110	16		NA	
1165	BO	60	30	C, D, Dm, L	Remove	
1166	PP	140	28		NA	
1167	PP	150	30		NA	
1168	IC	120	24		NA	
1169	DF	140	28		NA	
1170	PP	140	24		NA	
1171	BO	70	30		NA	
1172	DF	140	29		NA	
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1174	PP	130	26		NA	
1175	DF	130	23		NA	
1176	DF	130	26		NA	
1177	PP	150	31		NA	
1178	PP	140	20		NA	
1179	PP	140	31		NA	

000501

1180	PP	140	31	NA
1181	DF	130	23	NA
1182	DF	110	16	NA
1183	DF	120	19	NA
1184	DF	140	33	NA
1185	PP	140	25	NA
1186	DF	110	18	NA
1187	DF	130	31	NA
1188	IC	40	13	NA
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1215	DF	130	19	NA
1216	DF	120	14	NA
1217	DF	125	21	NA
1218	DF	125	25	NA
1219	DF	60	11	NA
1220	DF	120	14	NA
1221	DF	130	19	NA
1222	DF	90	15	NA

000502

1223	BO	100	30	2, 3, C, Dm	Remove	marked w/ green ribbon
1224	DF	130	26		NA	
1225	DF	110	15		NA	#1223 oak wrapped around it
1226	DF	125	20		NA	
1227	DF	125	18		NA	
1228	DF	125	22		NA	
1229	DF	90	13		NA	
1230	BO	100	18		NA	
1231	DF	100	14	D	Remove	green ribbon
1232	DF	110	15	D	Remove	green ribbon
1233	DF	120	25		NA	
1234	DF	120	21		NA	
1235	IC	120	34		NA	
1236	IC	125	37		NA	
1237	DF	120	18		NA	
1238	DF	120	18		NA	
1239	DF	80	12		NA	
1240	DF	120	22		NA	
1241	DF	105	17		NA	
1242	DF	125	26		NA	
1243	IC	60	14		NA	
1244	DF	130	30		NA	
1245	DF	75	15		NA	
1246	IC	110	24		NA	
1247	IC	110	15		NA	
1248	IC	110	18		NA	
1249	IC	110	18		NA	
1250	DF	140	29		NA	
1251	IC	120	27		NA	
1252	SP	145	39		NA	
1253	IC	90	17		NA	
1254	IC	90	17		NA	
1255	DF	100	14		NA	
1256	DF	105	16		NA	
1257	DF	120	22		NA	
1258	DF	110	16		NA	
1259	DF	110	15		NA	
1260	IC	100	21		NA	
1261	IC	120	24		NA	
1262	DF	100	15		NA	
1263	DF	80	14		NA	
1264	DF	95	14		NA	
1265	IC	100	19		NA	

000503

1266	DF	110	15	NA
1267	DF	110	14	NA
1268	DF	140	34	NA
1269	DF	90	13	NA
1270	DF	130	30	NA
1271	DF	70	15	NA
1272	IC	60	16	NA
1273	DF	130	25	NA
1274	DF	140	33	NA
1275	DF	140	31	NA
1276	DF	130	21	NA
1277	DF	45	13	NA
1278	DF	140	29	NA
1279	DF	140	29	NA
1280	DF	120	21	NA
1281	DF	120	21	NA
1282	DF	120	18	NA
1283	IC	100	40	NA
1284	DF	105	17	NA
1285	DF	90	10	NA
1286	BO	90	26	NA
1287	DF	85	9	NA
1288	DF	100	15	NA
1289	DF	110	14	NA
1290	DF	100	13	NA
1291	DF	125	22	NA
1292	DF	120	15	NA
1293	DF	120	20	NA
1294	DF	110	14	NA
1295	DF	120	22	NA
1296	BO	90	27	NA
1297	SP	120	24	NA
1298	DF	120	19	NA
1299	DF	120	21	NA
1300	DF	125	21	NA
1301	DF	120	20	NA
1302	DF	120	20	NA
1303	DF	130	24	NA
1304	DF	140	31	NA
1305	DF	140	24	NA
1306	IC	135	37	NA
1307	IC	95	29	NA
1308	IC	130	33	NA

000504

1309	IC	130	33		NA	
1310	DF	140	27		NA	
1311	DF	120	18		NA	
1312	IC	140	38		NA	
1313	DF	130	25		NA	
1314	DF	120	17		NA	
1315	DF	140	26		NA	
1316	IC	140	39		NA	
1317	DF	120	22		NA	
1318	DF	120	18		NA	
1319	DF	110	15		NA	
1320	DF	130	27		NA	
1321	DF	110	15		NA	
1322	BO	110	27		NA	
1323	DF	140	28		NA	
1324	DF	90	15		NA	
1325	DF	130	24		NA	
1326	DF	95	15		NA	
1327	IC	80	12		NA	
1328	DF	105	13		NA	
1329	DF	120	24		NA	
1330	DF	70	11		NA	
1331	DF	110	18		NA	
1332	BO	90	17	3, 4, C, D	Remove	green ribbon
1333	SP	60	11		NA	
1334	PP	140	32		NA	
1335	IC	130	26		NA	
1336	DF	100	18		NA	
1337	DF	100	16		NA	
1338	IC	75	20		NA	
1339	DF	70	11		NA	
1340	DF	75	16		NA	
1341	DF	40	8		NA	
1342	IC	90	21		NA	
1343	IC	90	21		NA	
1344	IC	90	24		NA	
1345	IC	65	14		NA	
1346	IC	75	23		NA	
1347	DF	110	22		NA	
1348	IC	100	25		NA	
1349	DF	100	14		NA	
1350	DF	110	16		NA	
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000505

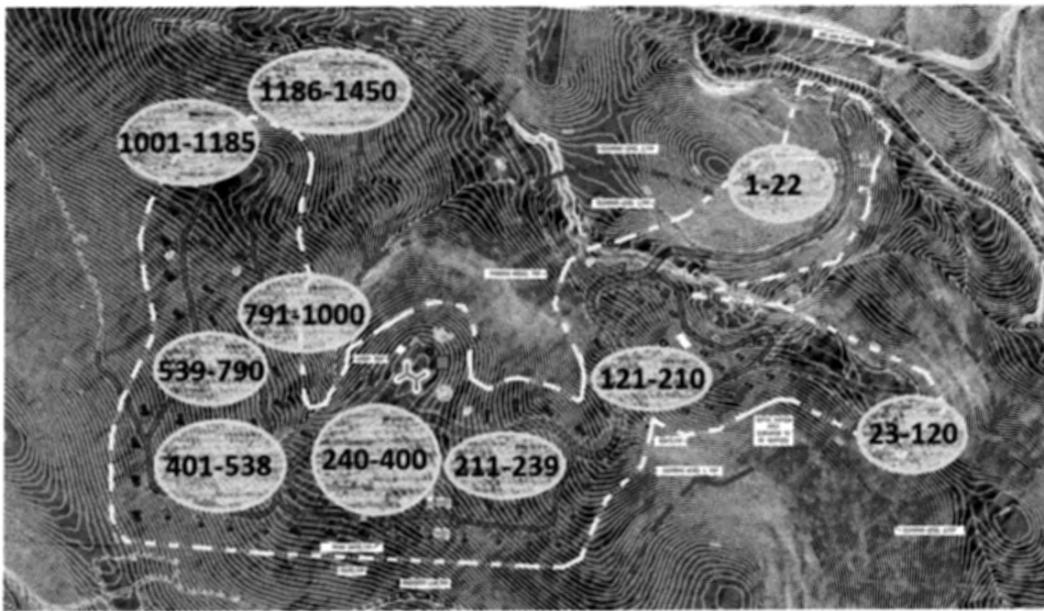
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1364	DF	110	24		NA	
1365	IC	100	26		NA	
1366	DF	110	22		NA	
1367	DF	100	16		NA	
1368	IC	80	18		NA	
1369	DF	75	13		NA	
1370	DF	110	22		NA	
1371	DF	100	18		NA	
1372	IC	60	14		NA	
1373	DF	90	14		NA	
1374	DF	110	24		NA	
1375	DF	90	11		NA	
1376	DF	90	11		NA	
1377	DF	130	30		NA	
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1379	BO	100	24		NA	
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1382	DF	120	21		NA	
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1384	DF	120	21		NA	
1385	PP	110	13		NA	
1386	IC	125	37		NA	
1387	IC	125	28		NA	
1388	IC	110	21		NA	
1389	DF	110	19		NA	
1390	DF	120	23		NA	
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1392	SP	150	32		NA	
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000506

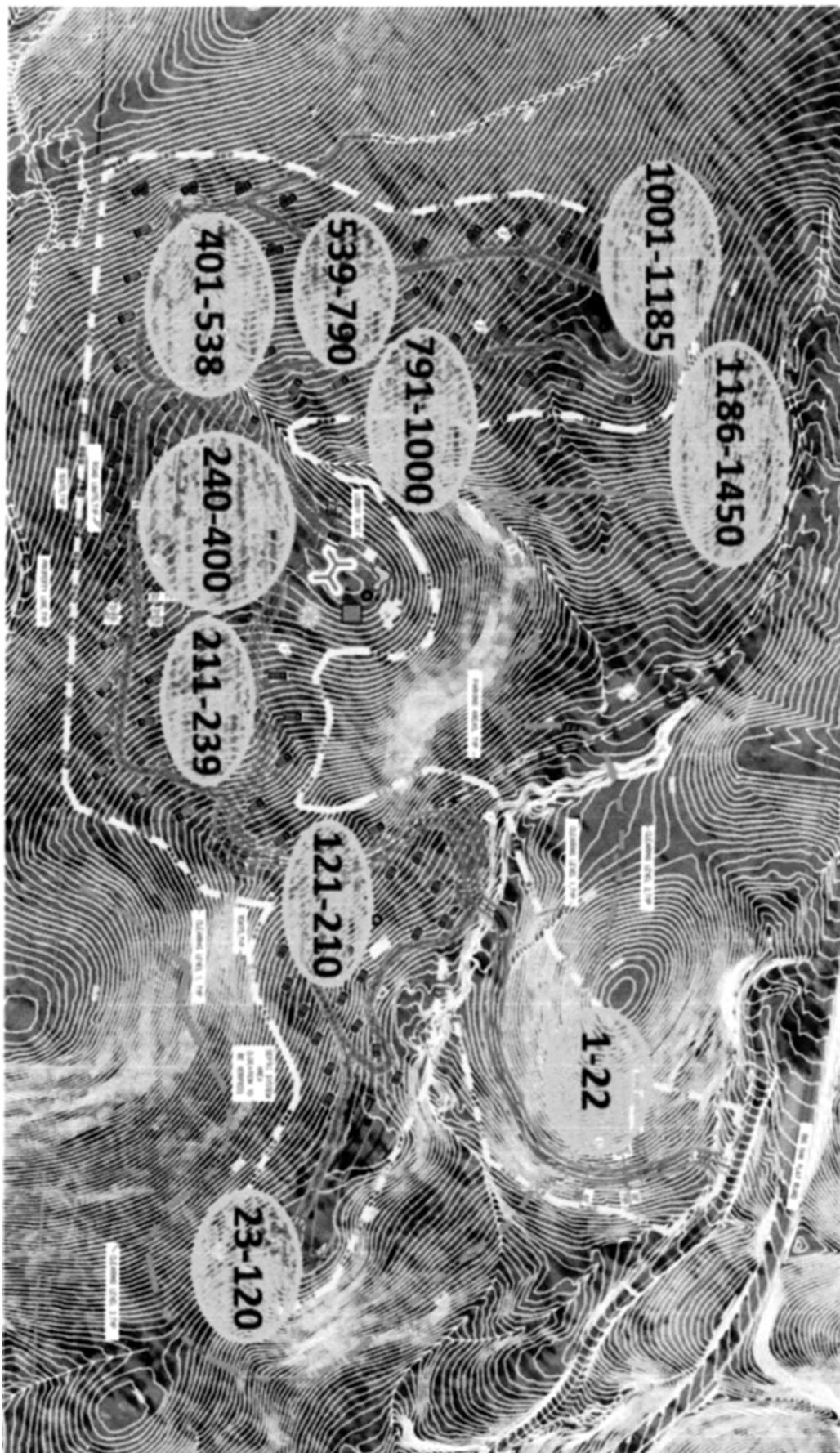
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1396	DF	45	9		NA	
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1400	SP	140	34		NA	
1401	DF	55	14		NA	
1402	DF	105	19		NA	
1403	DF	70	15	D, Dm	Remove	green ribbon
1404	IC	90	16		NA	
1405	IC	95	15		NA	
1406	IC	90	21		NA	
1407	IC	80	16		NA	
1408	DF	50	12		NA	
1409	DF	80	18		NA	
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1411	IC	120	23		NA	
1412	IC	90	20		NA	
1413	DF	95	16		NA	
1414	DF	100	17		NA	
1415	DF	80	14		NA	
1416	DF	95	17		NA	
1417	DF	120	21		NA	
1418	DF	110	21		NA	
1419	IC	60	24	4, F	Remove	green ribbon
1420	IC	95	18		NA	
1421	DF	60	11		NA	
1422	DF	100	17		NA	
1423	DF	110	21		NA	
1424	DF	100	16		NA	
1425	DF	130	20		NA	
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1429	DF	110	18		NA	
1430	DF	60	11		NA	
1431	SP	130	21		NA	
1432	IC	110	23		NA	
1433	DF	125	23		NA	
1434	BO	110	35		NA	
1435	DF	80	15		NA	
1436	DF	50	11		NA	
1437	IC	55	13		NA	

000507

1438	IC	110	25	NA
1439	IC	100	18	NA
1440	IC	110	31	NA
1441	DF	110	20	NA
1442	DF	110	18	NA
1443	SP	125	15	NA
1444	IC	125	33	NA
1445	IC	75	22	NA
1446	DF	75	25	NA
1447	DF	100	16	NA
1448	DF	90	9	NA
1449	DF	55	14	NA
1450	SP	140	34	NA
1451	DF	40	10	NA
1452	DF	40	10	NA
1453	IC	50	11	NA
1454	IC	75	17	NA



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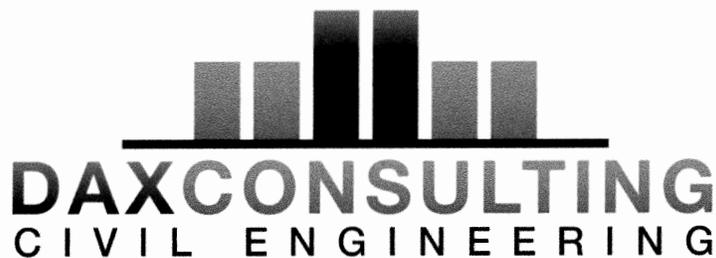
Hydrologic and Hydraulic Drainage Report

for

Under Canvas Tuolumne County, CA

Date Prepared: March 2019

Prepared by:



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Calabasas, CA 91302

Dax Hoff, PE

Date

000510

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Introduction

The purpose of this report is to calculate anticipated drainage quantities and provide for orderly drainage of the proposed Under Canvas project located near the intersection of Packard Canyon Road and Big Oak Flat Road (CA Highway 120) in unincorporated Tuolumne County, California. The project site consists of approximately 120.7 acres and is located on APNs 068-120-061-000 and 068-120-062-000 and 068-120-063-000.

The site is currently undeveloped and is natural mountainside with tree coverage. The site slopes steeply from south to north, where it is bisected by a streambed. From the streambed, the site undulates to the north property line which is generally located along Packard Canyon Road and Big Oak Flat Road.

The project proposes to create campsites around three separate areas, with various tents located across the property. The project will create a large septic system to handle onsite waste and will also clear dead and diseased trees. As the intent of this project is to create natural camping areas, beyond the tents and roadway areas, the site will remain largely undisturbed.

The purpose of this report is to determine hydrologic flow quantities to provide a basis for design for the roadways and the culverts that drain beneath the roadways.

References

- a. Tuolumne County Code: Section 11.12.010.M – Drainage
- b. Tuolumne County Code: Section 11.04.050.E – Drainage Study and Contour Sheet

Methodology

This drainage study was prepared using the design criteria and methodology outlined in the Tuolumne County Code, Sections 11.12.010 and 11.04.050 with the intensity / duration / frequency (IDF) curves as provided in that document. The IDF Curve that was selected was the Groveland curve as that was the nearest location to the proposed site.

The site was broken up into drainage areas that relate to the design. In many cases, the drainage areas will largely sheet flow without concentrating and there is no defined outlet point. In other areas, we have calculated flow draining into a channel at a defined point. Between these two general scenarios, the entire project area has been calculated.

Furthermore, the site is going to remain essentially pervious. The tents, which are not permanent structures, will sit atop wooden platforms that are open to the bottom. While

the tent itself will shed water, the area underneath the tent will remain pervious, which will keep the overall existing flow rate identical. Additionally, the circulation roadways that surround the site are gravel, which will allow them to remain pervious as well.

For drainage calculations, a conservative time of concentration of 10 minutes was assumed for each drainage area. From Figure 819.2A of the Caltrans Highway Design Manual (provided to us as direction by the county), our inputs were as follows:

- Relief: 0.28 (this is on the high end of “high” with slopes of 10-30%)
- Infiltration: 0.08 (this is on the normal-high due to the mix of soils onsite)
- Vegetal Cover: 0.08 (historically this site has had good cover but temporarily sparse due to recent fire)
- Surface storage: 0.08 (low due to steep grades)
- TOTAL: 0.52

Drainage Concept

This project is intended as an eco-friendly “glamping” site, with as much remaining naturally as is possible. As a result, the site will consist of gravel roadways and wooden tent platforms that allow water to run beneath, while maintaining existing drainage patterns as much as possible.

As it relates to the site, sheet flow will not be collected and conveyed, and will continue to sheet flow across campsites. Where flow collects in drainage channels, culverts will be provided to convey this flow across the roadways. These flows and sizing for the culverts are included herein. Additionally, where needed for erosion protection, we have sized swales to convey flow along roadways to where the culverts will be provided.

Hydrology

Site hydrology was calculated using the Rational Method, with the inputs as outlined in the Methodology. Hydrology results are outlined in the table below. Also provided are culvert sizes. Tuolumne County has a required 18” minimum culvert size which is adequate to convey flow in all instances besides the large area F.

The anticipated roadway swale as included herein is also anticipated as being adequate for all drainage areas.

Supporting calculations for hydrologic and hydraulic results are provided as attachments to this report.

Area ID	Area (Ac)	10-yr Storm		25-yr Storm		100-yr Storm		Culvert (in)
		I	Q (cfs)	I	Q (cfs)	I	Q (cfs)	
A1	3.37		2.80		3.33		4.03	18
B1	2.00		1.67		1.98		2.39	18
B2	2.96		2.46		2.92		3.54	18
B (total)	4.96		4.13		4.90		5.93	
C1	5.58		4.64		5.51		6.67	18
C2	1.06		0.88		1.05		1.27	18
C (total)	6.64		5.52		6.56		7.94	
D1	2.32		1.93		2.29		2.77	18
D2	2.96	1.6	2.46	1.9	2.92	2.3	3.54	18
D (total)	5.28		4.39		5.22		6.32	
E1	4.53		3.77		4.48		5.42	18
F1	13.31		11.07		13.15		15.91	24
F2	1.09		0.91		1.08		1.31	24
F (total)	14.40		11.98		14.22		17.22	
G1	2.77		2.30		2.74		3.31	18
G2	0.67		0.55		0.66		0.80	18
G (total)	3.44		2.86		3.40		4.11	
H1	2.41		2.01		2.38		2.88	18

Stormwater Treatment / LID

As this project creates very minimal impervious area, stormwater treatment is not required. Existing drainage patterns will be maintained despite the improvements to the site, and the overall project will not degrade stormwater quality. As a result, no stormwater treatment is anticipated for this site.

Summary and Findings

The proposed Under Canvas project located near the intersection of Packard Canyon Road and Big Oak Flat intends to create a “glamping” campground with numerous tents and other facilities. The project site consists of approximately 120.7 acres and is located on APNs 068-120-061-000 and 068-120-062-000 and 068-120-063-000.

The site, as designed, is in accordance with the requirements outlined by the Tuolumne

County criteria and is not anticipated to add to peak flow rates beyond what is experienced Under Canvas Yosemite Hydrology

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naturally. Additionally, due to the fact that the site is being developed naturally as much as possible, there are no anticipated impairments to stormwater quality. Furthermore, as there are no permanent structures being proposed, and as the tents are elevated above the ground, the site is adequately protected from the 100-year storm.

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Attachment 1:
Hydrologic Calculations

000517

000518

11:12.010

of crown for all class roads shall be two percent.

F. Superelevation Rate. The minimum superelevation rate for all class roads shall be 0.02 foot per one foot.

G. Side Slope Ratio. The side slope (fill) for all class roads shall be no steeper than 2:1.

H. Back Slope Ratio. The back slope (cut) ratio for all class roads shall be no steeper than 1 1/2:1. A designed back slope ratio may be modified with the approval of the county engineer depending upon the materials encountered. The modified back slope shall not be steeper than 1/2:1.

I. Side Slope Ratio-Ditch. The side slope ratio for all roadside ditches shall not be steeper than 3:1 for unpaved ditches, and 6:1 for paved ditches with dikes.

J. Ditch Depth. Unpaved ditches shall be no more than one foot deep with the inclusion of appropriate bed material and paved ditches with dikes shall be no less than four inches deep.

K. Stopping Sight Distance. The stopping sight distance shall be based upon the posted speed limit or the minimum design speed, whichever is greater. The minimum design speed shall be thirty-five mph for arterial and collector roads and twenty-five mph for all other roads.

L. Alignments. Alignment for horizontal curves shall be based upon the posted speed limit or minimum design speed, whichever is greater, and shall be no smaller than a fifty-foot interior curve radius with a minimum taper length of fifty feet. Vertical curves shall provide for a sight distance consistent with the posted speed limit or the minimum design speed, whichever is greater, and shall have a minimum length of one hundred feet.

M. Drainage. Roadside drainage facilities shall be located outside of the traveled way. Culverts and/or down drains shall be three-hundred feet apart or as necessary to protect the roadway unless satisfactory drainage calculations are submitted to demonstrate roadside drainage may be carried further. Cross-culverts shall be no less than eighteen inches in diameter. Culverts with a diameter of twenty-four inches or more shall have appropriate inlet and outlet protection. (Ord. 2765 § 4 (part), 2007; Ord. 2579 § 11, 2004; Ord. 1875 § 2 (part), 1991; Ord. 1559 § 1 (part), 1987).

11.12.020 Structural design standards.

A. The structural section of the road

surface shall be designed based on a twenty-year design life and using stabilometer "R" values, which are not less than those indicated below, and the expected traffic index. In no event shall the structural section of a road include less than the following compacted depths of asphalt concrete and aggregate base:

Road Designation	Asphalt Concrete Base	Aggregate	Traffic Index
Major arterial****			
Minor arterial*****			
Major collector	3"		8"8
Minor collector	2"		6"6
Local road 2"***	4"		4
Driveway ***	4"		n/a*

* Structural design is not required.

** Not required for final maps with minimum parcel size of five or more acres, or for parcel maps with minimum parcel size of two or more acres.

*** As required by Section 11.12.060.

**** Structural section shall be based on criteria developed for the specific project.

B. All road structures shall be capable of supporting a 40,000 pound axle load and shall be constructed to carry at least the maximum load and provide the minimum vertical clearance as required by Vehicle Code Sections 35550, 35750 and 35250. (Ord. 1875 § 2 (part), 1991; Ord. 1559 § 1 (part), 1987).

11.12.030 Profiles. The minimum and maximum gradients for all class roads shall be as follows:

A. The minimum gradient shall be one percent;

B. The maximum gradient for local roads below the three thousand foot elevation shall be sixteen percent;

C. The maximum gradient for local roads above the three thousand foot elevation shall be twelve percent;

D. The maximum gradient for arterial and collector roads shall be as shown below:

Type of Terrain	Design Speed (mph)					
	20	30	40	50	60	70
Level	7	7	7	6	5	4
Rolling	10	9	8	7	6	5
Mountainous	12	10	10	9	8	6

(Ord. 1875 § 2 (part), 1991; Ord. 1559 § 1

11-10

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11.04.050

and side slope ratios' crown and superelevation rates, base thickness and class, slope easements, legend and scales.

C. Layout Sheet. The layout sheets shall contain thereon the entire subdivision unit on one sheet, a skeleton layout of the entire subdivision unit and the location of proposed water and/or sewer system, including appurtenances. The plotting scale as indicated as desirable in Section 11.04.040 for the above sheet may be modified for compliance with the above requirements.

D. Plan and Profile Sheets. Standard plan and profile sheets shall be used. The plan for each road shall be delineated within the plan block in the upper half of the sheet. The corresponding profile shall be plotted in the graphical block directly under the road plan. The plan shall contain thereon the right-of-way widths, catch points, cuts (solid line), fills (dashed line), cut and fill easements, culverts and structures, radii and central angles, curves lengths and scales. The profile shall contain thereon the culverts and structures, percent grade and vertical curve length elevations shown at twenty-five-foot intervals throughout the vertical curve. Scales shall clearly show the existing and proposed profiles of all roads. Stationing on plan and profile shall read from left to right unless otherwise authorized by the director.

→ E. Drainage Study and Contour Sheet. The drainage study and contour sheet shall contain thereon the contours of the subdivision unit and immediate vicinity sufficient to indicate the perimeter of the upland areas to be drained by each structure and associated outlet protection. Section 11.04.010 requires the submittal of computations with improvement plans at the time such plans are submitted for approval. It is required that the consulting engineer prepare and submit calculations to support the design of the drainage structures and that such be shown of the drainage study and contour sheet.

The basis for culvert design shall be "Design Flood" estimates from the California culvert practices which employs the general rules:

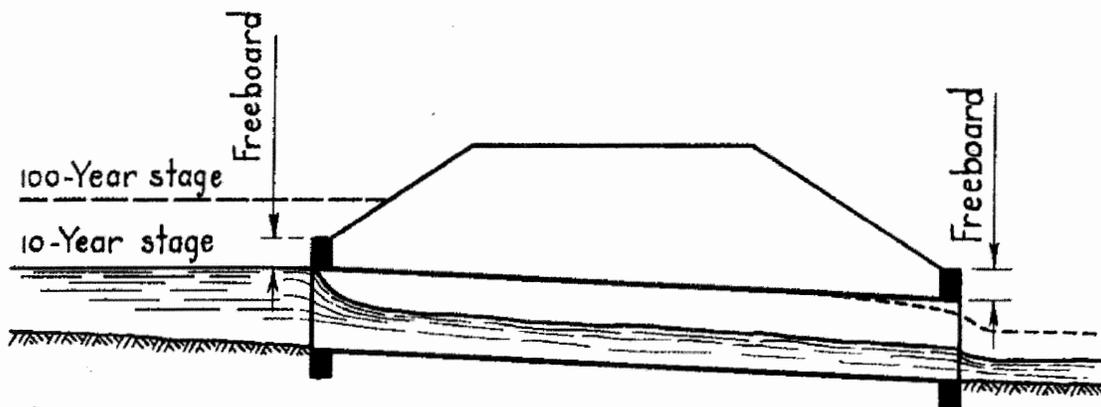
1. That a culvert pass a ten year flood without static head on the crown of the culvert at its entrance:

2. That design of the culvert and appurtenances be balanced to avoid serious damage from head and velocity obtained in a one-hundred-year flood. Bridges shall be designed for the one-hundred-year flood. Minimum diameter for pipes shall be eighteen inches in diameter.

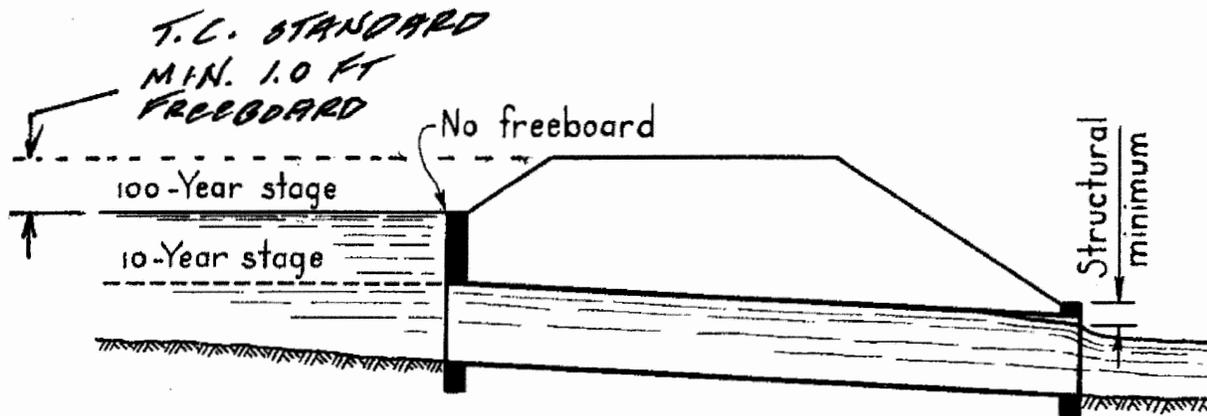
F. Construction Detail Sheets. Construction detail sheet shall contain thereon details of all structures such as bridges, box culverts, drop inlets,

headwalls, wingwalls, and temporary and permanent erosion control structures. A typical drainage pipe section shall be shown on the map(s).

G. Cross-Section. Cross-sections shall be included in the plans where determined necessary by the director. (Ord. 2902 §1, 2008; Ord. 2765 § 1 & 2 (part), 2007; Ord. 1559 § 1 (part), 1987).



(a) Current Practice: Frequent flood just fills the entrance; equal freeboards, insufficient at entrance, excessive at outlet.



(b) Balanced Design: Infrequent flood submerges entrance; appurtenances fit this stage without freeboard.

FIGURE 101. Comparison of controls for current practice and balanced design for free-outlet culvert on supercritical slope.

boxes from entrance to outlet. For various reasons progress ended with experimental installations.

BALANCED DESIGN

As one step in the improvement of this practice, the committee proposed the second rule. Instead of constructing headwalls, endwalls and other facilities to arbitrary freeboards, the combination of culvert barrel and all appurtenances should barely satisfy for the 100-yr flood (limiting flood) without any freeboard (Fig. 101b).

The limiting flood has been designated the "design discharge" and has been given an approximate frequency

of once in 100 years. It is an "ultimate capacity" of the system, beyond which there may occur still greater floods which will damage all parts of the system—perhaps destructively.

To be specific, balanced design is defined as that combination of conduit section, shape, texture and gradient with entrance and outlet appurtenances which will just pass a 100-yr flood without interruption of traffic and without serious damage to structure, embankment or abutting property.

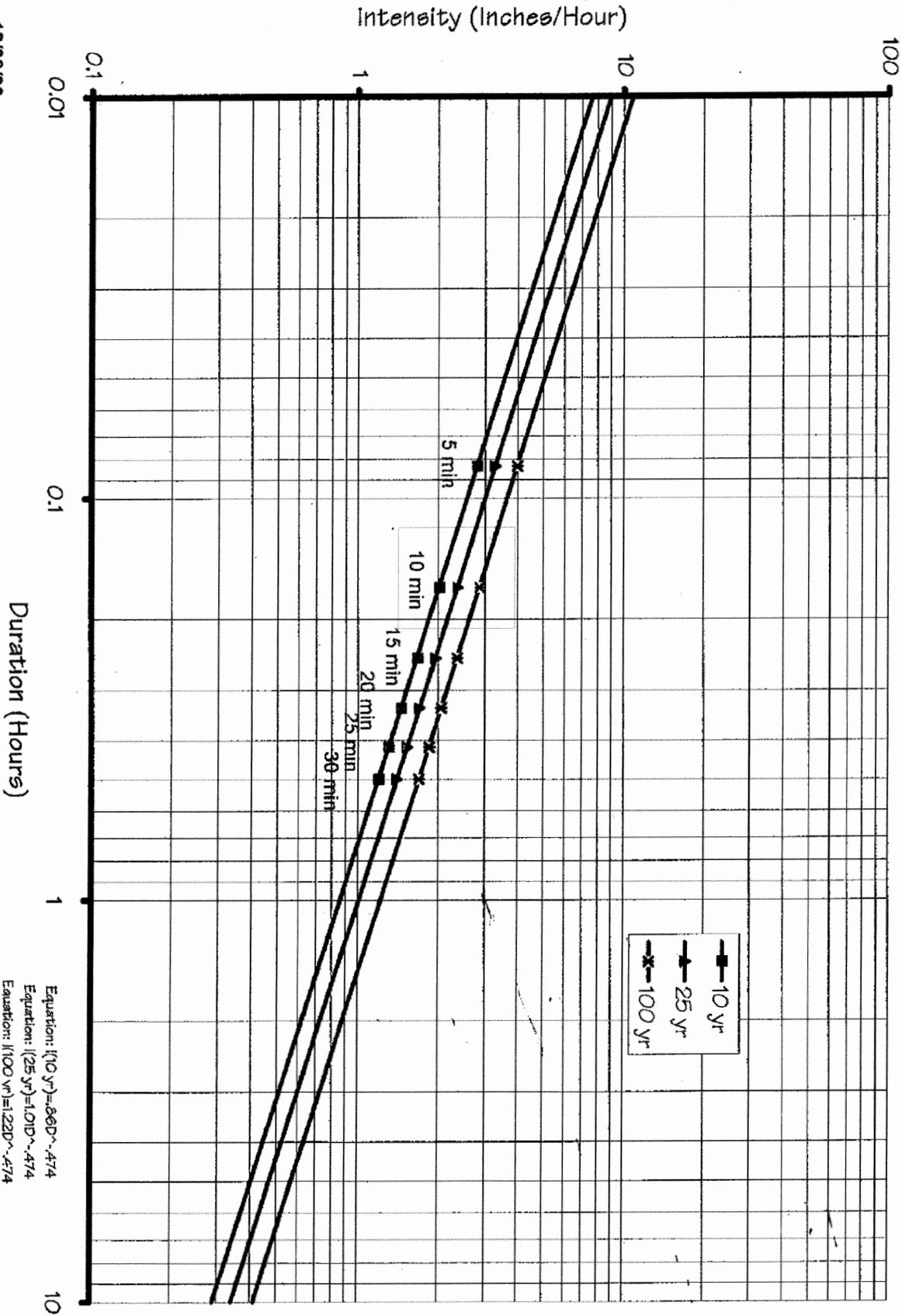
To obtain such balance, the designer must know the stages and velocities at critical points of a trial layout and the durability of structure,

BASIS FOR STANDARD

000521

Intensity-Duration-Frequency Curves for Groveland

Elevation = 2825 Feet
 Years of Record: 1941-1995



Equation: $I(10 \text{ yr}) = 66D^{-0.474}$
 Equation: $I(25 \text{ yr}) = 101D^{-0.474}$
 Equation: $I(100 \text{ yr}) = 122D^{-0.474}$

12/30/96

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Figure 819.2A

**Runoff Coefficients for Undeveloped Areas
Watershed Types**

	Extreme	High	Normal	Low
Relief	.28-.35 Steep, rugged terrain with average slopes above 30%	.20-.28 Hilly, with average slopes of 10 to 30%	.14-.20 Rolling, with average slopes of 5 to 10%	.08-.14 Relatively flat land, with average slopes of 0 to 5%
Soil Infiltration	.12-.16 No effective soil cover, either rock or thin soil mantle of negligible infiltration capacity	.08-.12 Slow to take up water, clay or shallow loam soils of low infiltration capacity, imperfectly or poorly drained	.06-.08 Normal; well drained light or medium textured soils, sandy loams, silt and silt loams	.04-.06 High; deep sand or other soil that takes up water readily, very light well drained soils
Vegetal Cover	.12-.16 No effective plant cover, bare or very sparse cover	.08-.12 Poor to fair; clean cultivation crops, or poor natural cover, less than 20% of drainage area over good cover	.06-.08 Fair to good; about 50% of area in good grassland or woodland, not more than 50% of area in cultivated crops	.04-.06 Good to excellent; about 90% of drainage area in good grassland, woodland or equivalent cover
Surface Storage	.10-.12 Negligible surface depression few and shallow; drainageways steep and small, no marshes	.08-.10 Low; well defined system of small drainageways; no ponds or marshes	.06-.08 Normal; considerable surface depression storage; lakes and pond marshes	.04-.06 High; surface storage, high; drainage system not sharply defined; large flood plain storage or large number of ponds or marshes
Given	An undeveloped watershed consisting of; 1) rolling terrain with average slopes of 5%, 2) clay type soils, 3) good grassland area, and 4) normal surface depressions.			
Find	The runoff coefficient, C, for the above watershed.			
	TOTAL C: 0.52			
			Solution:	0.14 0.08 0.04 0.06 C = 0.32

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Under Canvas Yosemite
Rational Method Hydrologic Calculations

4/2/2019

Area ID	Area (SF)	Area (Ac)	C	10-yr Storm		25-yr Storm		100-yr Storm		Culvert (in)
				I	Q	I	Q	I	Q	
A1	146708	3.37	0.52	2.80	3.33	4.03	18	18	18	
B1	87193	2.00	0.52							1.67
B2	128887	2.96	0.52	2.46	2.92	3.54	18	18		
B (total)	216080	4.96	0.52	4.13	4.90	5.93	18	18		
C1	242963	5.58	0.52	4.64	5.51	6.67	18	18		
C2	46123	1.06	0.52	0.88	1.05	1.27	18	18		
C (total)	289086	6.64	0.52	5.52	6.56	7.94	18	18		
D1	101061	2.32	0.52	1.93	2.29	2.77	18	18		
D2	128959	2.96	0.52	2.46	2.92	3.54	18	18		
D (total)	230020	5.28	0.52	4.39	5.22	6.32	18	18		
E1	197346	4.53	0.52	3.77	4.48	5.42	18	18		
F1	579575	13.31	0.52	11.07	13.15	15.91	24	24		
F2	47552	1.09	0.52	0.91	1.08	1.31	24	24		
F (total)	627127	14.40	0.52	11.98	14.22	17.22	24	24		
G1	120677	2.77	0.52	2.30	2.74	3.31	18	18		
G2	29053	0.67	0.52	0.55	0.66	0.80	18	18		
G (total)	149730	3.44	0.52	2.86	3.40	4.11	18	18		
H1	105012	2.41	0.52	2.01	2.38	2.88	18	18		

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Culvert Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Apr 2 2019 **Culvert 1**

Attachment 2: Hydraulic Calculations

000525

Culvert Report

18" Culvert at 10-year Capacity

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Apr 2 2019

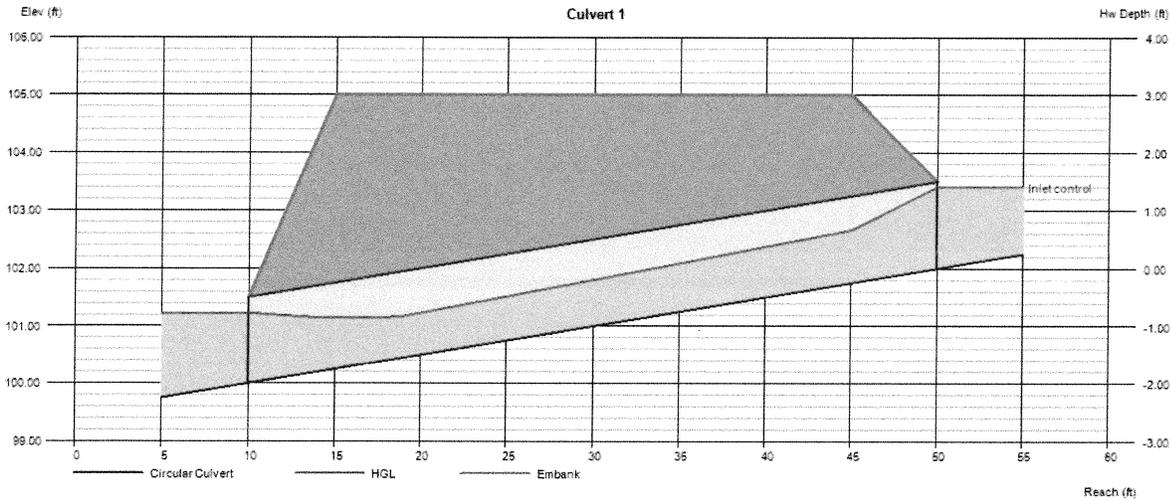
Culvert 1

Invert Elev Dn (ft) = 100.00
 Pipe Length (ft) = 40.00
 Slope (%) = 5.00
 Invert Elev Up (ft) = 102.00
 Rise (in) = 18.0
 Shape = Circular
 Span (in) = 18.0
 No. Barrels = 1
 n-Value = 0.012
 Culvert Type = Circular Corrugate Metal Pipe
 Culvert Entrance = Headwall
 Coeff. K,M,c,Y,k = 0.0078, 2, 0.0379, 0.69, 0.5

Embankment
 Top Elevation (ft) = 105.00
 Top Width (ft) = 30.00
 Crest Width (ft) = 100.00

Calculations
 Qmin (cfs) = 1.00
 Qmax (cfs) = 25.00
 Tailwater Elev (ft) = $(dc+D)/2$

Highlighted
 Qtotal (cfs) = 6.00
 Qpipe (cfs) = 6.00
 Qovertop (cfs) = 0.00
 Veloc Dn (ft/s) = 3.89
 Veloc Up (ft/s) = 5.12
 HGL Dn (ft) = 101.22
 HGL Up (ft) = 102.95
 Hw Elev (ft) = 103.40
 Hw/D (ft) = 0.94
 Flow Regime = Inlet Control



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Culvert Report

18" Culvert at 100-yr Capacity

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Apr 2 2019

Culvert 1

Invert Elev Dn (ft) = 100.00
 Pipe Length (ft) = 40.00
 Slope (%) = 5.00
 Invert Elev Up (ft) = 102.00
 Rise (in) = 18.0
 Shape = Circular
 Span (in) = 18.0
 No. Barrels = 1
 n-Value = 0.012
 Culvert Type = Circular Corrugate Metal Pipe
 Culvert Entrance = Headwall
 Coeff. K,M,c,Y,k = 0.0078, 2, 0.0379, 0.69, 0.5

Calculations

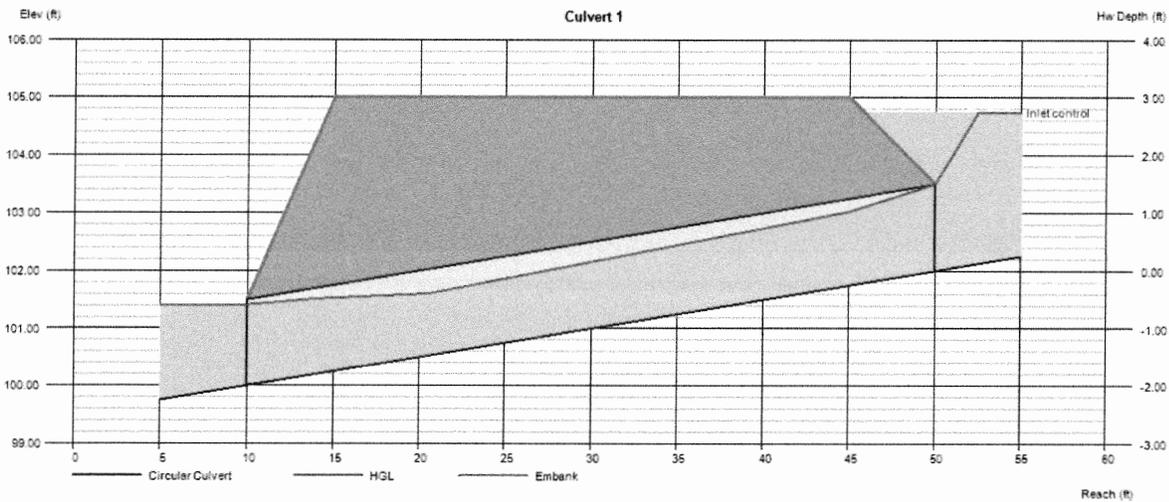
Qmin (cfs) = 1.00
 Qmax (cfs) = 25.00
 Tailwater Elev (ft) = (dc+D)/2

Highlighted

Qtotal (cfs) = 12.00
 Qpipe (cfs) = 12.00
 Qovertop (cfs) = 0.00
 Veloc Dn (ft/s) = 6.97
 Veloc Up (ft/s) = 7.32
 HGL Dn (ft) = 101.41
 HGL Up (ft) = 103.31
 Hw Elev (ft) = 104.75
 Hw/D (ft) = 1.83
 Flow Regime = Inlet Control

Embankment

Top Elevation (ft) = 105.00
 Top Width (ft) = 30.00
 Crest Width (ft) = 100.00



000527

Culvert Report

24" Culvert at 10-yr Capacity

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Apr 2 2019

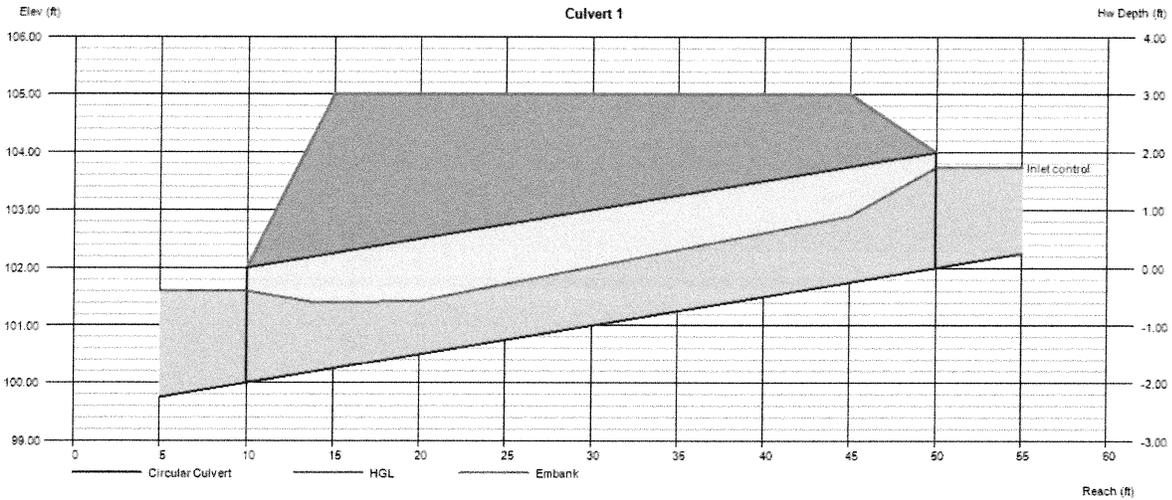
Culvert 1

Invert Elev Dn (ft) = 100.00
 Pipe Length (ft) = 40.00
 Slope (%) = 5.00
 Invert Elev Up (ft) = 102.00
 Rise (in) = 24.0
 Shape = Circular
 Span (in) = 24.0
 No. Barrels = 1
 n-Value = 0.012
 Culvert Type = Circular Corrugate Metal Pipe
 Culvert Entrance = Headwall
 Coeff. K,M,c,Y,k = 0.0078, 2, 0.0379, 0.69, 0.5

Embankment
 Top Elevation (ft) = 105.00
 Top Width (ft) = 30.00
 Crest Width (ft) = 100.00

Calculations
 Qmin (cfs) = 1.00
 Qmax (cfs) = 25.00
 Tailwater Elev (ft) = (dc+D)/2

Highlighted
 Qtotal (cfs) = 11.00
 Qpipe (cfs) = 11.00
 Qovertop (cfs) = 0.00
 Veloc Dn (ft/s) = 4.10
 Veloc Up (ft/s) = 5.66
 HGL Dn (ft) = 101.59
 HGL Up (ft) = 103.19
 Hw Elev (ft) = 103.73
 Hw/D (ft) = 0.87
 Flow Regime = Inlet Control



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Culvert Report

24" Culvert at 100-yr Capacity

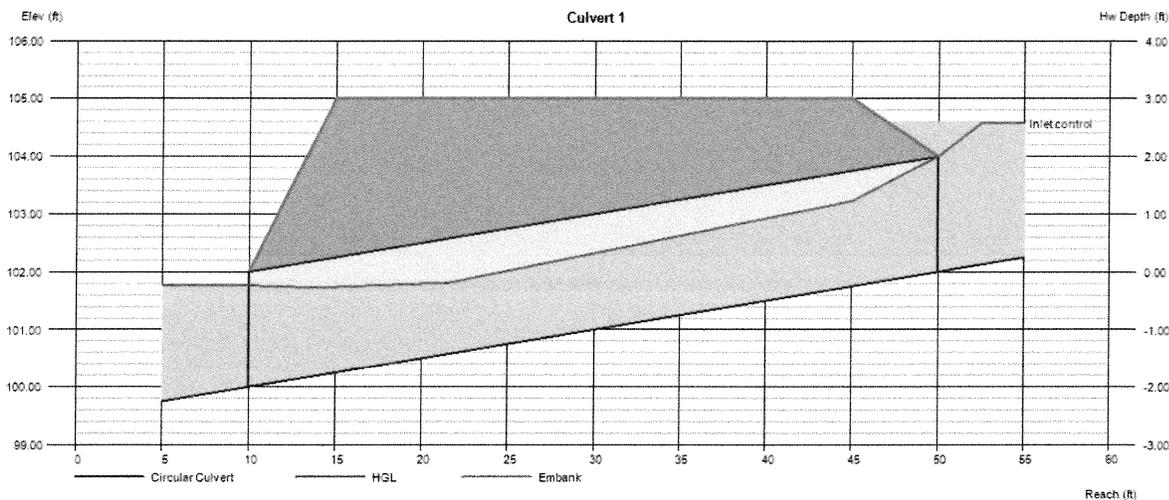
Culvert 1

Invert Elev Dn (ft) = 100.00
 Pipe Length (ft) = 40.00
 Slope (%) = 5.00
 Invert Elev Up (ft) = 102.00
 Rise (in) = 24.0
 Shape = Circular
 Span (in) = 24.0
 No. Barrels = 1
 n-Value = 0.012
 Culvert Type = Circular Corrugate Metal Pipe
 Culvert Entrance = Headwall
 Coeff. K,M,c,Y,k = 0.0078, 2, 0.0379, 0.69, 0.5

Calculations
 Qmin (cfs) = 1.00
 Qmax (cfs) = 25.00
 Tailwater Elev (ft) = (dc+D)/2

Highlighted
 Qtotal (cfs) = 18.00
 Qpipe (cfs) = 18.00
 Qovertop (cfs) = 0.00
 Veloc Dn (ft/s) = 6.14
 Veloc Up (ft/s) = 6.99
 HGL Dn (ft) = 101.76
 HGL Up (ft) = 103.53
 Hw Elev (ft) = 104.57
 Hw/D (ft) = 1.29
 Flow Regime = Inlet Control

Embankment
 Top Elevation (ft) = 105.00
 Top Width (ft) = 30.00
 Crest Width (ft) = 100.00



000529

Channel Report

<Name>

Trapezoidal

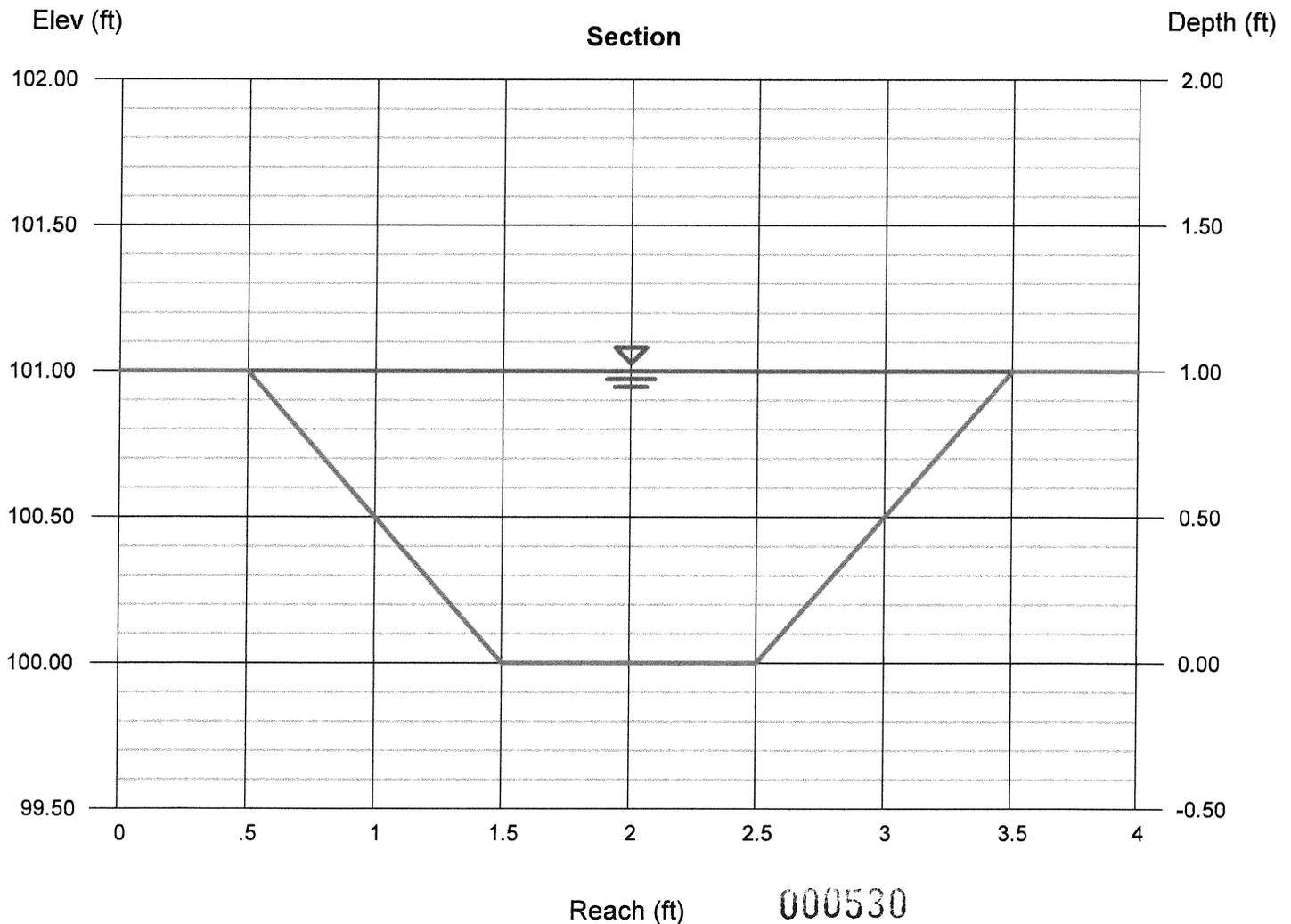
Bottom Width (ft) = 1.00
 Side Slopes (z:1) = 1.00, 1.00
 Total Depth (ft) = 1.00
 Invert Elev (ft) = 100.00
 Slope (%) = 10.00
 N-Value = 0.030

Highlighted

Depth (ft) = 1.00
 Q (cfs) = 20.32
 Area (sqft) = 2.00
 Velocity (ft/s) = 10.16
 Wetted Perim (ft) = 3.83
 Crit Depth, Yc (ft) = 1.00
 Top Width (ft) = 3.00
 EGL (ft) = 2.60

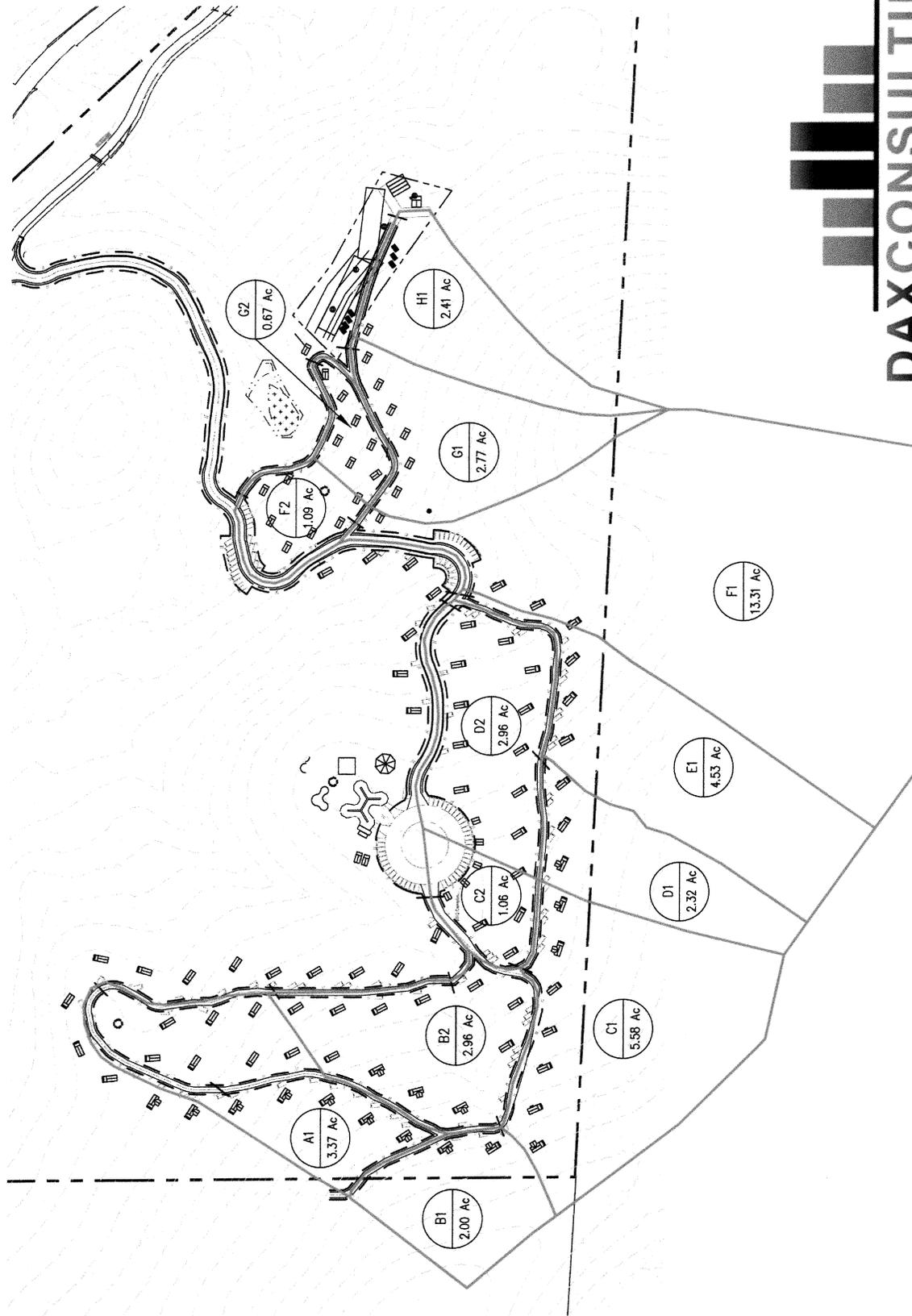
Calculations

Compute by: Known Depth
 Known Depth (ft) = 1.00



Attachment 3:
Drainage Plans

000531



000532

Summary		Beginning Stocks		Ending Stocks	Metric Tonnes CO2 Equivalent Per Acre Basis	Years until Carbon Stocks are Recouped from Initial Harvest (Includes Carbon in Live Trees, Harvested Wood Products, and Landfill)
		Metric Tonnes CO2 Equivalent Per Acre Basis				
Emissions Source/Sink/Reservoir						2 Years
Live Trees (Conifers and Hardwoods)		98.64		233.24		
Wood Products				31.16		
Site Preparation Emissions				-1.20		
Non-biological emissions associated with harvesting				-1.86		
Non-biological emissions associated with milling				-0.40		
Sum of Net Emissions/Sequestration over Identified Harvest Cycles (CO2 metric tonnes)				162.31		
Project Summary						
Project Acres	Step 17 - Insert the acres that are part of the harvest area.			49		
Total Project Sequestration over defined Harvesting Periods (CO2 metric tonnes)				7,953		

000533

Under Canvas Vol.and Growth Summary

	Tot. Trees	Tot. Vol.	10yr gr.	Trees/ac	Vol./ac	Growth/ac
DF	548	305692	74609	11.2	6239	152
PP/SP	143	248120	60136	2.9	5064	123
IC	336	182069	16075	6.9	3716	33
Totals	1027	735881	150819	21.0	15018	308

000538

DBH	#stems	BA/tree	tot BA	vol/tree	totvol	radlinc	dialinc	g/i	No Change	1 class	2 classes	3 classes	#stems	tot BA	tot vol
8	2	0.3491	0.7	0	0	0.5	1	1	0	0	0	0	0.0	0.0	0
9	3	0.4418	1.3	0	0	0.5	1	1	0	0	0	0	2.0	0.9	0
10	12	0.5454	6.5	0	0	0.6	1.2	1.2	0	0	3	0	3.0	1.6	0
11	14	0.66	9.2	0	0	0.6	1.2	1.2	0	0	9.6	0	9.6	6.3	0
12	12	0.7854	9.4	0	0	0.75	1.5	1.5	0	0	11.2	2.4	13.6	10.7	10.20
13	22	0.9128	20.1	0	0	0.75	1.5	1.5	0	0	6	2.8	8.8	8.0	7.48
14	28	1.069	29.9	0	0	0.75	1.5	1.5	0	0	11	6	17.0	18.2	16.15
15	38	1.2272	46.6	0	0	0.75	1.5	1.5	0	0	14	11	25.0	30.7	26.75
16	32	1.3963	44.7	0	0	0.8	1.6	1.6	0	0	19	14	33.0	46.1	61.05
17	30	1.5763	34.7	0	0	0.8	1.6	1.6	0	0	19	19	31.8	50.1	65.83
18	28	1.7671	49.5	0	0	0.8	1.6	1.6	0	0	12.8	19	31.8	50.1	65.83
19	14	1.9689	27.6	0	0	0.85	1.7	1.7	0	0	8.8	19.2	28.0	49.5	64.40
20	28	2.1817	61.1	0	0	0.85	1.7	1.7	0	0	11.2	13.2	24.4	48.0	61.49
21	28	2.4053	67.3	0	0	0.9	1.8	1.8	0	0	8.4	16.8	21.0	45.8	78.75
22	30	2.6398	79.2	0	0	0.9	1.8	1.8	0	0	5.6	9.8	18.2	43.8	75.53
23	24	2.8852	69.2	0	0	0.9	1.8	1.8	0	0	6	24	25.2	28.2	38.2
24	23	3.1416	72.3	0	0	1.2	2.4	2.4	0	0	4.8	19.2	28.4	65.4	115.78
25	36	3.4088	122.7	0	0	1.2	2.4	2.4	0	0	19.2	13.8	19.2	50.9	115.23
26	23	3.687	84.8	0	0	1.2	2.4	2.4	0	0	13.8	13.8	19.2	30.8	28.151
27	13	3.9761	51.7	0	0	1.2	2.4	2.4	0	0	21.6	9.2	17.0	122.5	281.51
28	18	4.2761	77.0	0	0	1.2	2.4	2.4	0	0	13.8	14.4	28.2	120.6	280.31
29	16	4.5869	73.4	0	0	1.1	2.2	2.2	0	0	7.8	10.8	17.0	78.0	182.58
30	14	4.9087	68.7	0	0	1.1	2.2	2.2	0	0	10.8	5.2	16.0	78.5	184.64
31	13	5.2414	68.1	0	0	1.1	2.2	2.2	0	0	13.8	7.2	20.0	104.8	247.80
32	8	5.5851	44.7	0	0	1.1	2.2	2.2	0	0	11.2	11.2	3.2	14.4	190.80
33	11	5.9396	65.3	0	0	1.1	2.2	2.2	0	0	10.4	2.8	13.2	78.4	187.18
34	12	6.305	75.7	0	0	1.1	2.2	2.2	0	0	6.4	6.4	9.0	56.7	136.17
35	7	6.6813	46.8	0	0	1.1	2.2	2.2	0	0	8.8	8.8	10.4	69.5	167.96
36	4	7.0686	28.3	0	0	1.1	2.2	2.2	0	0	9.6	2.2	11.8	83.4	202.72
37	2	7.4667	14.9	0	0	1.1	2.2	2.2	0	0	7	2.4	9.4	70.2	171.36
38	1	7.8758	7.9	0	0	0.8	1.6	1.6	0	0	4	0	4.0	31.5	92.48
39	2	8.2958	16.6	0	0	0.8	1.6	1.6	0	0	2	2	2.6	21.6	63.54
40	2	8.7266	17.5	0	0	0.8	1.6	1.6	0	0	1.2	1	2.2	19.2	56.67
41+	6	9.1684	55.0	0	0	0.8	1.6	1.6	0	0	1.2	0.8	8.8	80.7	239.01
	548				305692						3.6	2.4	548.6	0.0	380301

Net growth over 10 year period=
74609

000539

DBH	#stems	BA/tree	tot BA	vol/tree	totvol	radinc	dialnc	g/i	No Change	1 class	2 classes	3 classes	#stems	tot BA	tot vol	
8	2	0.3491	0.7	0	0	0.5	1	1	0	0	0	0	0.0	0.0	0	
9	3	0.4418	1.3	0	0	0.5	1	1	0	0	0	0	2.0	0.9	0	
10	7	0.5454	3.8	0	0	0.6	1.2	1.2	0	0	0	0	3.0	1.6	0	
11	11	0.66	7.3	0	0	0.6	1.2	1.2	0	0	0	0	5.6	3.7	0	
12	16	0.7854	12.6	0	0	0.65	1.3	1.3	0	0	0	0	10.2	8.8	0	
13	17	0.9128	15.5	90	1280	0.7	1.4	1.4	0	0	1.4	1.4	10.2	8.0	816	
14	22	1.069	23.5	100	1530	0.75	1.5	1.4	0	0	2.2	2.2	13.4	11.2	1206	
15	33	1.2272	40.5	112	2200	0.95	1.9	1.5	0	0	4.8	4.8	15.0	16.0	1500	
16	20	1.3963	27.9	190	3696	0.95	1.9	1.9	0	0	6.8	6.8	17.8	21.8	1994	
17	21	1.5763	33.1	190	3800	0.95	1.9	1.9	0	0	11	11	14.3	20.0	2717	
18	23	1.7671	40.6	215	4515	0.95	1.9	1.9	0	0	29.7	29.7	20.1	50.0	6816	
19	30	1.9689	59.1	240	5520	1	2	2	0	0	18	18	20.1	35.5	4824	
20	12	2.1817	26.2	267	8010	1	2	2	0	0	18.9	18.9	18.9	37.2	5046	
21	21	2.4053	50.5	395	4740	1	2	2	0	0	23	23	23.0	50.2	9085	
22	11	2.6398	29.0	442	9282	1	2	2	0	0	30	30	30.0	72.2	13260	
23	13	2.8852	37.5	489	5379	1	2	2	0	0	12	12	12.0	31.7	5868	
24	9	3.1416	28.3	539	7007	1	2	2	0	0	21	21	21.0	60.6	11319	
25	16	3.4088	54.5	589	5301	1	2	2	0	0	11	11	11.0	34.6	6479	
26	20	3.687	73.7	649	10384	1	2	2	0	0	13	13	13.0	44.3	8437	
27	16	3.9761	63.6	884	17680	1.2	2.4	2.4	0	0	9	9	9.0	33.2	7956	
28	12	4.2761	51.3	964	15424	1.2	2.4	2.4	0	0	16	16	16.0	63.6	15424	
29	20	4.5869	91.7	1044	12528	1.2	2.4	2.4	0	0	12	12	12.0	51.3	12528	
30	11	4.9087	54.0	1131	22620	1.1	2.2	2.2	0	0	9.6	9.6	9.6	80.7	19906	
31	3	5.2414	15.7	1313	3939	1.1	2.2	2.2	0	0	7.2	7.2	7.2	66.8	16565	
32	10	5.5851	55.9	1408	14080	1.1	2.2	2.2	0	0	16	16	16	64	8437	
33	12	5.9396	71.3	1508	18096	1.1	2.2	2.2	0	0	8.8	8.8	8.8	4.8	66.8	16565
34	7	6.305	44.1	1603	11221	1.1	2.2	2.2	0	0	2.4	2.4	2.4	4	109.0	27310
35	7	6.6813	46.8	2050	14350	1.1	2.2	2.2	0	0	8	8	8	4.6	12.8	18022
36	3	7.0686	21.2	2173	6519	1	2	2	0	0	5.6	5.6	5.6	8.6	54.2	13786
37	2	7.4667	14.9	2302	4604	1	2	2	0	0	7	7	7	8.0	77.5	23780
38	2	7.8758	15.8	2432	4864	1	2	2	0	0	3	3	3	8.0	77.5	23780
39	3	8.2958	24.9	2377	7131	0.8	1.6	1.6	0	0	2	2	2	7.2	53.8	16574
40	1	8.7266	8.7	2722	2722	0.8	1.6	1.6	0	0	2	2	2	3.0	23.6	7296
41+	0	9.1684	0.0	2874	0	0.8	1.6	1.6	0	0	0.4	0.4	0.4	2.0	16.6	4754
	416				241820						0	0	1.8	33.2	10344	
											0.6	0.6	0.6	12.8	4024	

Net growth over 10 year period=
60136

000540

DBH	#stems	Ba/tree	tot BA	vol/tree	tot vol	radinc	dianc	g/i	No Change	1 class	2 classes	3 classes	#stems	tot BA	tot vol
8	0	0.3491	0.0	0	0	0.6	1.2	1.2	0	0	0	0	0.0	0.0	0
9	0	0.4418	0.0	0	0	0.6	1.2	1.2	0	0	0	0	0.0	0.0	0
10	1	0.5454	0.5	0	0	0.6	1.2	1.2	0.2	0	0	0	0.0	0.0	0
11	5	0.66	3.3	0	0	0.6	1.2	1.2	1	0.8	4	0	1.8	1.2	0
12	10	0.7854	7.9	0	300	0.6	1.2	1.2	2	0	4	0	6.0	4.7	180
13	10	0.9128	9.1	1.0	360	0.6	1.2	1.2	2	8	8	0	10.0	9.1	360
14	15	1.069	16.0	2.0	1050	0.6	1.2	1.2	3	8	8	0	11.0	11.8	770
15	18	1.2272	22.1	2.0	1512	0.6	1.2	1.2	3.6	12	12	0	15.6	19.1	1310
16	18	1.3963	25.1	2.0	1800	0.6	1.2	1.2	3.6	14.4	14.4	0	18.0	25.1	1800
17	19	1.5763	29.9	2.0	2090	0.6	1.2	1.2	3.8	14.4	14.4	0	18.2	28.7	2002
18	24	1.7671	42.4	2.0	2880	0.5	1.1	1.1	0	15.2	15.2	0	15.2	26.9	1824
19	9	1.9689	17.7	2.0	1197	0.5	1.1	1.1	0	24	24	0	24.0	47.3	3192
20	14	2.1817	30.5	3.0	3164	0.5	1.1	1.1	0	9	9	0	9.0	19.6	2034
21	20	2.4053	48.1	3.0	4960	0.5	1.1	1.1	0	14	14	0	14.0	33.7	3472
22	12	2.6398	31.7	3.0	3240	0.5	1.1	1.1	0	20	20	0	20.0	52.8	5400
23	12	2.8852	34.6	3.0	3576	0.5	1.1	1.1	0	12	12	0	12.0	34.6	3576
24	22	3.1416	69.1	3.0	7172	0.5	1.1	1.1	1	12	12	0	12.0	37.7	3912
25	12	3.4088	40.9	4.0	5808	0.5	1.1	1.1	1	22	22	0	22.0	75.0	10648
26	12	3.687	44.2	4.0	6312	0.5	1.1	1.1	1	12	12	0	12.0	44.2	6312
27	6	3.9761	23.9	4.0	3426	0.5	1.1	1.1	1	12	12	0	12.0	47.7	6852
28	11	4.2761	47.0	4.0	6787	0.5	1.1	1.1	1	6	6	0	6.0	25.7	3702
29	8	4.5869	36.7	5.0	6696	0.5	1.1	1.1	1	11	11	0	11.0	50.5	9207
30	2	4.9087	9.8	5.0	1806	0.5	1.1	1.1	1	8	8	0	8.0	39.3	7224
31	6	5.2414	31.4	5.0	5850	0.4	0.8	0.8	1.2	2	2	0	3.2	16.8	3120
32	5	5.5851	27.9	5.0	5235	0.4	0.8	0.8	1	4.8	4.8	0	5.8	32.4	6073
33	9	5.9396	53.5	5.0	10080	0.4	0.8	0.8	1.8	4	4	0	5.8	34.4	6496
34	4	6.305	25.2	5.0	4772	0.4	0.8	0.8	0.8	7.2	7.2	0	8.0	50.4	9544
35	2	6.6813	13.4	5.0	2550	0.4	0.8	0.8	0.4	3.2	3.2	0	3.6	24.1	4590
36	9	7.0686	63.6	5.0	1353	0.4	0.8	0.8	1.8	1.6	1.6	0	3.4	24.0	4600
37	6	7.4667	44.8	5.0	8616	0.2	0.4	0.4	3.6	7.2	7.2	0	10.8	80.6	15509
38	3	7.8758	23.6	5.0	4557	0.2	0.4	0.4	1.8	2.4	2.4	0	4.2	33.1	6380
39	1	8.2958	8.3	5.0	1809	0.2	0.4	0.4	0.6	1.2	1.2	0	1.8	14.9	3256
40	10	8.7266	87.3	5.0	16990	0.2	0.4	0.4	6	0.4	0.4	0	6.4	55.9	10874
41+	21	9.1684	192.5	6.0	45297	0.2	0.4	0.4	12.6	4	4	0	25.0	229.2	53925
	336				182069					8.4	4	0	335.8	0.0	198144

Net growth over 10 year period=
16075

000541

EXHIBIT 'C'
describing PARCEL C

A tract of land situated in a portion of the West half of the Southeast quarter of Section 26, Township 1 South, Range 18 East, M. D. B. & M., in the unincorporated area of Tuolumne County, State of California, said tract of land being more particularly described as follows:

All that portion of said West half of the Southeast quarter (being southerly of LINE B of Parcel 5351 as said LINE B of Parcel 5351 is described in Grant Deed to the State of California recorded August 25, 2003 as Document No. 2003021597 in the Official Records of Tuolumne County, said LINE B of Parcel 5351 being described in said Grant Deed as follows:

Commencing at a 2-inch iron pipe with United States Forest Service brass disk set to mark the East quarter corner of said Section 26; thence (1) along the East line of said Southeast quarter S 7° 18' 29" E, a distance of 2720.69 feet to a 2-inch iron pipe with U.S.F.S. brass disk set to mark the Southeast corner of said section; thence (8) leaving said section line, N 0°00' 20" E, a Distance of 180.23 feet to the True Point of Beginning of Line B;
thence (9) N31°13'44" W, a Distance of 883.36 feet;
thence (10) N43°19'42" W, a Distance of 608.81 feet;
thence (11) N78°01'19" W, a Distance of 431.47 feet;
thence (12) N81°57'04" W, a Distance of 1428.40 feet;
thence (13) N82°04'56" W, a Distance of 257.49 feet to a point on the West line of said Southeast quarter being 1558.28 feet north of the South quarter corner of said Section 26.

The above-described tract of land is subject to any liens, encumbrances, covenants, restrictions and rights-of-way or easements of record or legally acquired.

EXHIBIT 'D'
describing PARCEL D

A tract of land situated in a portion of the East half of the Southeast quarter of Section 26, Township 1 South, Range 18 East, M. D. B. & M., in the unincorporated area of Tuolumne County, State of California, said tract of land being more particularly described as follows:

All that portion of said East half of the Southeast quarter (being southerly of LINE B of Parcel 5351 as said LINE B of Parcel 5351 is described in Grant Deed to the State of California recorded August 25, 2003 as Document No. 2003021597 in the Official Records of Tuolumne County, said LINE B of Parcel 5351 being described in said Grant Deed as follows:

Commencing at a 2-inch iron pipe with United States Forest Service brass disk set to mark the East quarter corner of said Section 26; thence (1) along the East line of said Southeast quarter S 7° 18' 29" E, a distance of 2720.69 feet to a 2-inch iron pipe with U.S.F.S. brass disk set to mark the Southeast corner of said section; thence (8) leaving said section line, N 0°00' 20" E, a Distance of 180.23 feet to the True Point of Beginning of Line B;
thence (9) N31°13'44" W, a Distance of 883.36 feet;
thence (10) N43°19'42" W, a Distance of 608.81 feet;
thence (11) N78°01'19" W, a Distance of 431.47 feet;
thence (12) N81°57'04" W, a Distance of 1428.40 feet;
thence (13) N82°04'56" W, a Distance of 257.49 feet to a point on the West line of said Southeast quarter being 1558.28 feet north of the South quarter corner of said Section 26.

EXCEPTING THEREFROM Parcel 6223A, said Parcel 6223A being described in said Grant Deed as follows:
Beginning at The True Point of Beginning of the above described Line B of Parcel 5351; thence (13) along said Line B, N31°13'44" W, a Distance of 496.78 feet;
thence (18) leaving said Line B, S12°27'14" E, a Distance of 330.25 feet;
thence (17) S61°13'50" E, a distance of 212.38 feet to the True Point of Beginning.

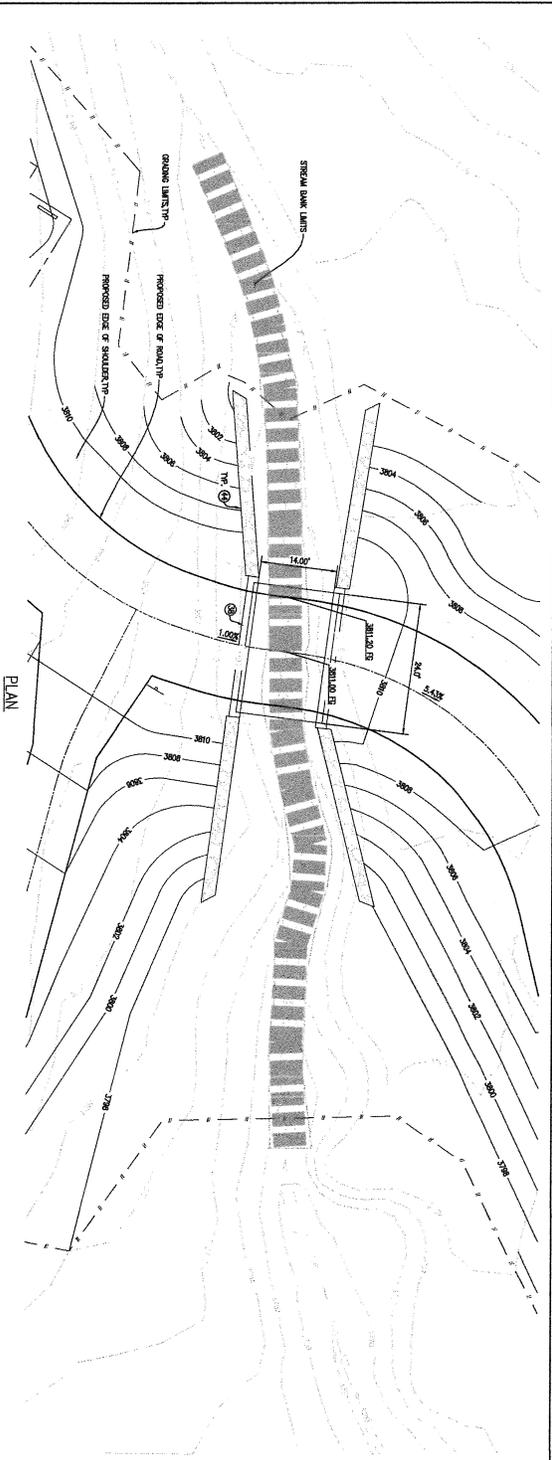
ALSO EXCEPTING THEREFROM Parcel 6223B, said Parcel 6223B being described in said Grant Deed as follows:
Beginning at a point on the above described Line B of Parcel 5351, distant 155.00 feet from the easterly terminus of the above described course (12) of Line B;
thence (18) along said Line B, S81°57'04" E, a Distance of 155.00 feet;
thence (19) S78°01'19" E, a Distance of 196.03 feet;
thence (20) leaving said Line B, S13°13'13" W, a Distance of 50.30 feet;
thence (21) S89°19'02" W, a Distance of 195.71 feet;
thence (22) from a tangent which bears S86°01'10" W, along a curve concave to the northeast, having a radius of 130.00 feet, through a central angle of 86°54'37", an arc length of 197.19 feet, to the Point of Beginning.

The above-described tract of land is subject to any liens, encumbrances, covenants, restrictions and rights-of-way or easements of record or legally acquired.



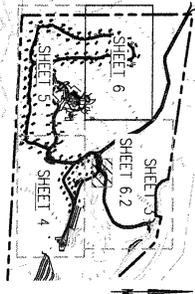
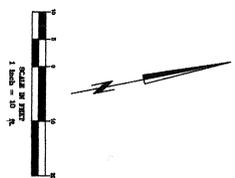
BENCHMARK		BASIS OF BEARING		REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		NUMBER OF RECORDS MADE		DAX CONSULTING INC.		COUNTY OF TUOLUMNE	
				ENGINEERING DEPARTMENT DIVISION	INITIAL	DATE	RECOMMENDED	DATE			4000 PARK GROVANA SUITE 202 PH: (209) 998-8157	YOSEMITE UNDER CANVAS TITLE SHEET	
				PLANNING				DATE					SHEET 11 OF 28
				ENVIRONMENTAL HEALTH				DATE					
					MARK	DATE	INITIAL	DESCRIPTION	REC. APPRO. DATE				
								REVISION					

000543

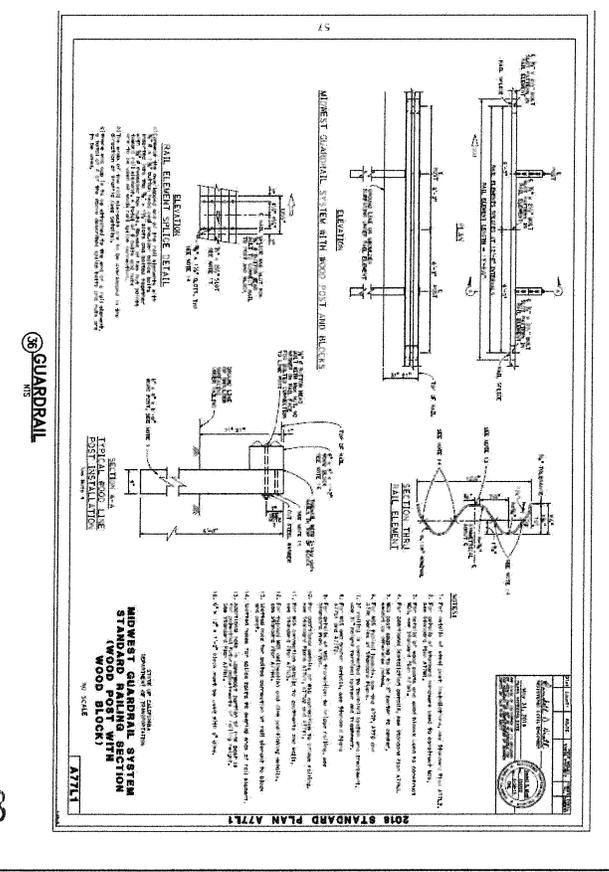
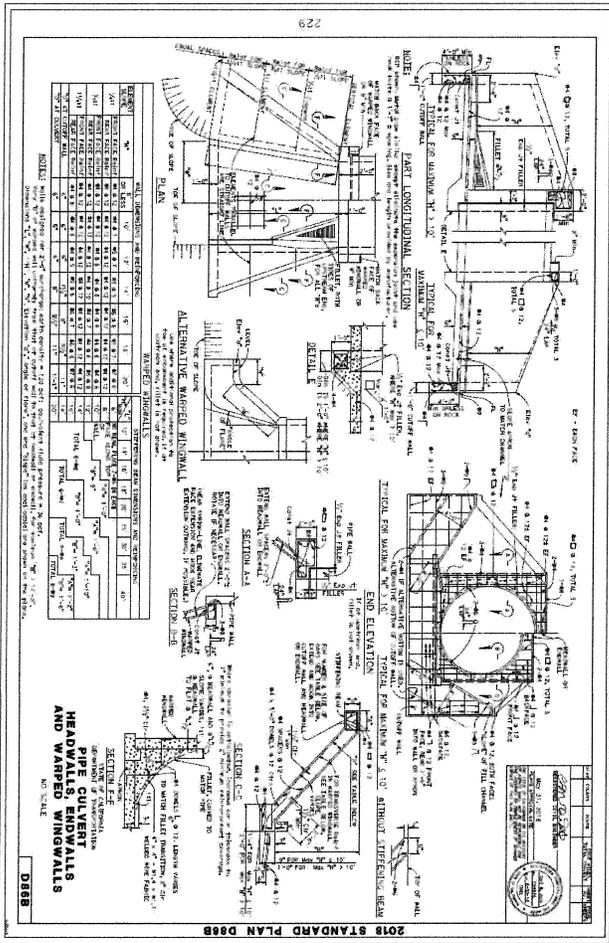


- CONSTRUCTION NOTES**
- ① CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SHEET AS SHOWN
 - ② CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SHEET AS SHOWN

000550



BENCHMARK		BASIS OF BEARING		REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		DAYS OF RECORDS SALE		DAX CONSULTING INC.		COUNTY OF TUOLUMNE	
				OFFICE		RECOMMENDED:		DAX 1887		DATE		YOSEMITE UNDER CANVAS	
				ENGINEERING DEVELOPMENT DIVISION		DATE		UNDER THE SUPERVISION OF:		DATE		DETAIL GRADING PLAN 'B'	
				INITIAL		DATE		DAX 1887		DATE		BRIDGE #2	
				DATE		DATE						SHEET 6.2 OF 28	
				MARK		DESCRIPTION							
				DATE		REVISION							
				INITIAL									
				E.A.R.									
				REVISION									
				DATE									
				APPROVED:									
				DATE									

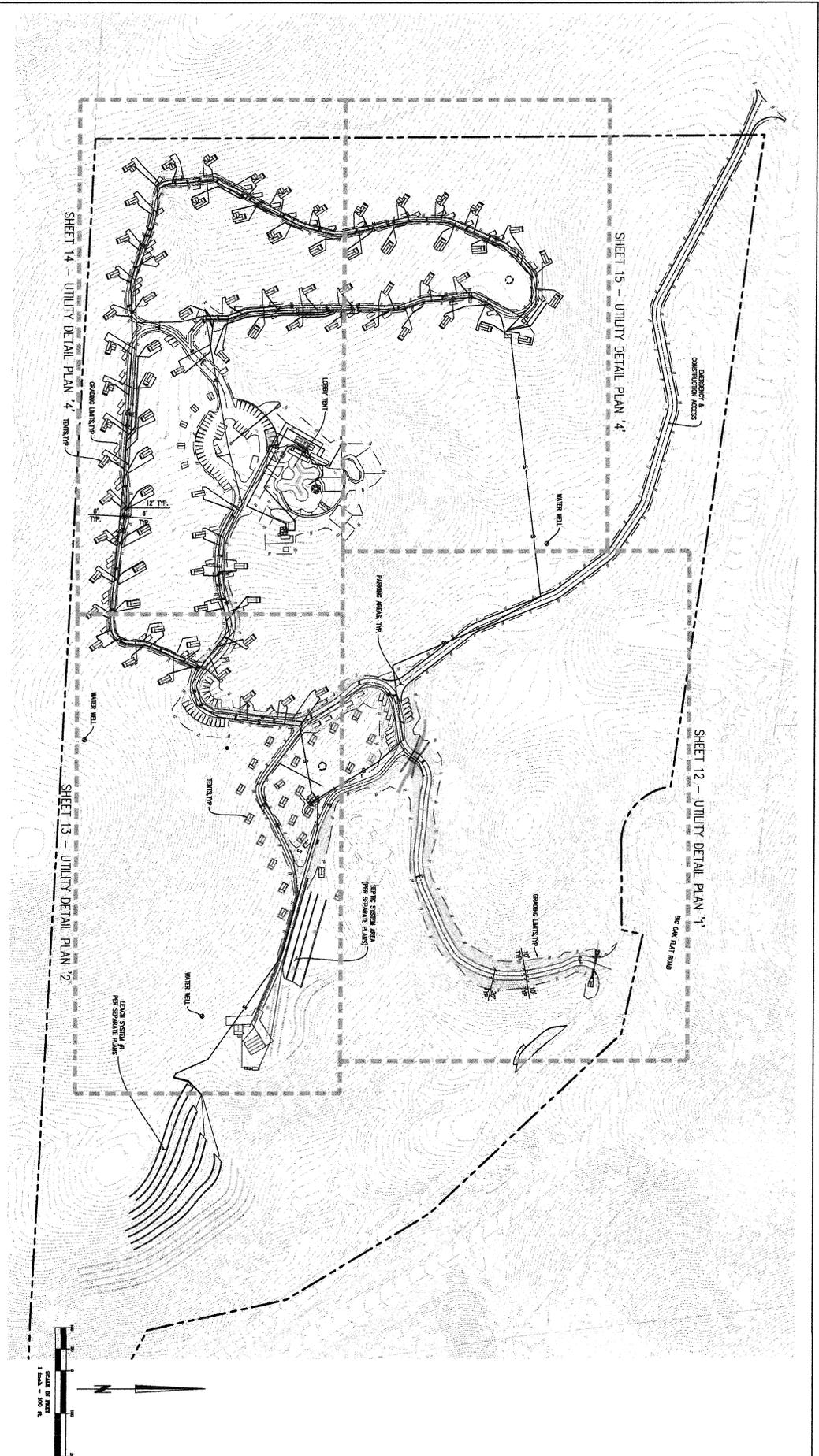


35 PIPE CULVERT HEADWALL

35 GUARDRAIL

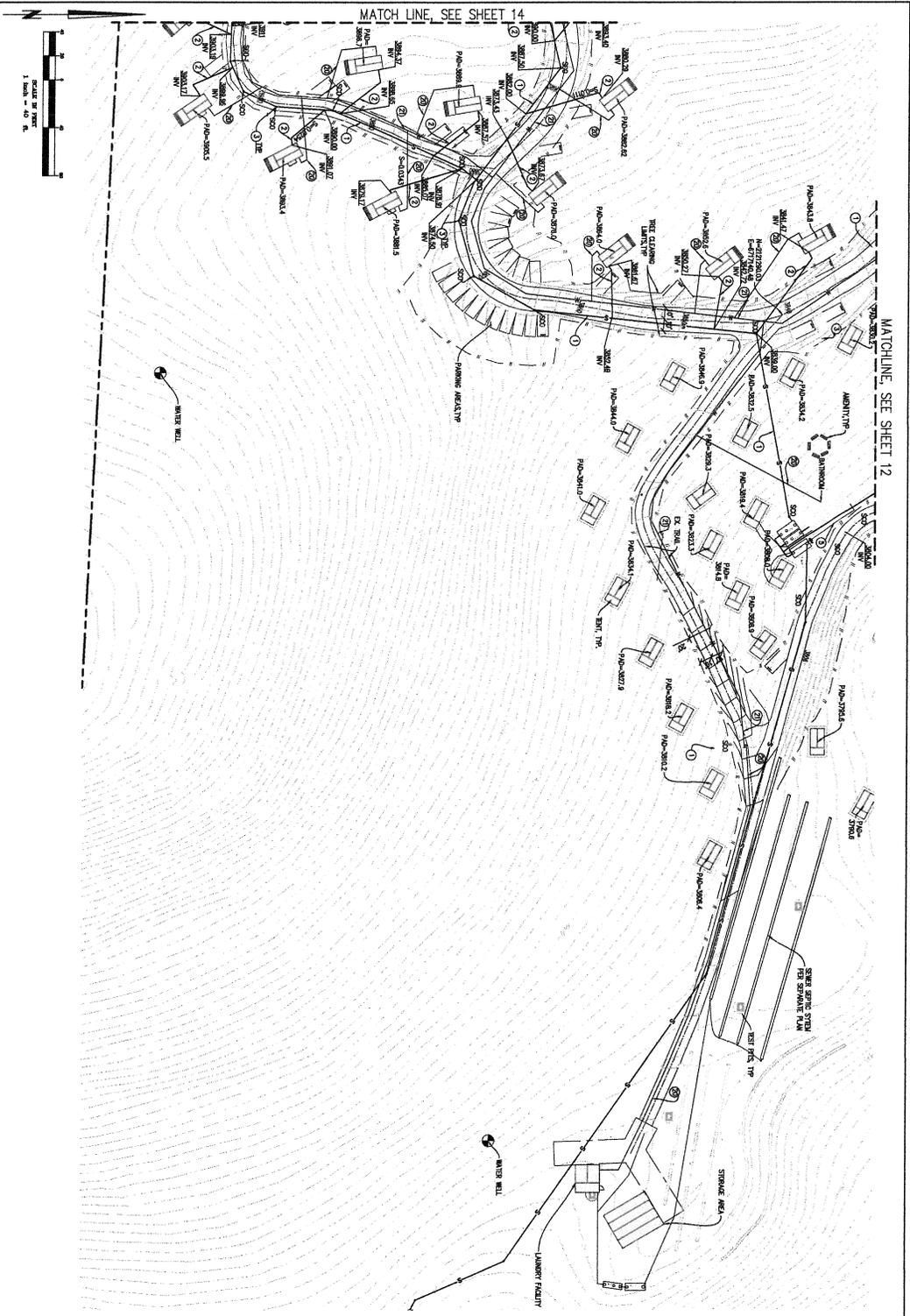
000553

BENCHMARK	BASIS OF BEARING	REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		ENGINEER OF RECORDS SEAL		DAX CONSULTING INC. 4500 PARK GRANDE, SUITE 202 OAKLAND, CA 94612 PH (415) 598-8157 UNDER THE SUPERVISION OF:	COUNTY OF TUOLUMNE YOSEMITE UNDER CANNYS DETAILS	SHEET 71 of 28
		OFFICE	INITIAL	DATE	RECOMMENDED:	DATE	APPROVED:			
		ENGINEERING DEPARTMENT DIVISION								
		PLANNING								
		ENVIRONMENTAL HEALTH								
		MARK	DATE	INITIAL	DESCRIPTION	REQ. APPLD DATE	REVISION			



BENCHMARK	BASIS OF BEARING	REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		DAX CONSULTING INC. 4500 PARK SQUARE, SUITE 202 PALMDALE, CA 91302 PH (310) 598-8157	COUNTY OF TUOLUMNE YOSEMITE UNDER CANNAS OVERALL UTILITY PLAN	SHEET 11 of 28
		OFFICE	INITIAL	DATE	RECOMMENDED:			
		ENGINEERING DEVELOPMENT DIVISION				UNDER THE SUPERVISION OF:		
		PLANNING DIVISION				DRAWN BY:		
		ENVIRONMENTAL HEALTH				DATE:		
			MARK	DATE	INITIAL	DESCRIPTION	REQ. APPL. DATE	
						REVISION		

000597



SEWER NOTES

- 1. MANHOLE # PFC 500 IS SEWER LINE.
- 2. MANHOLE # PFC 500 IS SEWER LINE.
- 3. MANHOLE # PFC 500 IS SEWER LINE.
- 4. MANHOLE # PFC 500 IS SEWER LINE.
- 5. MANHOLE # PFC 500 IS SEWER LINE.

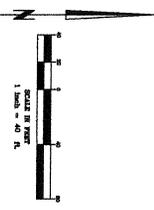
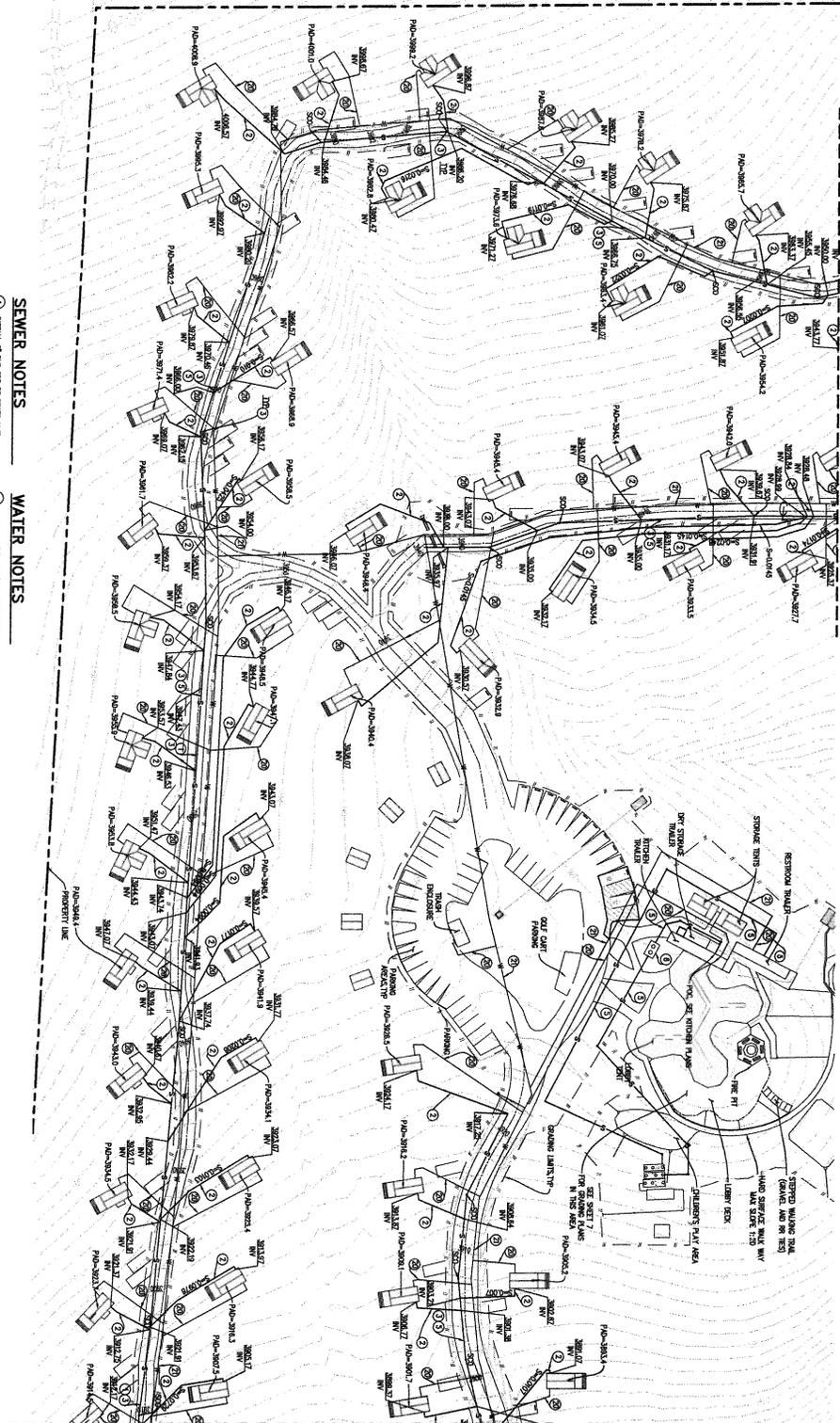
WATER NOTES

- 1. MANHOLE # PFC 500 IS WATER MAIN.
- 2. MANHOLE # PFC 500 IS WATER MAIN.
- 3. MANHOLE # PFC 500 IS WATER MAIN.

BENCHMARK	BASIS OF BEARING	REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		DIGNER OF RECORD'S SEAL	DAY CONSULTING INC. 4500 PARK SQUARE, SUITE 202 CALIFORNIA, CA 91302 PH (916) 596-8157	COUNTY OF TUOLUMNE YOSEMITE UNDER CANNAS DETAIL UTILITY PLAN '2'	SHEET 13 OF 28
		OFFICE	INITIAL	DATE	RECOMMENDED:				
		ENGINEERING DEVELOPMENT DIVISION					APPROVED:		
		PLANNING							
		ENVIRONMENTAL HEALTH							
			MARK	DATE	INITIAL	DESCRIPTION	RECD	APPR	DATE
						REVISION			

000559

MATCHLINE SEE SHEET 15



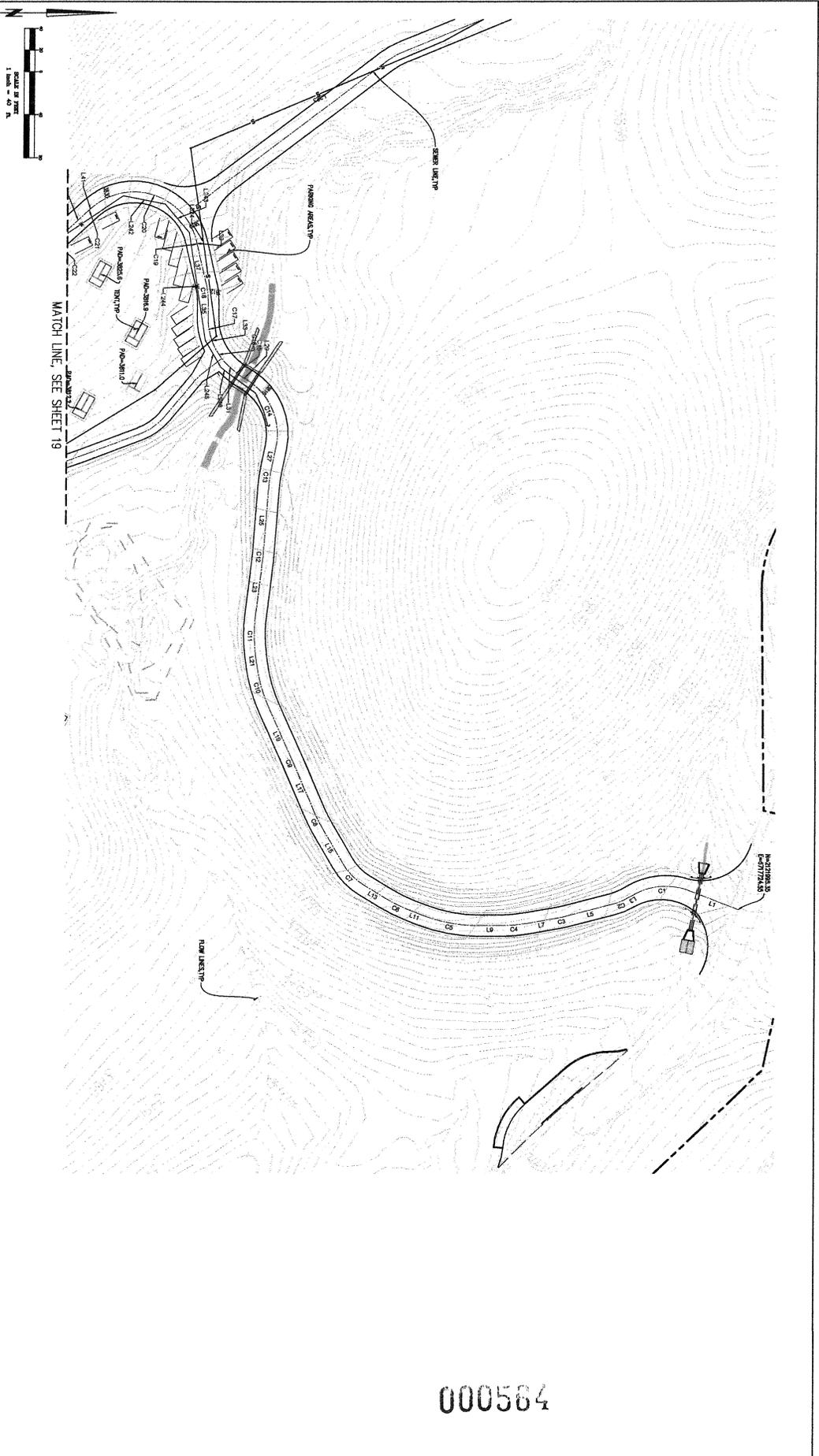
- SEWER NOTES**
- 1 INSTALL 8" PVC SDR 35 SEWER LINE
 - 2 INSTALL 6" PVC SDR 35 SEWER LINE
 - 3 INSTALL 4" PVC SDR 35 SEWER LINE
 - 4 INSTALL 3" PVC SDR 35 SEWER LINE
 - 5 INSTALL 2" PVC SDR 35 SEWER LINE
 - 6 INSTALL 1 1/2" PVC SDR 35 SEWER LINE
 - 7 INSTALL 1" PVC SDR 35 SEWER LINE
 - 8 INSTALL 3/4" PVC SDR 35 SEWER LINE

- WATER NOTES**
- 1 INSTALL 1/2" TYPE 'X' COPPER TUBING WATER SERVICE LINE
 - 2 INSTALL 1/2" TYPE 'X' COPPER TUBING WATER SERVICE LINE
 - 3 INSTALL 1/2" TYPE 'X' COPPER TUBING WATER SERVICE LINE
 - 4 INSTALL 1/2" TYPE 'X' COPPER TUBING WATER SERVICE LINE

BENCHMARK		BASIS OF BEARING		REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		OWNER OF RECORDS SIGN		DAY CONSULTING INC.		COUNTY OF TUOLUMNE	
				INITIAL DATE		RECOMMENDED DATE		DATE		4500 PARK SQUARE, SUITE 202 OAKLAND, CA 94612 PH (510) 598-8157		YOSEMITE UNDER CANYONS DETAIL UTILITY PLAN '3	
				OFFICE		APPROVED:		DATE		UNDER THE SUPERVISION OF:		SHEET 14 of 28	
				PLANNING DIVISION						DATE			
				ENVIRONMENTAL HEALTH						DATE			
				MARK		DESCRIPTION		DATE		DATE			
				DATE		REVISION		DATE		DATE			
				E.O.A.						DATE			

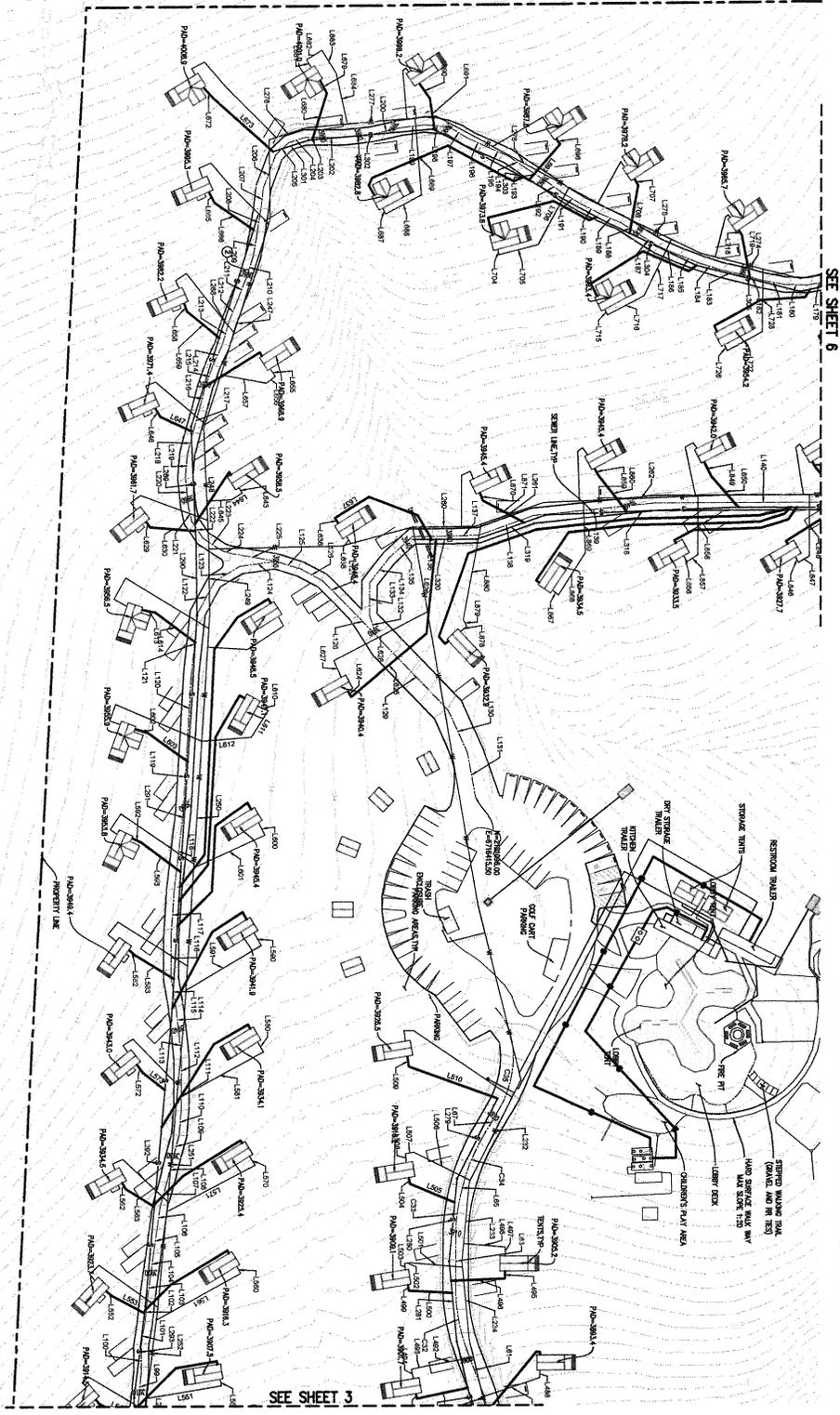
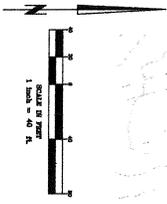
MATCH LINE, SEE SHEET 13

000560



000584

BENCHMARK		BASIS OF BEARING		REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		DIGNER OF RECORD'S SEAL		DAY CONSULTING INC.		COUNTY OF TUOLUMNE	
				OFFICE		RECOMMENDED:		DAY CONSULTING INC.		4800 PARK SQUARE, SUITE 202		YOSEMITE UNDER CANYONS	
				ENGINEERING DEVELOPMENT DIVISION		DATE		UNDER THE SUPERVISION OF:		CALABASKA, CA 91302		HORIZONTAL CONTROL DETAIL PLAN '1'	
				PLANNING DIVISION		DATE		DATE		PH (916) 398-8157		SHEET 18 OF 28	
				ENVIRONMENTAL HEALTH		DATE		DATE					
				MARK		DESCRIPTION		REQ. APPL. DATE					
				DATE		REVISION		DATE					
				E.A.R.									

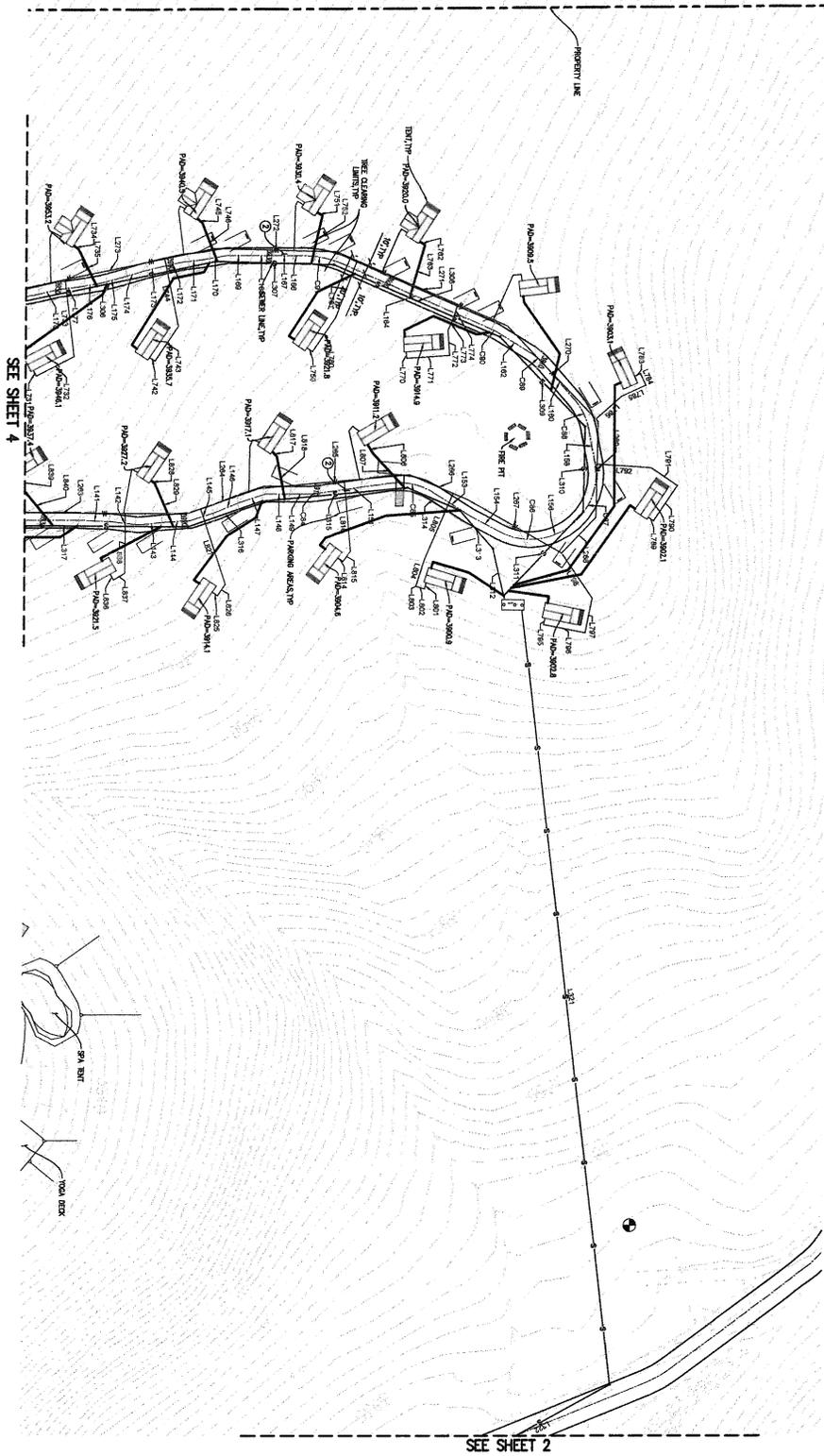


SEE SHEET 6

SEE SHEET 3

000566

BENCHMARK		BASIS OF BEARING REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		ENGINEER OF RECORD'S SEAL		COUNTY OF TUOLUMNE	
OFFICE	DATE	RECOMMENDED:	DATE	APPROVED:	DATE	DAX CONSULTING INC. 4800 DAVIS ROAD MADISON, CALIF. 95758 PH (916) 998-8157		YOSEMITE UNDER CANVAS HORIZONTAL CONTROL DETAIL PLAN '3'	
DESIGNING DEVELOPMENT SYSTEM	INITIAL	REVISION	DATE	DATE	DATE	UNDER THE SUPERVISION OF:			
ENVIRONMENTAL SEAL:		DESCRIPTION	REQ. DATE	APPROVED:	DATE	DAX 1997			
		MARK	DATE	INITIAL	DATE				
		EQP	REVISION					SHEET 20 OF 28	



SEE SHEET 4

SEE SHEET 2

000567

BENCHMARK	BASIS OF BEARING	REVIEW BY TUOLUMNE COUNTY		TUOLUMNE COUNTY APPROVALS		OWNER OF RECORD'S SEAL	DAX CONSULTING INC. 4600 PARK GRANDWAY SUITE 202 OAKLAND, CA 94612 PH (510) 596-8187	Yosemite Under Canyons HORIZONTAL CONTROL DETAIL PLAN '4'	SHEET 21 of 28
		ENGINEERING DEVELOPMENT DIVISION	INITIAL	DATE	RECOMMENDED:				
		PLANNING DIVISION			APPROVED:				
		ENVIRONMENTAL HEALTH							
			MARK	DATE	INITIAL	DESCRIPTION	REEL	APPROL DATE	
					FOR	REVISION			

