



DEPARTMENT OF PUBLIC WORKS
COUNTY OF HUMBOLDT
 MAILING ADDRESS: 1106 SECOND STREET, EUREKA, CA 95501-0579
 AREA CODE 707

EP 22108

On-line
 Web: humboldt.gov

Public Works Building Second & L St., Eureka Fax 445-7409	
Administration	445-7491
Business	445-7652
Engineering	445-7377
Facility Management	445-7621
Natural Resources	445-7741
Natural Resource Planning	267-9542
Parks	445-7651
Roads	445-7421

Clark Complex Harris & H St., Eureka Fax 445-7388	
Land Use	445-7205

ENCROACHMENT PERMIT

PERMITTEE: PATCO LOGGING, LLC
ADDRESS: P.O. BOX 261
 HYDESVILLE, CA 95547

PERMIT NO. EP 22108

DATE ISSUED: 11/02/2022
EXPIRATION: 12/31/2023

 In response to your project request received 9/28/2022 and subject to all the terms, conditions, and restrictions written below or printed as general or special provisions on any part of this form and/or attachments, permission is hereby granted, as per the attached special and general provisions and the Humboldt County Code Title IV, Division 1, pertaining to the protection and control of County roads, to perform the following work:

Removal of trees and grading as needed and to construct a rock surfaced turnaround to County standards at the new end of the County maintained portion of Fisher Road (4G070) fronting APN 204-241-008 (#4134).

Note: A rock surfaced turnaround is a condition of vacating a portion of Fisher Road, Project # 322039. Actual work is to take place outside of the county maintained right of way.

If any conflicts occur between this permit and the submitted plans, the conditions of this permit shall prevail.

***ALL WORK AUTHORIZED BY THIS PERMIT SHALL BE PERFORMED BY
 AN "A" OR APPROPRIATELY LICENSED CONTRACTOR***

This permit is revocable, at the discretion of the Department of Public Works, upon written notice by US mail to the address of Permittee subject to nonconformance of this permit.

In accordance with the California Streets and Highways Code, §1463: All Permits are revocable on five (5) days' notice and the encroachment must be removed or relocated as may be specified by the road commissioner in the notice revoking the permit and within a reasonable time specified by the road commissioner unless the permit provides a specified time.

SPECIFIC REQUIREMENTS:

Permittee shall be responsible for contacting the Department of Public Works for the scheduling of all required inspections (i.e. concrete forms, driveways and trenches prior to (re)surfacing, trench backfill) or as specifically stated within this permit. Permittee shall provide notification of project completion to the Department.

- (1) This permit is to be strictly complied with and no work other than that specifically mentioned is authorized hereby.
- (2) The turnaround shall be constructed as per submitted plans by Ontiveros & Associated titled "Exhibit B Fisher Road Turnaround Easement" dated 9/22/2022. Any deviation from said plans shall be approved by the Department of Public Works **PRIOR to construction.**
- (3) The turnaround be sufficiently rocked [minimum four inches (4")] in order to create an all weather driving surface and to keep all earthen materials off the County road.
- (4) During construction, roadways shall be periodically cleaned of mud, soil, rock, and debris. No construction materials or debris shall be placed within County right of way during the project.
- (5) Permittee shall be responsible to correct any involved drainage problems to the satisfaction of the Department of Public Works.
- (6) No runoff drainage from the driveway or building site shall be channeled or directed to flow across any public sidewalk or the traveled section of the County roadway. Drainage shall be contained at the edge of the County road surface.
- (7) Permittee shall be responsible for all traffic control and safety at all work locations in a manner satisfactory to the Department of Public Works. Traffic control operations shall conform to **California Manual on Uniform Traffic Control Devices for Streets and Highways** (FHWA's MUTCD 2009 Edition, as amended for use in California), March 30, 2021, or latest edition, and to the satisfaction of the Department of Public Works. Warning and flagging of motorists at work locations shall be conducted **AT ALL TIMES** by properly trained personnel.
- Permittee shall use Caltrans 2018 Standard Plan T13 with T9 for a traffic control plan, when applicable, for closing one traffic lane, see attachment.
 - Permittee shall use CAMUTCD Figure 6H-6, Titled "Shoulder Work with Minor Encroachment (TA-6)", when applicable, for working outside of the travelway and not affecting normal vehicle traffic, see attachment.
 - Conditions requiring a traffic control plan other than Caltrans T13 with T9 or Fig 6H-6 will require submittal and Public Works approval of a traffic control plan prepared by a Registered Civil Engineer (or Traffic Engineer).
- (8) Only one (1) lane of traffic shall be closed at any time during construction or installation. **NO COMPLETE ROAD CLOSURE** is authorized under this permit.
- (9) No work is authorized under this permit during wet weather periods, as determined by the Department of Public Works, without submittal and approval by the Department of Public Works of an erosion and sediment control plan. The plan shall be implemented for construction activities conducted between October 15 and April 15. It shall be at the discretion of the Department of Public Works to authorize work within County right of way during said period of time.
- (10) PERMITTEE must contact the local Community Services District (or utility providers) prior to construction of frontage improvements to locate and/or install cleanout access, meter boxes, etc. that the Community Services District requires to be placed within the above frontage improvements.

Any utility conflicts encountered during construction shall be forwarded to the County, the Community Services District, and the Contractor for resolution.

(11) PERMITTEE is responsible for preservation and/or perpetuation of all existing monuments which control subdivisions, tracts, boundaries, streets, highways, or other rights-of-way, easements or provide survey control which will be disturbed or removed due to PERMITTEE'S work. PERMITTEE shall provide a minimum of ten (10) working days notice to project engineer/surveyor prior to possible disturbance or removal of existing monuments. PERMITTEE shall coordinate with Project engineer/surveyor to reset monuments or provide permanent witness monuments and file the required documentation with the County Surveyor pursuant Business and Professions Code Section 8771.

If any work is closer than seven feet (7') from monument, PERMITTEE shall call COUNTY Surveyor (445-7205). PERMITTEE may be required to consult with a licensed surveyor to set reference points and file a Corner Record.

(12) All affected utilities shall be contacted prior to any excavation work. Permittee shall notify U.S.A. - Underground Service Alert - at 1-800-227-2600. **Any utility conflicts shall be forwarded to the project engineer and this office for review prior to construction commencing.**

Note that the County does not participate in the U.S.A. program. Therefore, Permittee is responsible to research, locate, and protect any County maintained facilities that may be within the work area. Contact Public Works - Roads Division (445-7421) for assistance locating County maintained facilities. Typically, these facilities include, but are not limited to, storm drain structures, traffic signal loop detectors, and traffic signal conduit.

(13) Permittee shall contact this office at 445-7205 to schedule an on-site inspection when all work has been completed and this permit is ready to final.

(14) Any damage to existing County road improvements (i.e., adjacent curb and gutter, drainage structures, road surface, etc.) shall be repaired or replaced by Permittee to the satisfaction of the Department of Public Works. Damages will be reported promptly to the Department of Public Works.

(15) This permit may be extended for a fee not less than the Board of Supervisors latest adopted ordinance for charges of service. Please contact this office **prior** to the expiration date of the current permit.

(16) Permittee shall comply with Permit General Provisions and Public Safety attachments.

(17) This permit shall not be executed by the Department of Public Works until certificates or other sufficient proof that these insurance provisions have been complied with are received by the Department of Public Works.

(18) Permittee is responsible to obtain and comply with any other permits necessary for the project. Such permits may include, but are not limited to, those issued by County of Humboldt, Community Development Services - Planning Division; County of Humboldt, Community Development Services - Building Division; California Department of Fish and Game; State of California Department of Transportation (Caltrans); Army Corps of Engineers; etc.

(19) Humboldt County staff are not responsible for the review of vesting or title to property or any easements associated with the subject property, nor do staff review survey information or provide opinions or legal advice about boundaries or soundness of title. If title to property or boundaries are misrepresented to staff, permits may be revoked or a stop work order issued.

(20) **This permit is not valid until all other permits for the project have been issued.** The Department of Public Works will issue a stop work order if work commences without all other required permits properly issued.

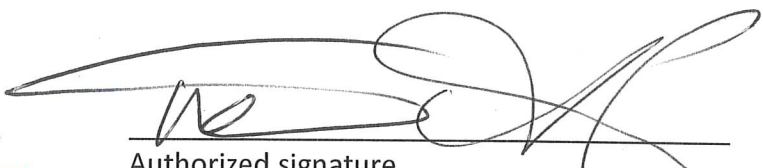
(21) Permittee, the land owner or an authorized agent of the land owner for which this permit is issued, hereby recognizes and accepts the terms of this permit by authorized signature below.

COUNTY OF HUMBOLDT BY:

PERMITTEE:



Erin Cearley, Engineering Technician
Land Use Division
3015 H Street
Eureka, CA 95501
(707) 445-7205



Authorized signature
Kelly Patton Shirley Patton
Print name
Date 11/2/22 1/2/22

cc: Wayne Tomasini, Road Crew Supervisor, Steve Finch, Road Division Superintendent
Roads Dispatch; Deputy Director-Roads

***Fee paid through vacation project #322039**

Attachments – Insurance Requirements, Exhibit B, General and Special Provisions, Public Safety, Hold Harmless/Indemnification, Caltrans 2018 Standard Plans T9, T13, and 2014 CAMUTCD Figure 6H-6

INSURANCE REQUIREMENTS

THIS PERMIT SHALL NOT BE EXECUTED BY COUNTY and PERMITTEE/CONTRACTOR are not entitled to any rights, unless certificates of insurance, or other sufficient proof that the following provisions have been complied with, and such certificate(s) are filed with the Clerk of the Humboldt County Board of Supervisors.

Without limiting PERMITTEE/CONTRACTOR'S indemnification provided herein, PERMITTEE/CONTRACTOR shall and shall require any of its subcontractors to take out and maintain, throughout the period of this permit, the following policies of insurance placed with insurers with a current A.M. Bests rating of no less than A:VII or its equivalent against injury/death to persons or damage to property which may arise from or in connection with the activities hereunder of PERMITTEE/CONTRACTOR, its agents, employees, or subcontractors:

1. Comprehensive or Commercial General Liability Insurance at least as broad as Insurance Services Office Commercial General Liability coverage (occurrence form CG0001), in an amount of \$2,000,000 per occurrence. If work involves explosive, underground or collapse risks, XCU must be included. If a general aggregate limit is used, either the general aggregate limit shall apply separately to this project or the general aggregate shall be twice the required occurrence limit. Said policy shall contain, or be endorsed with, the following provisions:
 - a. COUNTY, its officers, employees, and agents, are covered as additional insured for liability arising out of the operations performed by or on behalf of PERMITTEE/CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to COUNTY, its officers, agents, and employees.
 - b. The policy shall not be canceled or materially reduced in coverage without thirty (30) days prior written notice (10 days for non-payment of the premium) to COUNTY by certified mail.
 - c. The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured, and the coverage afforded shall apply as though separate policies had been issued to each insured, but the inclusion of more than one insured shall not operate to increase the limits of the insurer's liability.
 - d. For claims related to this project, PERMITTEE/CONTRACTOR'S insurance is primary coverage to COUNTY, and any insurance or self-insurance programs maintained by COUNTY are excess to PERMITTEE/CONTRACTOR'S insurance and will not be called upon to contribute with it.
2. Any failure to comply with reporting or other provisions of the parties, including breach of warranties, shall not affect coverage provided to COUNTY, its officers, employees and agents. PERMITTEE/CONTRACTOR shall furnish COUNTY with certificates and original endorsements effecting the required coverage prior to execution of this permit by COUNTY. The endorsements shall be on forms as approved by the County Risk Manager or County Counsel. Any deductible or self-insured retention over \$100,000 shall be disclosed to and approved by COUNTY. If PERMITTEE/CONTRACTOR does not keep all required policies in full force and effect, COUNTY may, in addition to other remedies under this permit, take out the necessary insurance, and PERMITTEE/CONTRACTOR agree to pay the cost of said insurance. All coverage shall be with insurance carriers licensed and admitted to do business in California. All coverage shall be with insurance carriers acceptable to COUNTY.

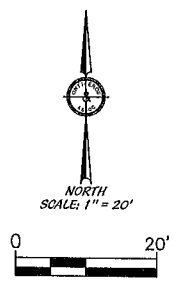
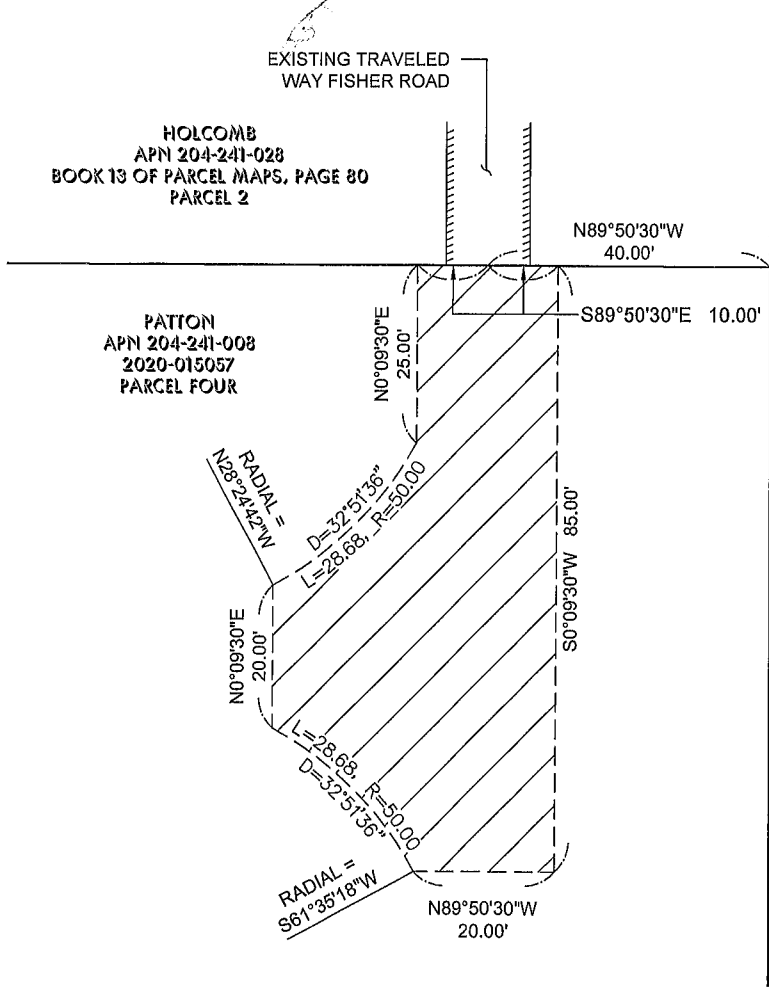
Questions concerning insurance requirements shall be directed to the County Risk Manager at 707-268-3669.

EXHIBIT B FISHER ROAD TURNAROUND EASEMENT

Section 21 & 28, T2N, R1E Humboldt Meridian
Basis of Bearings is Book 13 of Parcel Maps, Page 80



K. Johnston
Kenneth R. Johnston, PLS 9194
Dated 9/22/2022



ONTIVEROS & ASSOCIATES, INC.
CONSULTING ENGINEERS AND SURVEYORS
FORTUNA, CA
(707)-725-7410

GENERAL PROVISIONS

DEFINITION - This permit is issued in accordance with the Encroachment Permit Ordinance #896 and any amendments thereof. This permit is revocable on notice by the Director of Public Works.

ACCEPTANCE OF PROVISIONS - It is understood and agreed by the Permittee that the doing of any work under this permit shall constitute an acceptance of the conditions and provisions relative to the permit.

NO PRECEDENT ESTABLISHED - This permit is granted with the understanding that this action is not to be considered as establishing any precedent on the question of the expediency of permitting any certain kind of encroachment to be erected within right of way of County highways.

NOTICE PRIOR TO STARTING WORK - The Department of Public Works shall be notified 24 hours in advance of pouring concrete to permit inspection of subgrade and forms.

KEEP PERMIT ON SITE - This permit shall be kept at the work site and must be shown to any representative of the Grantor or any law enforcement officer on demand.

PROTECTION OF TRAFFIC - Adequate provision shall be made for the protection of the traveling public. Barricades shall be placed with amber lights at night, also flagmen employed, all as may be required by the County for the particular work in progress.

MINIMUM INTERFERENCE WITH TRAFFIC - All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public.

STORAGE OF MATERIAL - No material shall be stored within 8 feet from the edge of pavement or graveled way or within the shoulder line when the shoulders are wider than 8 feet, unless specifically authorized by this permit.

CLEAN UP - Upon completion of the work, all brush, timber, scraps, and materials shall be entirely removed and the right of way left in as presentable a condition as before work started.

STANDARDS OF CONSTRUCTION - All work shall conform to the State of California Standard Specifications and County standards.

FUTURE MOVING OF INSTALLATION - It is understood by the Permittee that the installation authorized herein shall, upon demand of the Director of Public Works, be relocated by and at the sole expense of the Permittee whenever construction, reconstruction, or maintenance on the highway may require such relocation. The Permittee must complete such relocation within the time specified in said demand.

CARE OF DRAINAGE - Permittee shall undertake such measures to prevent interference with established drainage as may be required by the Director of Public Works.

EXCAVATION - All excavation shall comply with the provisions of Chapter 3, Article 2, Section 320, of the Encroachment Permit Ordinance #896.

BACKFILL - Backfill in all trenches shall comply with the provisions of Chapter 3, Article 2, Section 321, of the Encroachment Permit Ordinance #896.

LOCATION - The shallowest portion of any pipeline or other facility shall be installed not less than 30 inches below the roadway surface, or one foot below the flow line of any drainage structure, pipe, ditch, or creek.

CURB, GUTTERS, AND SIDEWALK - Shall comply with the provisions of Chapter 3, Article 3, of Encroachment Permit Ordinance #896 and any amendments thereof.

DEFAULT OF PERMITTEE - By applying for and obtaining a permit, the Permittee agrees that if the Permittee fails to comply with the terms of the Permit, the County may elect to perform and complete the work by any method the Director deems appropriate. The Permittee shall reimburse the County for the full cost of the work at the then current Associated General Contractor's Cost Schedule for such work.

SPECIAL PROVISIONS

1. In constructing the driveway, no equipment that will damage the surface of the roadway shall be used.
2. The driveway shall be located at least 3 feet from the side property line and at least 3 feet from the centerline of any utility facility such as fire hydrants, power poles, etc.
3. The driveway(s) shall intersect the County road at a 90 degree angle. Driveway grade shall not exceed two percent (2%) for the first 25 feet commencing from the edge of the traveled way of the County road, shall have a minimum of 4 inches of aggregate base, and shall be surfaced by means of a seal coat or 2 inches of Type B asphalt concrete surfacing.
4. The driveway approach shall conform to the enclosed typical section for private driveway intersections.
5. Other conditions regarding Public Safety and Liability are included in the attached exhibits.

PUBLIC SAFETY

1. The Permittee in the conduct of work shall provide, erect, or maintain the lights, barriers, warning signs, and other safeguards necessary to protect the traveling public in accordance with Section 21406 of the California Vehicle Code. If at any time the Director of Public Works finds that suitable safeguards are not being provided, the County shall provide, erect, and/or maintain the safeguards deemed necessary. The Permittee shall reimburse the County for all expenses incurred by County providing, erecting, and maintaining the safeguards deemed necessary by the Director of Public Works.
2. All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public. Permittee is authorized to place flagmen to stop and warn traffic for necessary protection to public safety, but traffic shall not be unreasonably delayed. Complete closure of the road shall not be permitted unless authorized in writing by the Director of Public Works.

HOLD HARMLESS/INDEMNIFICATION

The Permittee shall agree to indemnify and hold harmless the County and each of its officers and employees from any liability or responsibility for accident, loss, or damage to persons or property arising by reason of the work done by the Permittee, or its agents, employees, or representatives. The Permittee shall, at its own expense, cost, and risk, defend any and all actions, suits, or other legal proceedings that may be brought or instituted against the County, its officers, or employees and pay or satisfy any judgment that may be rendered against the County and its officers or employees in any such action, suit, or legal proceedings arising by reason of the work done by the Permittee, its agents, employees, or representatives.

DATE	COUNTY	ROUTE	TOTAL SHEETS	SHEET NO.	TOTAL PROJECT SHEETS

Atifa Farooq
 REGISTERED CIVIL ENGINEER
 MAY 31, 2018
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICES
 DO NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF ISSUED
 COPIES OF THIS PLAN SHEET.

TABLE 3

ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

TABLE 2

SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
20	115	116	120	126
25	155	156	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891
75	820	866	927	1003

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing and longer than 1 mile.
 *** - Use on sustained downgrade steeper than -3 percent

TABLE 1

SPEED (S)	TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING						
	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)			MAXIMUM CHANNELIZING DEVICE SPACING			
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X TAPER	Y TANGENT	Z ** CONFLICT
20	80	40	27	20	40	10	10
25	125	63	42	25	50	12	15
30	180	90	60	30	60	15	17
35	245	123	82	35	70	17	17
40	320	160	107	40	80	20	20
45	400	210	140	45	90	22	22
50	500	270	180	50	100	25	25
55	600	330	220	55	100	25	25
60	720	390	260	50	100	25	25
65	840	450	300	50	100	25	25
70	960	510	340	50	100	25	25
75	1080	570	380	50	100	25	25

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS/760$
 For speed of 45 mph or more, $L = WS$
 Where: L = Taper length in feet
 W = Width of offset in feet
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**
 NO SCALE

T9

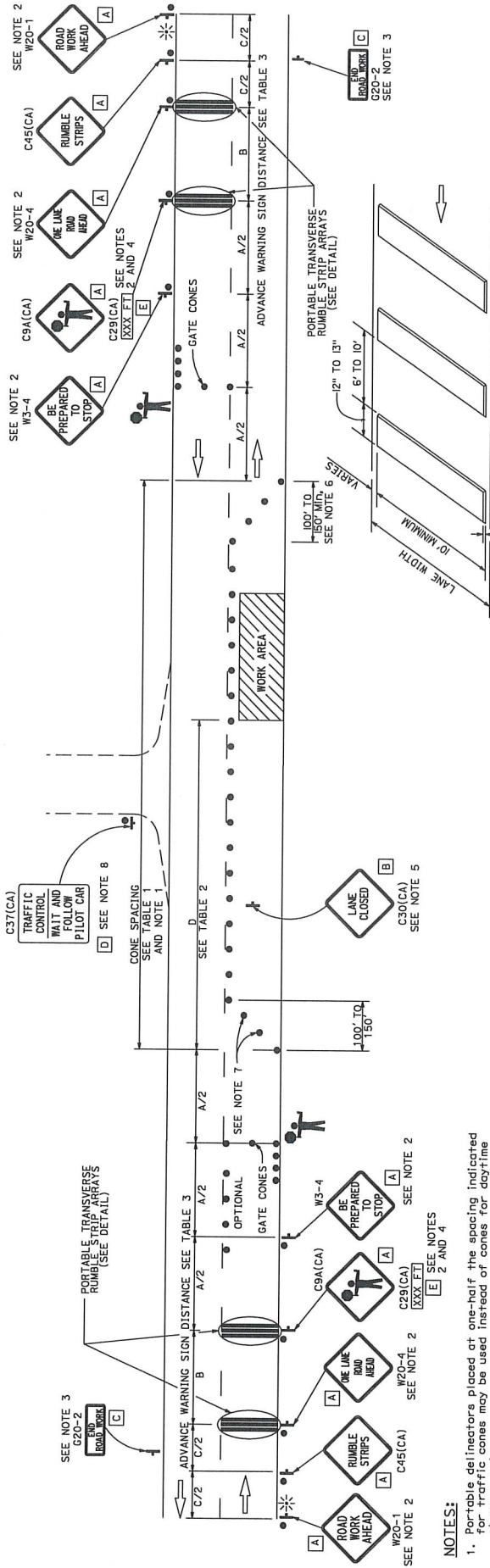
DISTRICT COUNTY ROUTE POST MILES SHEET TOTAL
 TOTAL PROJECT SHEETS
 NO. NO.

REGISTERED CIVIL ENGINEER
 MSV 31, 2018
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS
 DO NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF ANY
 PORTION OF THIS PLAN SHEET.

PROFESSIONAL ENGINEER
 11116 E. 11th ST.
 CHICO, CA 95926
 CIVIL

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

NOTES:
 See Standard Plan T9 for tables.
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
 Provide at least one person to continuously maintain traffic control devices for lane closures.



LEGEND
 • TRAFFIC CONE
 † TEMPORARY TRAFFIC CONTROL SIGN
 ✨ PORTABLE FLASHING BEACON
 FLAGGER

SIGN PANEL SIZE (min.)
 A 48" x 48"
 B 30" x 30"
 C 36" x 18"
 D 36" x 42"
 E 20" x 7"

**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 TWO LANE CONVENTIONAL
 HIGHWAYS**
 NO SCALE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

T13

- NOTES:**
 1. Portable delineators placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
 2. Each advance warning sign shall be equipped with at least one flashing beacon. Each rig shall be at least 16" x 16" in size and shall be color coordinated in the arrangement in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 3. A G20-2 "END ROAD WORK" sign, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within the larger project's limits.
 4. An optional C29(CA) sign may be placed below the C9A(CA) sign.
 5. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work area. They are optional if the work area is visible from the flagger station.
 6. Length may be reduced by the Engineer to address site conditions.
 7. Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
 8. When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL - WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within the traffic control area.

Notes for Figure 6H-6—Typical Application 6 Shoulder Work with Minor Encroachment

Guidance:

1. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.
2. The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.

Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. **Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.**
12. **Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.**
13. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

Guidance:

14. All advance warning signs should be placed so that the path of travel for bicycles is not blocked, while maintaining visibility for road users.
15. When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, the Bicycle Warning (W11-1) sign and the SHARE THE ROAD (W16-1P) plaque should be used to advise motorists of the presence of bicyclists in the travel way lanes.
16. Except for short durations and mobile operations, when a highway shoulder is occupied and bicyclists would be sharing a lane with vehicular traffic, as a result of the TTC zone, speed reduction countermeasures should be used to reduce traffic speeds in the TTC zone. Refer to Sections 6C.01 and 6D.03.
17. Except for short durations and mobile operations, when a highway shoulder is occupied and bicyclists would be sharing a lane with vehicular traffic, as a result of the TTC zone, before narrowing the outside lane other measures such as widening the outside shoulder to allow bicyclists and motor vehicles to travel side by side through the TTC zone should be considered.
18. If traffic volumes make it feasible, the two left lanes should be merged into one lane to avoid using the shoulder as a traveled way lane and allowing continued use for emergency purposes and bicycle travel.
19. When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, a separate path should be considered for bicyclists.

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

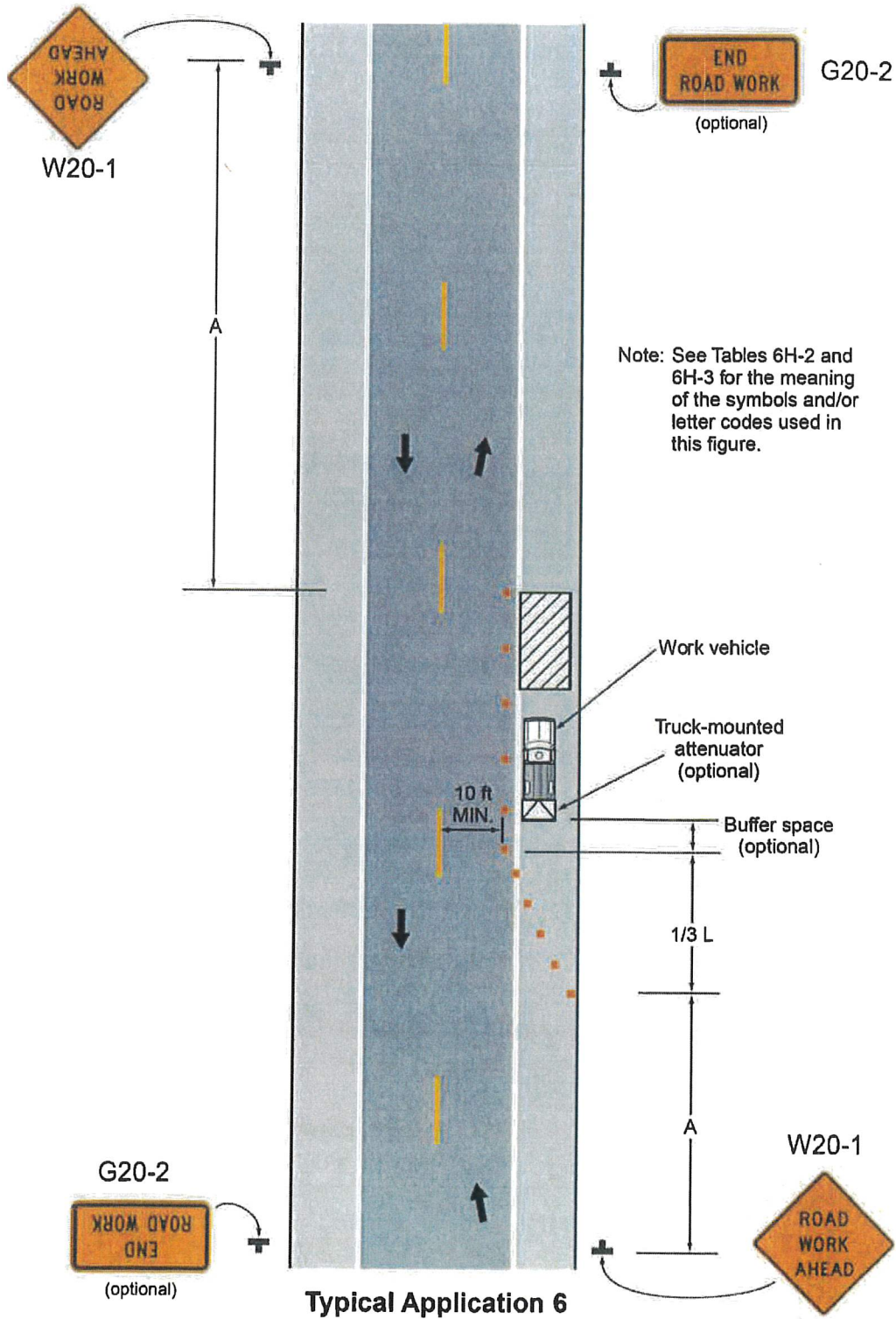


Table 6H-1(CA). Index to Typical Applications

Typical Application Description	Typical Application Number
Work affecting Pedestrian and Bicycle Facilities (see Section 6G.05)	
Shoulder Closure on Urban (Low Speed) Locations to Accommodate Bicyclists	TA-101(CA)
Lane Closure on Freeway, Expressway, Rural and Urban (High Speed) Locations to Accommodate Bicyclists	TA-102(CA)
Detour for Bike Lane on Roads with Closure of One Travel Direction	TA-103(CA)
Right Lane and Bike Lane Closure on Far Side of Intersection	TA-104(CA)
Work Within the Traveled Way of a Two-Lane Highway (see Section 6G.10)	
Lane Shift on Road with Low Traffic Volumes	TA-105(CA)

Table 6H-2. Meaning of Symbols on Typical Application Diagrams
























	Arrow board		Shadow vehicle
	Arrow board support or trailer (shown facing down)		Sign (shown facing left)
	Changeable message sign or support trailer		Surveyor
	Channelizing device		Temporary barrier
	Crash cushion		Temporary barrier with warning light
	Direction of temporary traffic detour		Traffic or pedestrian signal
	Direction of traffic		Truck-mounted attenuator
	Flagger		Type 3 barricade
	High-level warning device (Flag tree)		Warning light
	Longitudinal channelizing device		Work space
	Luminaire		Work vehicle
	Pavement markings that should be removed for a long-term project		

Table 6H-3. Recommended Advance Warning Sign ~~Minimum~~ Spacing

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed) - 25 mph or less***	100 feet	100 feet	100 feet
Urban - more than 25 mph to 40 mph***	250 feet	250 feet	250 feet
Urban (high speed) - more than 40 mph***	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

- * ~~Speed category to be determined by the highway agency.~~
- ** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)
- *** Posted speed limit, off-peak 85th-percentile speed prior to work starting, or other anticipated operating speed in mph.

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

**Table 6H-4(CA). Taper Length Criteria for Temporary Traffic Control Zones
 (for 12 feet Offset Width)**

Speed* S (mph)	Minimum Taper Length** for Width of Offset 12 feet (W)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet)***
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50
75	900	450	300	50

* - Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

** - For other offsets use the following merging taper length formula for L:

For speeds of 40 mph or less, $L=WS^2/60$

For speeds of 45 mph or more, $L=WS$

Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

*** - Maximum downstream taper length is 100 feet. See Section 6C.08.