COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS
P.0. BOX 1810-1810 E. HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
(209) 468-3000
FAX # (209) 468-9324

Permit No: **PS-1401609**
Date Issued: 06/05/2014
Exp. Date: 07/01/2014
Project No: PWP110005
Quad: NW

UE/CR/PM NO:PM31019415

ENCROACHMENT PERMIT

To: PACIFIC GAS & ELECTRIC - STOCKTON
PO BOX 930
STOCKTON, CA 95201

Encroachment Type:

Bell Hole	Bore (up to 12 inch Dia)	Trench	

Location:
N/S OF MARLETTE RD. 100' E/O LOWER SACRAMENTO RD.

In compliance with your request of **06/05/2014**, permission is hereby granted to do work in County right-of-way as shown on attached application and subject to all the terms, conditions and restrictions written below or printed as general or special provisions on any part of this form. See reverse side and attached sheet, if any.

Trench excavations for service connections will not be permitted within ten feet (10') of pavement centerline unless otherwise approved by the Director. Surface of trench patches shall match in kind and be smooth and even with that of abutting surface. Special attention shall be given to depth of utilities through roadside area in anticipation of future drainage facilities, road profile and/or frontage development. All underground utility facilities are to be established and accurately dimensioned on sketches from surveyed centerline of road right of way, or from right of way (border) lines.

Permittee shall call the Department of Public Works, Field Engineering Division (Permit Inspections) at (209)953-7421 at least forty-eight hours prior to beginning any work within the County right of way. All work performed under this permit shall conform to the rules and regulations pertaining to safety established by the California Division of Industrial Safety and Cal-OSHA.

The jobsite shall be kept in a safe condition at all times by the daily removal of any excess dirt or debris which might be a hazard to either pedestrian or automobile traffic. All necessary traffic convenience and warning devices and personnel shall be provided, placed and maintained by and at the sole expense of the Permittee in accordance with the latest edition of the CALTRANS Manual of Traffic Control.

After completion of the work permitted herein, all debris, lumber, barricades, or any excess material shall be removed and the jobsite left in a neat workmanlike manner. Immediately following completion of construction permitted herein, Permittee shall fill out and mail notice of completion (see attached post card) provided by Grantor.

Special Comments:
Traffic Control Per MUTCD

FORMS:

SS/WW, R-29	TRENCH POLICY	

Est. Permit Fee: $1,022.75

THOMAS M. GAU, Director
Department of Public Works

By: _____
Permit Section

WHITE	-Permittee
GOLDENROD	-PWD Central File
YELLOW	-Field Inspection
PINK	-Permit Section

ENCROACHMENT PERMIT GENERAL PROVISIONS

13-1

1. This permit is issued under and subject to a11 1aws and ordinances of agencies governing the encroachment herein permitted. See the following references:
   STREETS AND HIGHWAYS CODE
   1. Division 1, Chapter 3
   2. Division 2, Chapter 2, Section 942
   3. Division 2, Chapter 4, Section 1126
   4. Division 2, Chapter 5.5 and Chapter 6

   SAN JOAQUIN COUNTY ORDINANCES NUMBERED: 324, 441, 648, 662, 672, 695, 700, 860, 892, 3359, and 3675.

2. It is understood and agreed by the Permittee that the performance of any work under this permit shall constitute an acceptance of all the provisions contained herein and failure on the Permittee's part to comply with any provision will be cause for revocation of this permit. Except as otherwise provided for public agencies and franchise holders, this permit is revocable on five days notice.

3. All work shall be done subject to the supervision of and the satisfaction of the grantor. The Permittee shall at all times during the progress of the work keep the County Highway in as neat and clean condition as is possible and upon completion of the work authorized herein, shall leave the County Highway in a thoroughly neat, clean and usable condition.

4. The Permittee also agrees by the acceptance of this permit to properly maintain any encroachment structure placed by the Permittee on any part of the County Highway and to immediately repair any damage to any portion of the highway, which occurs as a result of the maintenance of the said encroachment structure, until such time as the Permittee may be relieved of the responsibility for such maintenance by the County of San Joaquin.

5. The Permittee also agrees by the acceptance of this permit to make, at its own expense, such repairs as may be deemed necessary by the County Department of Public Works.

6. It is further agreed by the Permittee that whenever construction, reconstruction or maintenance work upon the highway is necessary, the installation provided for herein shall, upon request of the County Department of Public Works, be immediately moved or removed by and at the sole expense of the Permittee.

7. No material used for fill or backfill in the construction of the encroachment shall be borrowed or taken from within the County right of way.

8. All work shall be planned and carried out with as little inconvenience as possible to the traveling public. No material shall be stacked within eight feet (8') of the edge of the pavement or traveled way unless otherwise provided herein. Adequate provision shall be made for the protection of the traveling public. Traffic control standards shall be utilized including barricades; approved signs and lights; and flagmen, as required by the particular work in progress.

9. The Permittee, by the acceptance of this permit, shall assume full responsibility for all liability for personal injury or damage to property which may arise out of the work herein permitted or which may arise out of the failure of the part of the Permittee to properly perform the work provided under this permit. In the event any claim of such liability is made against the County of San Joaquin or any department, official or employee thereof, the Permittee shall defend, indemnify, and hold each of them harmless for such claim.

10. All backfill material is to be moistened as necessary and thoroughly compacted with mechanical means. If required by the County Director of Public Works, such backfill shall consist of gravel or crushed rock. The Permittee shall maintain the surface over structures placed hereunder as may be necessary to insure the return of the roadway to a completely stable condition and until relieved of such responsibility by the County Department of Public Works. Wherever a gravel, crushed rock or asphalt surface is removed or damaged in the course of work related to the permitted encroachment, such material shall either be separately stored and replaced in the roadway as nearly as possible in its original state or shall be replaced in kind, and the roadway shall be left in at least as good a condition as it was before the commencement of operations of placing the encroachment structure.

11. Whenever it becomes necessary to secure permission from abutting property owners for the proposed work, such authority must be secured by the Permittee prior to starting work.

12. The current and future safety and convenience of the traveling public shall be given every consideration in the location and methods of construction utilized.

13. The Permittee is responsible for the preservation of survey monuments within the work herein permitted. If any are disturbed, the Permittee is required to tie out each location and re-establish them after completion of work, using a licensed land surveyor. A corner record must be filed in accordance with state law for any re-set monuments.

14. Prior to any excavation, the Permittee shall notify USA North (Underground Service Alert of Northern California and Nevada) at 811 or 800-227-2600 forty-eight (48) hours in advance.

PGE Brad Joaquin 323-8106

APPLICATION FOR ENCROACHMENT PERMIT

PLEASE PRINT:

Date 5/9/14

To: San Joaquin County
Department of Public Works

Pacific Gas and Electric Co.
P.O. Box 930
Stockton, CA 95201

209 942 1767
(Area Code - Telephone Number)

OFFICE USE ONLY

JOB # PWP-730052-6 REF #
APN CR #
EXP. DATE 7-1-2014
VALID 6-9-2014 TO 7-1-2014 DRIVEWAYS:
STREET Marlette Rd *
AREA Stockton QUAD NW *
TYPE Bellhole, Bore, Trench *
FORMS SS/WW, R29, Trenchpolicy
NOTES

Sketch (Detailed plans may be submitted)

See attached sketch.
PM 31019415
Notif. 107106944

Traffic Control Plan
Shall be as per
current M.U.T.C.D.
California supplement.

The undersigned hereby applies for permission to excavate, construct and/or otherwise encroach on County Highway Right-of-Way on the North side of Marlette Rd approximately 100 feet/mile East of Lower Sacramento Rd, Stockton, by performing the following work (description of work): Overhead to underground conversion requested by woodside homes. All work to be done off the roadway. Lower Sacramento Rd crossing will be done by bore. No lane closure done or traffic effected on Lower Sac.

Work will commence on or about ~~5/14/14~~ for approximately _____ days.

I, the undersigned, certify that I am the owner of the respective property, or am qualified to represent the owner and agree to do the work described above in accordance with the rules and regulations of San Joaquin County and subject to inspection and approval.

Brad Joaquin
Signature of Applicant - Title

5/9/14
Date

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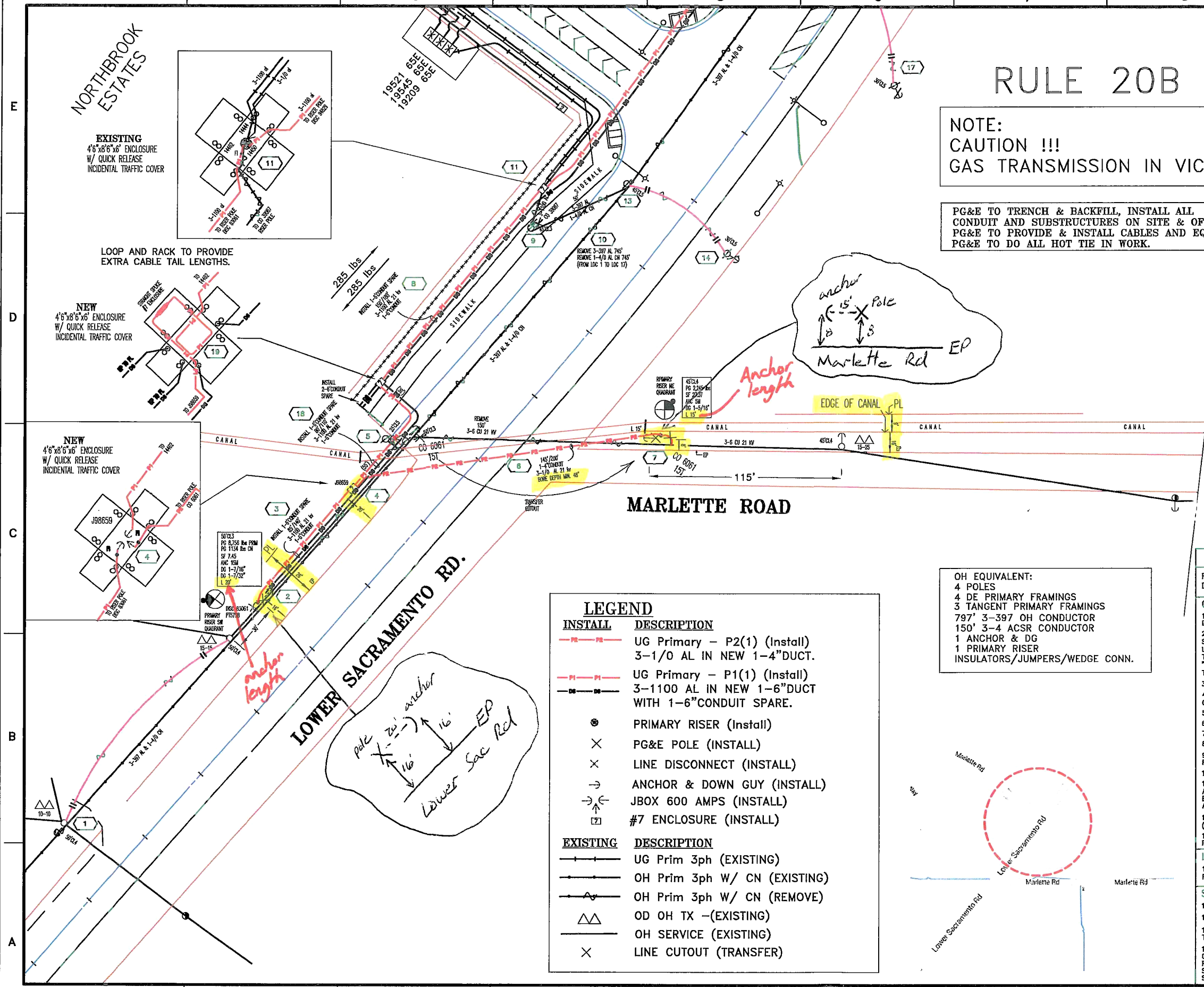


RULE 20B

NOTE:
CAUTION !!!
GAS TRANSMISSION IN VICINITY

PG&E TO TRENCH & BACKFILL, INSTALL ALL CONDUIT AND SUBSTRUCTURES ON SITE & OFF SITE.
PG&E TO PROVIDE & INSTALL CABLES AND EQUIPMENT.
PG&E TO DO ALL HOT TIE IN WORK.

SSD SW 49047
DIST MAP S1017
CCT MAP 3B1343
391-2102
EIGHT MILE SUB BANK 3
STOCKTON DIV.

CONTACT PERSON
PROJ. MGR.: BRAD JOAQUIN (209) 942-1767
APPLICANT.: DOUG GOLDSMITH (916) 997-3955

48 HOURS BEFORE YOU DIG-CALL
UNDERGROUND SERVICE ALERT
1-800-227-2600

SAFETY PLEDGE
I ALWAYS PUT SAFETY FIRST
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

IMPORTANT!

DEVELOPER, GENERAL CONTRACTOR & ELECTRICAL CONTRACTOR PLEASE NOTE:
BEFORE BEGINNING TRENCHING AND SUBSTRUCTURE WORK,
PLEASE CALL 2 WORKING DAYS IN ADVANCE:

PG&E UNDERGROUND INSPECTION DESK
(209) 942-1786 OFFICE (209) 942-1788 FAX (PREFERRED)

WORK NOT PROPERLY INSPECTED MAY BE REJECTED.
FOR JOB SCHEDULING INFORMATION PLEASE CALL PG&E
PROJECT MANAGER: BRAD JOAQUIN 209-942-1767

IF THERE ARE CONFLICTS BETWEEN LANDSCAPINGS (MOUNDS, BERMS, TREES, BUSHES,..) AND SUBSTRUCTURE INSTALLATIONS (SPLICE BOXES, TRANSFORMER PAD,..) PLEASE CONTACT THE INSPECTOR PRIOR TO INSTALLATION.

CONTACT UNDERGROUND SERVICE ALERT (U.S.A.)
2 WORKING DAYS PRIOR TO DIGGING
(800)227-2600

LEGEND

INSTALL	DESCRIPTION
—P2—P2—	UG Primary – P2(1) (Install) 3-1/0 AL IN NEW 1-4"DUCT.
—P1—P1—	UG Primary – P1(1) (Install)
—D6—D6—	3-1100 AL IN NEW 1-6"DUCT WITH 1-6"CONDUIT SPARE.
	PRIMARY RISER (Install)
	PG&E POLE (INSTALL)
	LINE DISCONNECT (INSTALL)
	ANCHOR & DOWN GUY (INSTALL)
	JBOX 600 AMPS (INSTALL)
7	#7 ENCLOSURE (INSTALL)

EXISTING	DESCRIPTION
	UG Prim 3ph (EXISTING)
	OH Prim 3ph W/ CN (EXISTING)
	OH Prim 3ph W/ CN (REMOVE)
△△	OD OH TX –(EXISTING)
	OH SERVICE (EXISTING)
	LINE CUTOUT (TRANSFER)

OH EQUIVALENT:
4 POLES
4 DE PRIMARY FRAMINGS
3 TANGENT PRIMARY FRAMINGS
797' 3-397 OH CONDUCTOR
150' 3-4 ACSR CONDUCTOR
1 ANCHOR & DG
1 PRIMARY RISER
INSULATORS/JUMPERS/WEDGE CONN.

NOTES:

10-02-06

REFER TO ELECTRIC & GAS SERVICE REQUIREMENTS (GREEN BOOK) OR SEPARATE PG&E STANDARD DRAWINGS. CONTACT YOUR PG&E REPRESENTATIVE FOR COPIES, OR ACCESS www.pge.com/greenbook

CONDUIT, TRENCHING, AND BACKFILL:

1) ALL DIMENSIONS AND LOCATIONS ARE ESTIMATED, APPROXIMATE AND MAY BE SUPERSEDED BY A JOINT TRENCH DRAWING. REFER TO THE JOINT TRENCH COMPOSITE DRAWING FOR EXACT TRENCH LOCATION

2) MAINTAIN MAXIMUM PRACTICABLE HORIZONTAL CLEARANCE BETWEEN PG&E FACILITIES AND "WET" UTILITIES (WATER, SEWER, STORM DRAIN, ETC.). THE MIN. ALLOWABLE SEPARATION BETWEEN PG&E FACILITIES AND ANY PARALLEL "WET" UTILITY IS 3/FT. WITH A PRESENCE OF 1/FT. OF UNDISTURBED EARTH OR THE INSTALLATION OF A SUITABLE BARRIER. THIS MEASUREMENT IS BETWEEN THE OUTER EDGE OF THE PG&E FACILITY AND THE OUTER EDGE OF THE PARALLEL "WET" FACILITY. IF 3/FT. CANNOT BE MAINTAINED, A FORMAL VARIANCE MUST BE OBTAINED FROM PG&E WORK WITH THE PG&E INSPECTOR (REFERENCE PG&E UO STANDARD S5453).

3) BOX, PAD, AND CONDUIT SIZES AND LOCATIONS SHALL CONFORM TO THE PG&E ELECTRIC CONSTRUCTION DRAWING.

4) PROVIDE LONG CONDUIT SWEEPS WHERE INDICATED. RECOMMENDED SWEEP RADIUS (10' OF RADIUS PER INCH OF CONDUIT DIAMETER) EXAMPLE: 4" CONDUIT = 40' RADIUS

5) DO NOT EXCEED 300 DEGREES OF BENDS IN ANY CONDUIT RUN (INCLUDING FEED LOCATION).

6) MANUFACTURED BENDS OR APPLICATION OF HEAT SHALL NOT BE USED TO OBTAIN LONG CONDUIT SWEEPS.

7) ALL CONDUITS SHALL BE PROVEN AND A POLYESTER PULLING TAPE INSTALLED.

8) MANUFACTURED BENDS ARE NOT TO BE CUT, SHORTENED, OR ALTERED IN ANY WAY.

9) IDENTIFY ENDS OF BURIED CONDUIT WITH AN ELECTRONIC MARKER AND A VERTICAL CONDUIT SCRAP INSTALLED FROM RIGID CAP TO GROUND LEVEL.

10) CONDUITS ENTERING PRIMARY BOXES SHALL BE AT A RIGHT ANGLE TO THE WINDOW OR WALL.

11) STUB CONDUITS AT RISER POLES IN QUADRANTS AS SHOWN. AT IDENTIFIED POLE LOCATIONS, THE TRENCHING AGENT IS TO EXCAVATE TO TRENCH DEPTH AND INSTALL A 30" DIAMETER CARDBOARD TUBE. THE RISER CONDUIT BEND IS TO BE PLACED OUTSIDE AND ADJACENT TO THE TUBE AT THE POLE QUADRANT INDICATED. BACKFILL AROUND AND INSIDE TUBE WITH CLEAN NATIVE FILL.

12) LS2 STREET LIGHT CONDUIT GOING TO PG&E BOXES OR PEDESTALS NOT DESIGNATED AS P.O.S. (INCLUDING TRANSFORMERS) WILL NOT BE ACCEPTED OR CONNECTED.

13) ONLY ONE LS2 STREET LIGHT (P.O.S.) CONNECTION PER BOX OR PEDESTAL.

LAND RIGHTS AND EASMENTS:

14) APPLICANT TO PROVIDE ADEQUATE P.U.E'S AND/OR ROW'S FOR PG&E FACILITIES. ANY ADDITIONAL REQUIRED RIGHTS OF WAY ARE TO BE SURVEYED AND DOCUMENTED BY PG&E AT THE APPLICANT'S EXPENSE.

SAFETY AND WORKMANSHIP:

15) NOTIFY USA (1-800-227-2600) 48 HOURS PRIOR TO DIGGING FOR UNDERGROUND LOCATING.

16) 48 HOUR NOTICE REQUIRED FOR UNDERGROUND INSPECTION.

17) MATERIALS AND WORKMANSHIP SHALL BE FIRST QUALITY IN EVERY RESPECT, PLUMB AND TRUE, AND ACCORDING TO THE SPECIFIC REQUIREMENTS OF THE DRAWINGS AND THE ABOVE APPLICABLE NOTES AND SPECIFICATIONS.

18) THE APPLICANT IS TO VERIFY ALL PROPOSED INSTALLATIONS, CONDITIONS & SPECIFICATIONS PRIOR TO COMMENCING WITH ANY PORTION OF WORK. ANY DISCREPANCIES, DELETIONS OR INCONSISTENCIES ARE TO BE REPORTED TO THE PG&E REPRESENTATIVE IMMEDIATELY. THE APPLICANT SHALL COMPLY WITH ALL APPLICABLE SPECIFICATIONS. ANY VARIATIONS FROM PLANS OR SPECIFICATIONS RELIEVES PG&E OF ALL RESPONSIBILITY FOR THE SUBSTRUCTURE OR DESIGN.

ENGINEERING AND PLANNING DEPT.
4040 WEST LANE
STOCKTON, CA 95204
PHONE #: FAX #:
PACIFIC GAS AND ELECTRIC COMPANY

CO: SD: NOTE#: 107106944 Other: SHT: 1 OF 4 SHEETS PM: 31019415 REV.

EST: DANIEL DONESA
ADE: ROY GAEBEL
SUPV: CANDACE BRISKEY
REP: BRAD JOAQUIN
PLNR: DAN NGUYEN
SCALE: N.T.S. DATE: 12/18/2013

NO.	DATE	DESCRIPTION	ORDER #	DWN	CHKD	SUPV	APVD	BY

REVISIONS

WOODSIDE HOMES OF NORTHERN CA LLC
LOWER SACRAMENTO & MARLETTE DR
STOCKTON, CA

SECTION 3900: MISCELLANEOUS	SUBSECTION 3910 TRENCH CUTTING
ORIGINAL ISSUE DATE: April 6, 1984	

This trench cutting policy provides uniform guidelines and requirements for trenching within San Joaquin County right of way. It is intended to assist members of the public, private contractors, employees of the Department of Public Works, and any other parties trenching in San Joaquin County.

3910.1 GENERAL REQUIREMENTS

A. Resurfacing requirements specified in this policy are in addition to the trench resurfacing requirements specified by San Joaquin County Standard Drawing R-29.

B. For the purpose of this policy, "Surfacing Age" is defined as the age of the most recently completed roadway surfacing, including construction, reconstruction, or major overlay.

C. Where the application of seal coats is required, a Type II Slurry Seal will be used in accordance with State Standard Specifications, Section 37-2.

D. The permittee must post a one-year maintenance bond or cash deposit, in an amount specified by the Department.

E. All pavement markings destroyed or obliterated must be replaced in kind by the permittee. Typical pavement markings include, but are not limited to, lane lines, centerlines, stop and stop ahead legends, limit lines, raised pavement markers, and miscellaneous delineators.

F. The permittee is responsible for Survey Monuments disturbed by trenching and is required to file a corner record and to reestablish them using a Licensed Land Surveyor after the trench restoration is completed.

G. Functional classification maps and Public Works Project Advertising Schedules are references for this policy.

H. To facilitate scheduling and planning, Public Works staff will make available the most current Project Advertising Schedule at the monthly Utility Coordination Meeting and make it available to the public, at the Permits Counter, in January each year.

3910.2 COLLECTORS, ARTERIALS AND EXPRESSWAYS

A. Surfacing Age less than Three (3) Years: No pavement cuts. Exceptions may be approved in accordance with Section 3910.4 EXCEPTIONS.

B. Surfacing Age Three (3) Years and Over:

1. Longitudinal Trench Cutting in Paved Shoulder Areas:

The entire shoulder of the road is to be resurfaced. The existing surfacing adjacent to the trenched area shall be planed to accommodate the overlay in a manner that does not cause drainage concerns. The nearest pavement cut shall be a minimum of three (3) feet from the edge of pavement, or the remaining pavement shall also be removed and replaced. (SEE EXHIBIT 1: LONGITUDINAL CUTTING OF COUNTY ROADWAYS.)

2. Longitudinal Trenches within Traveled Lanes:

The entire traveled lane where the trench is located is to be resurfaced with a one (1) inch asphalt concrete overlay. The existing surfacing adjacent to the trenched area shall be planed to accommodate the overlay in a manner that does not cause drainage concerns. The overlay shall be in accordance with State Standard Specifications, Section 39. Aggregate gradation shall be consistent with the existing surfacing material. (See EXHIBIT 1: LONGITUDINAL CUTTING OF COUNTY ROADWAYS.)

3. Cross-Cutting:

Cross-cutting is allowed at a minimum interval of one hundred fifty (150) feet. At each cross-cut location a minimum of ten (10) feet each side of trench shall be planed and resurfaced with one (1) inch asphalt concrete. If cross cuts are within the 150 feet minimum interval, the entire section between the first and last cross cut shall be planed and resurfaced with one (1) inch asphalt concrete. (See EXHIBIT 2: CROSS CUTTING OF COUNTY ROADWAYS.)

4. The conditions described in paragraphs 1, 2 and 3 above will not apply if resurfacing is scheduled within two years.

3910.3 LOCAL ROADS

A. Surfacing Age Under Three (3) Years: No pavement cuts allowed. Exceptions may be approved in accordance with Section 3910.4 EXCEPTIONS.

B. Surfacing Age Three (3) to Five (5) Years:

1. Longitudinal cuts are permitted. A seal coat is required for that half of the roadway containing the trench. (See EXHIBIT 1: LONGITUDINAL CUTTING OF COUNTY ROADWAYS.)

2. Cross-cutting is allowed under the same conditions as Section 3910.2B-3. If cross cuts occur within the 150 feet minimum interval, resurfacing may be substituted with a slurry seal for that half of the roadway. (See EXHIBIT 2: CROSS CUTTING OF COUNTY ROADWAYS.)

3910.4 EXCEPTIONS

Excavation is prohibited in newly renovated County roadways for three (3) years after a notice of completion has been filed for a roadway improvement project, or a new roadway has been accepted. The Director of Public Works may approve exceptions that are in the best interest of the public, including but not limited to:

A. An emergency that endangers life or property.

B. For repair or modification to prevent interruption of essential utility service.

C. For relocation work that is mandated by County, State or Federal law.

D. For service for buildings where no other reasonable means of providing service exists.

E. For potholing to verify utility depth or location.

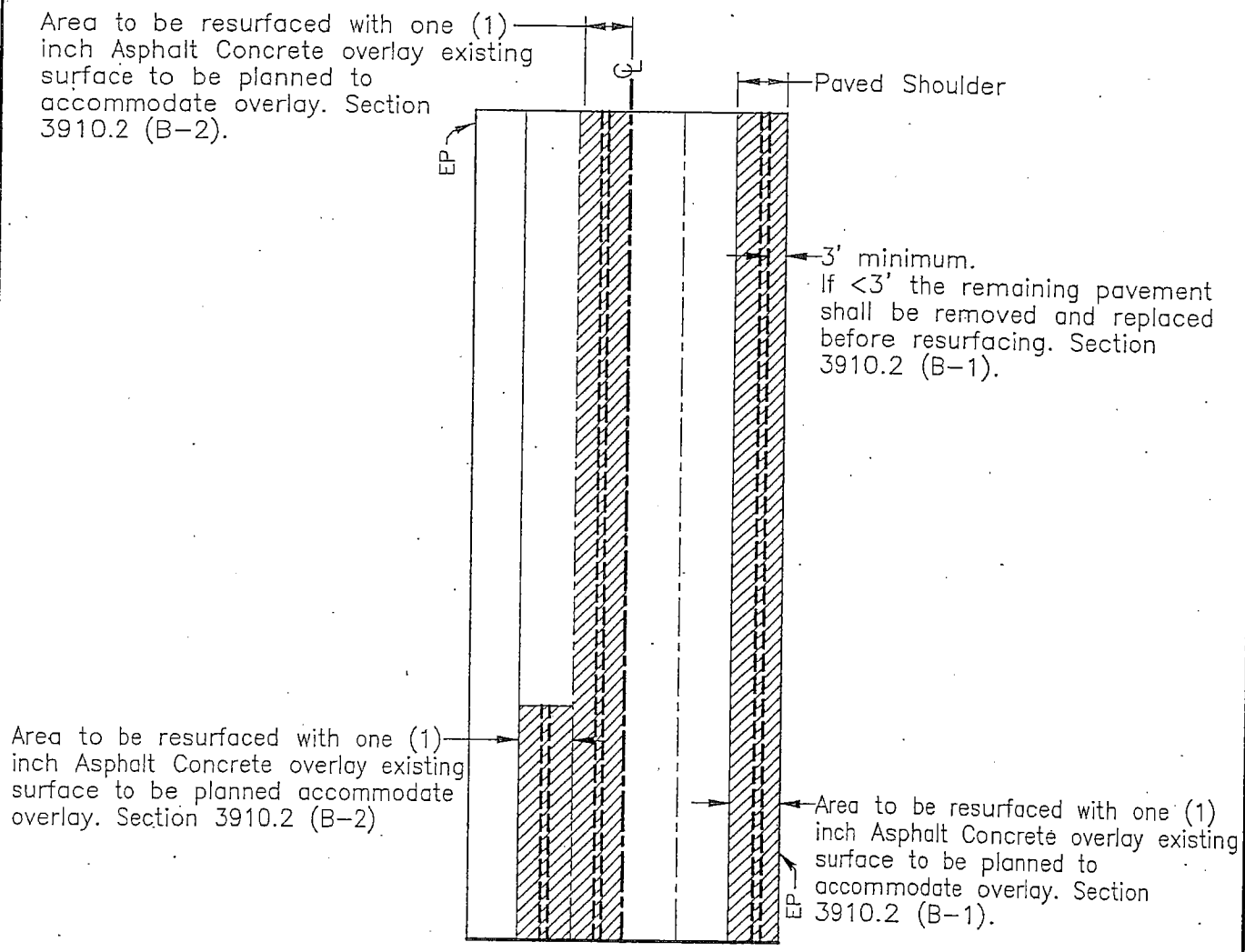
F. For trenchless excavations greater than three feet in depth of cover over the utility facility, and not requiring a significant surface incision greater than industry bore pit standards.

Exceptions must be requested and submitted in writing to the Department. Payment of a non-refundable processing fee is also required. Exceptions will be reviewed using the Department's Action Approval process, which requires the recommendation of a Deputy Director.

NOTES:

EXHIBIT 1

1. The resurfacing requirements shall be in addition to County Standard Drawing No. R-29.
2. If longitudinal cuts are required on a Local Road a Seal Coat can be used for that half of the roadway containing the trench. Section 3910.3 (B-1).



Public Works San Joaquin County

Working for YOU

LONGITUDINAL CUTTING OF COUNTY ROADWAYS

COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS

Drawn by: TRC | Checked by: | Date: 8/24/12

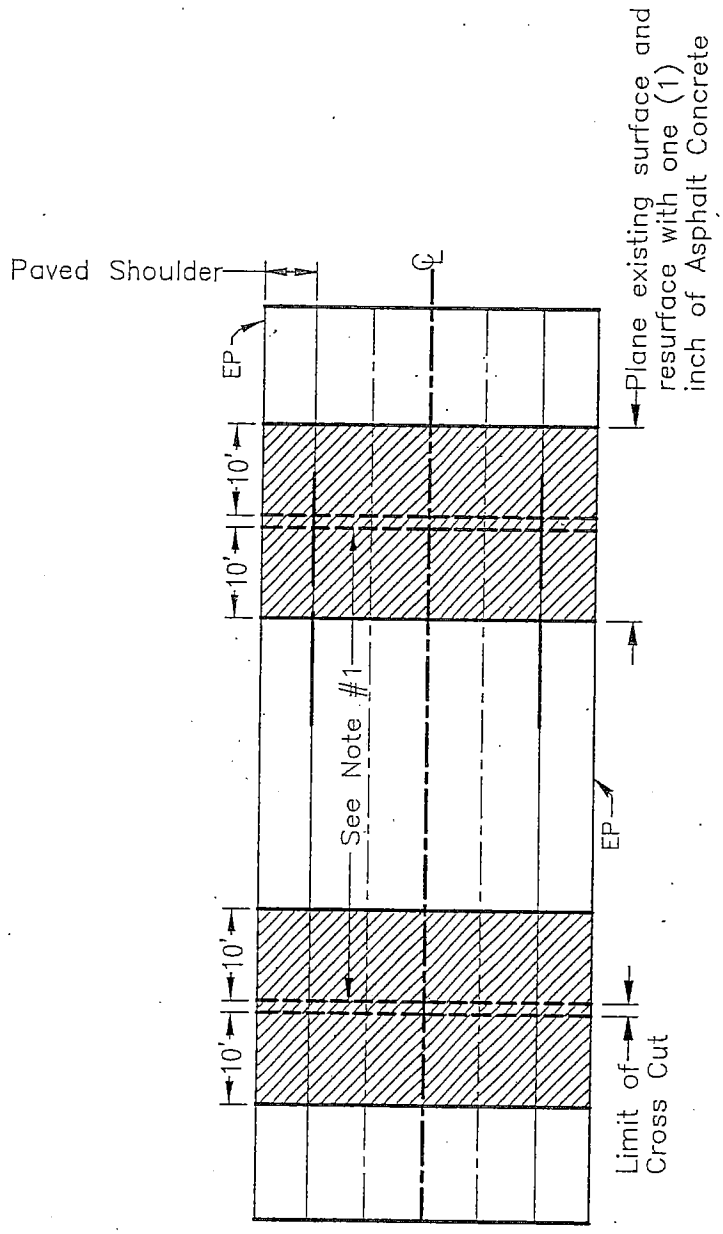
Approved by:

No.	Revision Description	Date

NOTES:

EXHIBIT 2

1. If the distance between cross–cuts are less then 150' the entire area between cross–cuts shall be planed and resurfaced with one (1) inch of Asphalt Concrete.
2. The resurfacing requirements shall be in addition to County Standard Drawing No. R–29.
3. Resurfacing for Bell Holes shall meet these requirements. If excavation occurs within the shoulder or lane, only that area shall be resurfaced as shown.
4. If cross–cutting is performed on Local Roads at intervals less then 150' a Seal Coat for that half of the roadway containing the trench can be used in lieu of resurfacing. Section 3910.3 (B–2).



Public Works
San Joaquin County
Working for YOU

CROSS CUTTING OF COUNTY ROADWAYS

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS

Drawn by: TRC | Checked by: | Date: 8/24/12

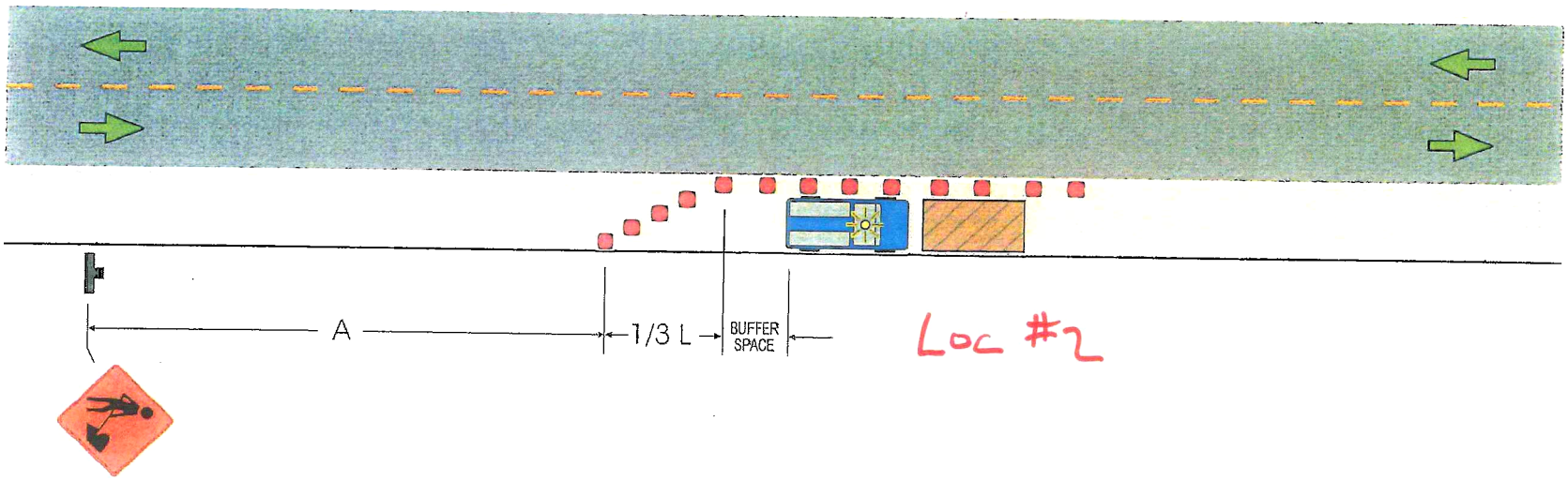
Approved by:

No.	Revision Description	Date

UTA-2 Work on Shoulders

1. A WORKER SYMBOL sign should be placed on the left side of a divided or one-way roadway if only the left shoulder is affected.
2. For short-duration operations 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

NOTE: When no lane encroachment is required, "W" equals width of existing, adjacent lane.



Loc #2

SIGN SPACING	DISTANCE
ROAD TYPE	A
Urban - 25 MPH or less	200'
Urban - 30 MPH or more	350'
Rural	500'
Expressway/Freeway	1000'

SEE:

- TABLE 1 for Buffer Length (page 26)
- TABLE 4 for "L" & Channelizer (cones, etc.) Quantity (page 28)

NOTE: LOCAL REGULATIONS MAY VARY.

PGEFM1A

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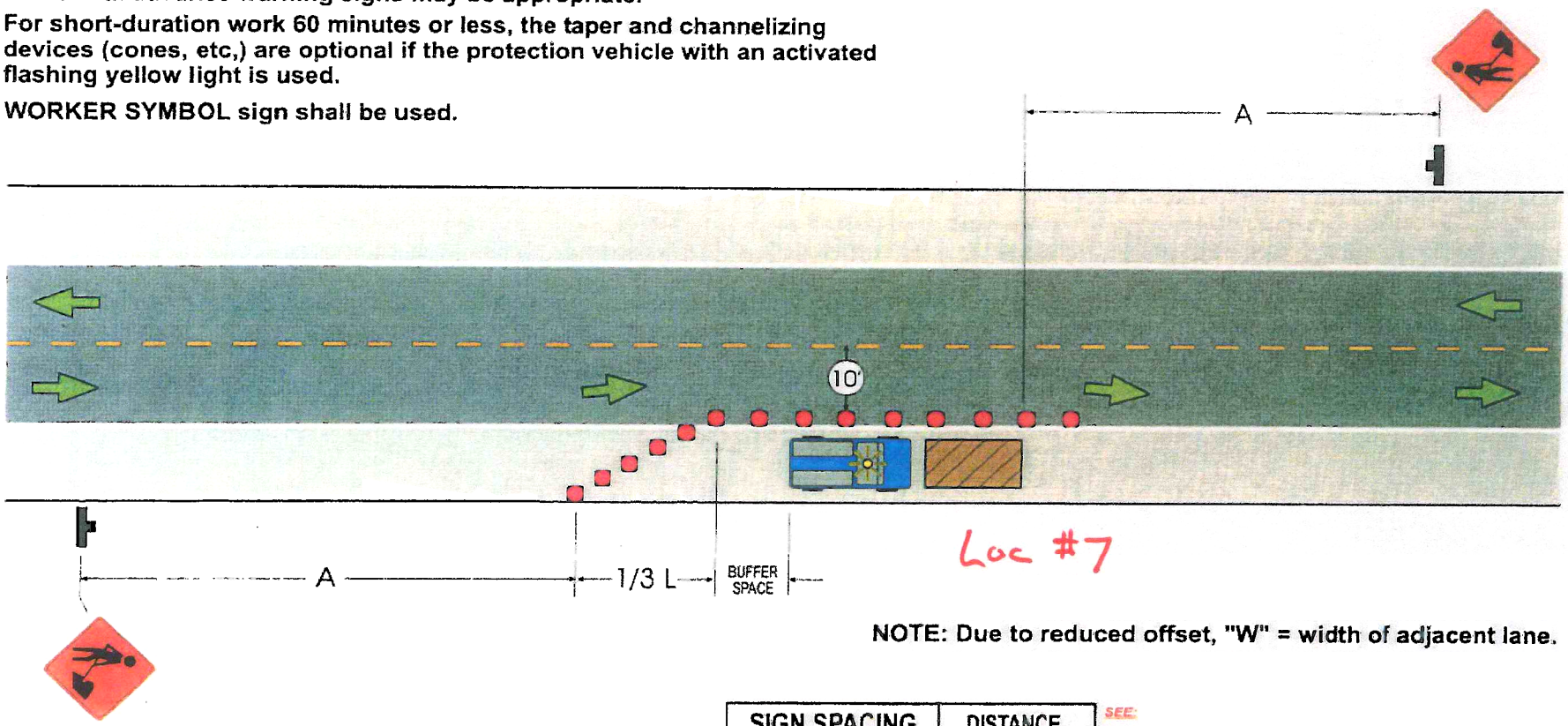
1. May be used on a minor road having low speed volume. For higher speed traffic conditions, a lane closure should be considered.
2. The lane must be at least 10' wide
3. Where the opposite shoulder is suitable for carrying traffic and of adequate width, traffic lanes may be shifted by use of closely spaced channelizing devices, provided 10-foot-wide lanes are maintained.
4. Additional advance warning signs may be appropriate.
5. For short-duration work 60 minutes or less, the taper and channelizing devices (cones, etc,) are optional if the protection vehicle with an activated flashing yellow light is used.
6. WORKER SYMBOL sign shall be used.

UTILITY TYPICAL APPLICATIONS

UTA-3 Shoulder Work with Minor Encroachment



Loc #7

NOTE: Due to reduced offset, "W" = width of adjacent lane.

SIGN SPACING	DISTANCE
ROAD TYPE	A
Urban - 25 MPH or less	200'
Urban - 30 MPH or more	350'
Rural	500'
Expressway/Freeway	1000'

SEE:

- TABLE 1 for Buffer Length (page 26)
- TABLE 4 for "L" & Channelizer (cones, etc.) Quantity (page 28)

NOTE: LOCAL REGULATIONS MAY VARY.

PGEFM1A

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TABLE 1. Guidelines for length of longitudinal buffer space

This table to be used for determining buffer space lengths on all typical application diagrams.

SPEED* MPH	LENGTH in feet
20	35'
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'
60	415'

**Posted speed or the anticipated operating speed in mph.*

TABLE 2. Taper length criteria for temporary traffic control zones

TYPE OF TAPER	TAPER LENGTH
Upstream Tapers:	
• Merging Tapers	L Minimum
• Shifting Tapers	1/2 L Minimum
• Shoulder Tapers	1/3 L Minimum
• Two-Way Traffic (Flagger) Tapers	100 Feet Max
Downstream Tapers: • (Use is optional)	100 Feet Min

Formula for Taper Length "L"

L = W x S x S/60 FOR 40 MPH OR LESS

L = W x S FOR 45 MPH OR MORE

L = MINIMUM LENGTH OF TAPER IN FEET
W = WIDTH OF OFFSET IN FEET
S = SPEED IN MPH

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NOTE: Local regulations may vary.

TABLE 4. Taper length (L) / Channelizer (cones, etc.) quantity Index

MPH	WIDTH OF LANE OFFSET (From Normal Lane Width Due To Work Zone)													
	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'
30	75'	90'	105'	120'	135'	150'	165'	180'	195'	210'	225'	240'	255'	270'
	(3)	(3)	(4)	(5)	(5)	(6)	(6)	(7)	(7)	(8)	(8)	(9)	(9)	(10)
35	102'	123'	143'	163'	184'	204'	225'	245'	265'	286'	306'	327'	347'	368'
	(3)	(4)	(4)	(5)	(6)	(6)	(7)	(8)	(8)	(9)	(9)	(10)	(10)	(11)
40	133'	160'	187'	213'	240'	267'	293'	320'	347'	373'	400'	427'	453'	480'
	(4)	(5)	(5)	(6)	(7)	(7)	(8)	(8)	(9)	(9)	(10)	(11)	(11)	(12)
45	225'	270'	315'	360'	405'	450'	495'	540'	585'	630'	675'	720'	765'	810'
	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
50	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'	800'	850'	900'
	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(18)	(19)	(20)
55	275'	330'	385'	440'	495'	550'	605'	660'	715'	770'	825'	880'	935'	990'
	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
60	300'	360'	420'	480'	540'	600'	660'	720'	780'	840'	900'	960'	1020'	1080'
	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
65	325'	390'	455'	520'	585'	650'	715'	780'	845'	910'	975'	1040'	1105'	1170'
	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)

FOR LENGTHS NOT SHOWN ABOVE

L = W x S x S/60 FOR 40 MPH OR LESS
L = W x S FOR 45 MPH OR MORE

L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET
S = SPEED LIMIT

TAPER LENGTHS
(MIN # OF CHANNELIZERS)

When using Shoulder Taper (1/3 L), determine L based on the actual lane width of the adjacent lane.

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NOTE: Local regulations may vary.