FOR USE BY FRANCHISED UTILITY COMPANIES OR ACCOUNT CUSTOMERS ONLY

THE CITY OF SAN DIEGO

Traffic Control Permit (TCP)
Multiple Location List

(Franchise Utility Company Only - May Not Be submitted By Contractor)

CITY OF SAN DIEGO
Development Division
Engineering Services
Traffic Safety Section
MAR 14 2018
APPROVED
TRAFFIC CONTROL PERMIT

To: City of San Diego, Traffic Permit Section

From: (Company): SDG&E

Contact Person: Rod Nelson

W.O. or Account #: Permit #

Date: 3/13/2018

Phone No.: 619-778-2405

Fax.:

TCP No.

City Use Only

Authorized #

By Felipe Arila

Yes X No

Date Reviewed 3/14/18

TYPE OF WORK

1 = Lane Closure
2 = Street Closure
3 = Sidewalk Closure
4 = Alley Closure
5 = Parking Lane
6 = Detour
7 = Trenching
8 = Flagging

Location	From	To	Start Date *	End Date *	Work Hours **	Thomas Bros.	Type of Work
Miramar Road	Padgett Street	Kearny Mesa Road	3/18/18	4/6/18	9:00PM - 5:00AM	1209-E6, F6	1,5,7,8
Black Mountain Road	Activity Road	Miramar Road	3/18/18	4/6/18	9:00PM - 5:00AM	1209-E6	6,8
Kearny Villa Road	Maya Linda Rd	Kearny Mesa Road	3/18/18	4/6/18	9:00PM - 5:00AM	1209-E5, E6, F6	6,8
Kearny Mesa Road	Miramar Road	End of Kearny Mesa Road	3/18/18	4/6/18	9:00PM - 5:00AM	1209-F6	1,5,7,8

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

Comments: Caltrans Phases C-5 through C-11, City Phase SD-1, Sunday - Thursday night work 9pm - 5am

Must be submitted a minimum of 2 working days prior to start of work. All columns must be filled out for proper authorization

Fax or mail to: City of San Diego • Traffic Control Permit Section • 1222 First Avenue, MS 501 • San Diego, CA 92101. Fax (619) 446-5489 Office (619) 446-5150

* Work Days: Monday Through Friday ** Work Hours : 8:30 AM - 3:30PM. Unless other hours are preapproved)

No Work on Saturdays, Sundays, or Holidays Unless Approved and Noted In Comments

Minimum of 5 working days required for construction work which affects traffic signal e-mail info to: **JVaca@sandiego.gov**

ATTENTION UTILITY COMPANY

Special Inspection Fees May Be Applied By City of San Diego For Any Night or Weekend Work.

SIGN LEGEND

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING

SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L/2	SHIFTING L/2	SHOULDER L/3	X TAPER	X TANGENT	Z ** CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	100	25
60	1440	720	360	240	60	100	25
65	1560	780	390	260	60	100	25
70	1680	840	420	280	60	100	25
75	1800	900	450	300	60	100	25

* – For other offsets, use the following merging taper length formula for L:
For speed of 40 mph or less, L = WS/60
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).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING

SPEED *	Min D **	DOWNGRADE Min D ***		
		−3%	−6%	−9%
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	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

*** – Use on sustained downgrade steeper than −3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING

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.

LEGEND

- APPROXIMATE TRENCH LOCATION
- SIGN
- TRAFFIC CONES / DELINEATOR
- BARRICADE
- FLAGGER
- FLASHING ARROW SIGN
- WORK ZONE
- ARMORGUARD

APPROVED PERMIT
TRAFFIC CONTROL
MAR 14 2018
DEPUTY DIRECTOR
CITY OF SAN DIEGO
Traffic Safety Section

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

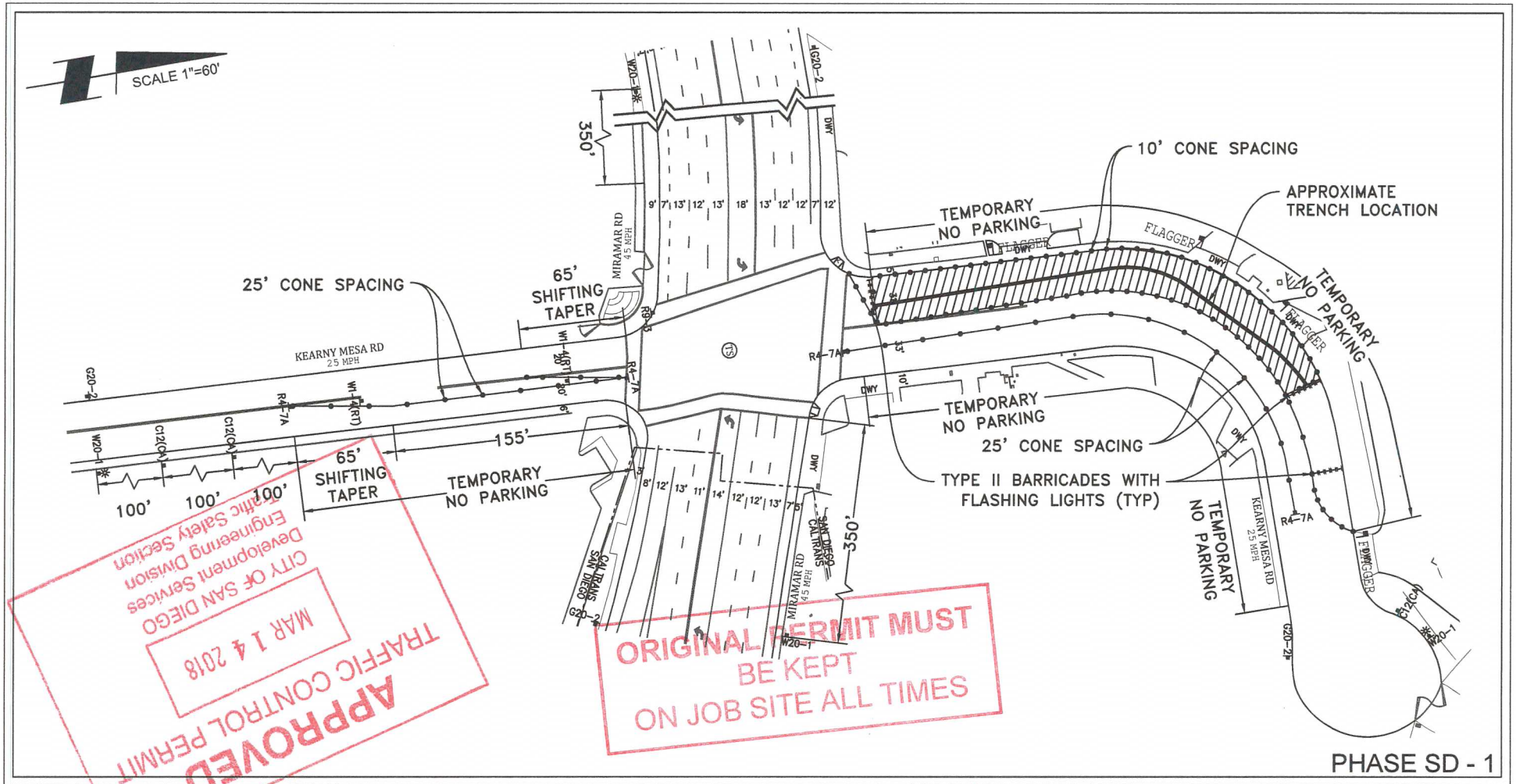
PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/4/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

UTILITY SURVEYORS, INC. AIRX
Gail McMorran
President
2534 EAST EL NORTE PARKWAY, SUITE C
ESCONDIDO, CA 92027
PHONE: (760) 480-2347
CELL: (760) 413-3736

NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT



PHASE SD - 1

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/4/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

UTILITY SURVEYORS, INC.
AIRX
Gail McMorran
President
2554 EAST EL NORTE PARKWAY, SUITE C
ESCONDIDO, CA 92027
PHONE: (760) 480-2347
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AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT	

SHEET 2 OF 4

SIGN LEGEND

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TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING

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mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
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LEGEND

- APPROXIMATE TRENCH LOCATION
- SIGN
- TRAFFIC CONES / DELINEATOR
- BARRICADE
- FLAGGER
- FLASHING ARROW SIGN
- WORK ZONE
- ZONEGUARD
- SIGN WITH PORTABLE FLASHING BEACON
- QUADGUARD II CRASH CUSHION
- CALTRANS CRASH ARRAY TU17

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

RECEIVED JAN 24 2018

APPROVED MAR 14 2018 CITY OF SAN DIEGO Development Services Traffic Control Permit

APPROVED 11-17-2017 - 0463 Permit JAN 29 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
ESCONDIDO, CA 92027
PHONE (760) 480-2347
CELL (760) 419-3738

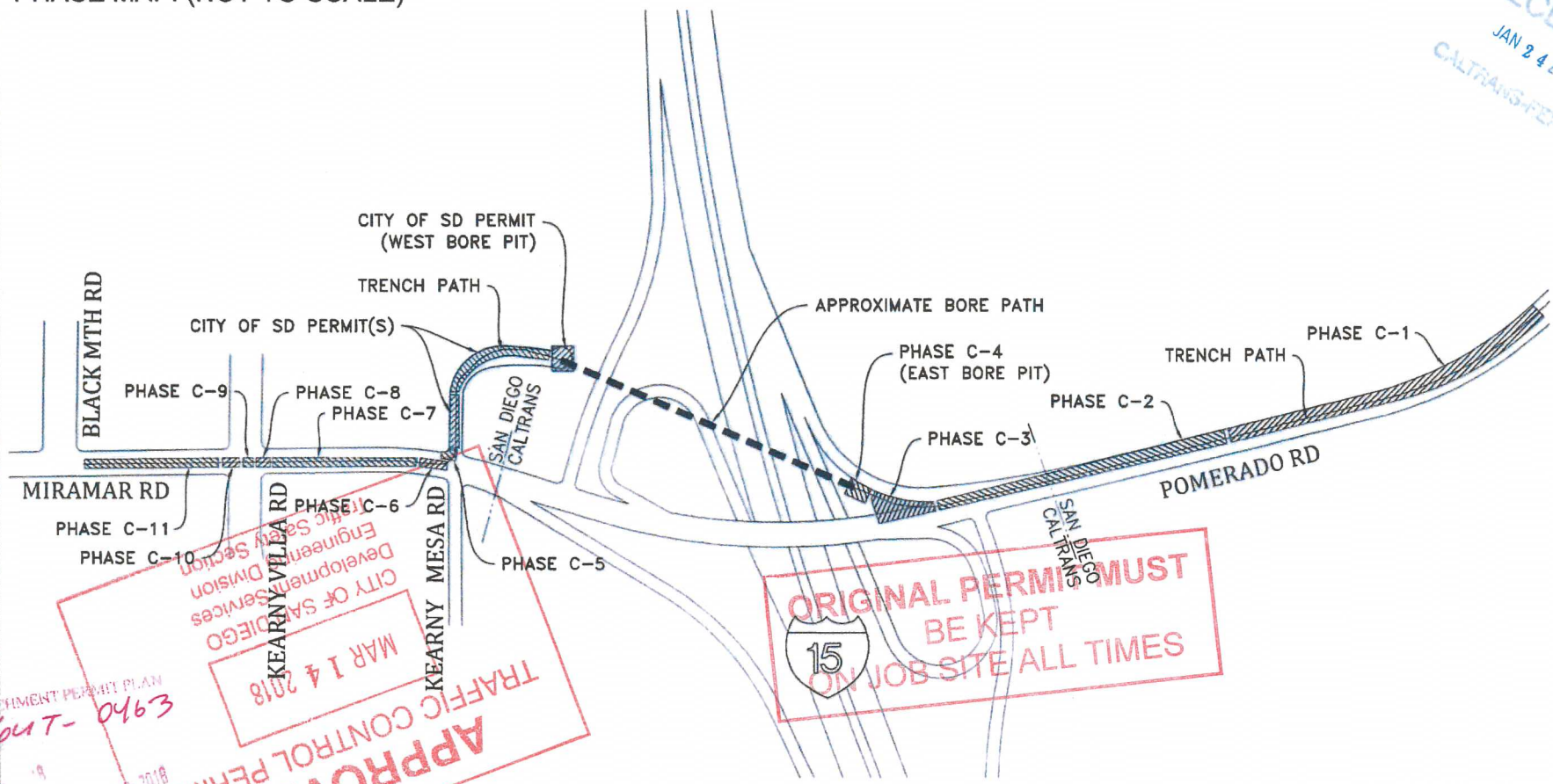
NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858 385 0500 WWW.NV5.COM

AIRX JOB#: X160218
MISC/POTHOLES#:
TYPE OF WORK: TRENCHING / CONDUIT
THOMAS GRID#: 1209–F6
DRAWN FOR: CALTRANS

REGISTERED MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA ENGINEER

SHEET 1 OF 48

PHASE MAP: (NOT TO SCALE)



RECEIVED
JAN 24 2018
CALTRANS-PERM

ORIGINAL PERMIT MUST
BE KEPT
ON JOB SITE ALL TIMES

APPROVED
TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Public Safety Section

APPROVED ENCROACHMENT PERMIT PLAN
Permit No 11-17-6UT-0463
JAN 2 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC
Gail McMorran
President
253M EAST EL NORTE PARKWAY SUITE C
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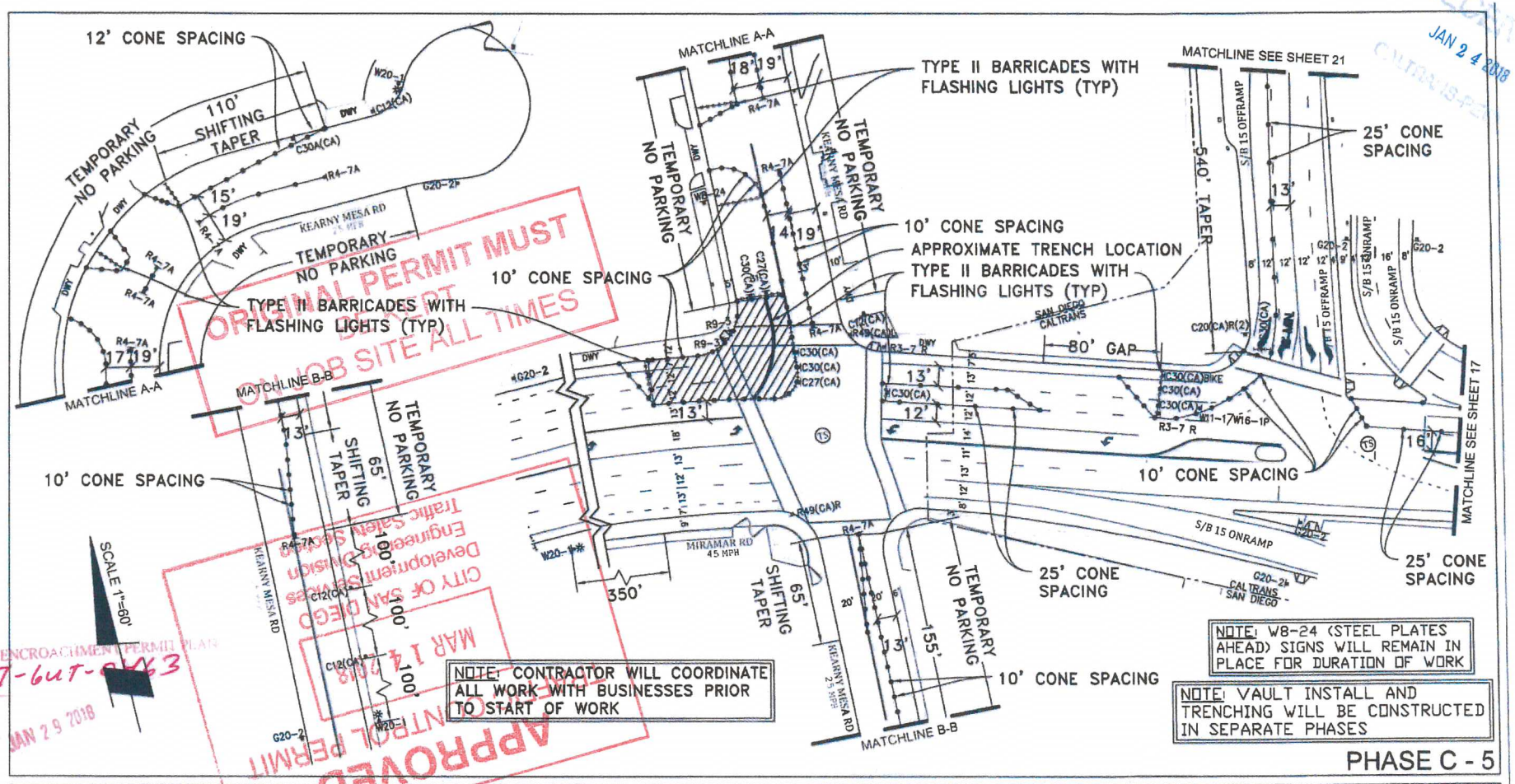
SAN DIEGO, CA 92128
P: 858 385 0500 WWW.NV5.COM

AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 2 OF 48



NOTE: CONTRACTOR WILL COORDINATE ALL WORK WITH BUSINESSES PRIOR TO START OF WORK

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

NOTE: VAULT INSTALL AND TRENCHING WILL BE CONSTRUCTED IN SEPARATE PHASES

PHASE C - 5

ORIGINAL PERMIT MUST BE ON JOB SITE ALL TIMES

APPROVED CITY OF SAN DIEGO Development Services Engineering Division Traffic Safety Section MAR 14 2018 CONTROL PERMIT

APPROVED ENCROACHMENT PERMIT PLAN 11-17-6UT-0463 Permit No. JAN 29 2018

RECEIVED JAN 24 2018 CALTRANS-D

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

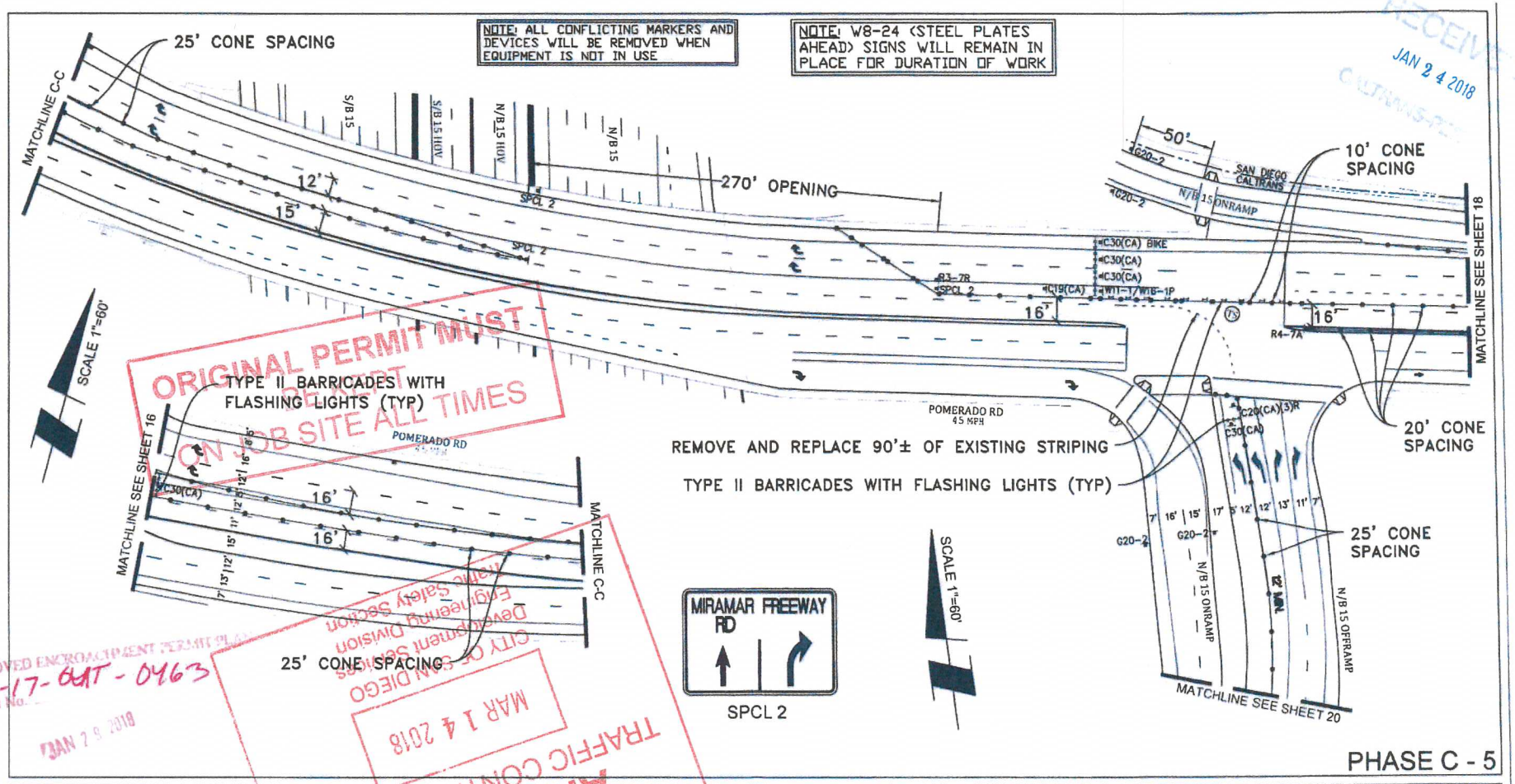
AIRX SURVEYORS, INC. Gail McMorran President 2534 EAST EL NORTE PARKWAY SUITE C ESCONDIDO, CA 92027 PHONE (760) 480-2347 CELL (760) 419-3738

NV5 15092 AVENUE OF SCIENCE, SUITE 200 SAN DIEGO, CA 92128 P: 858.385.0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 48328 CIVIL STATE OF CALIFORNIA

SHEET 16 OF 48



PHASE C - 5

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
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PHONE (760) 480-2347
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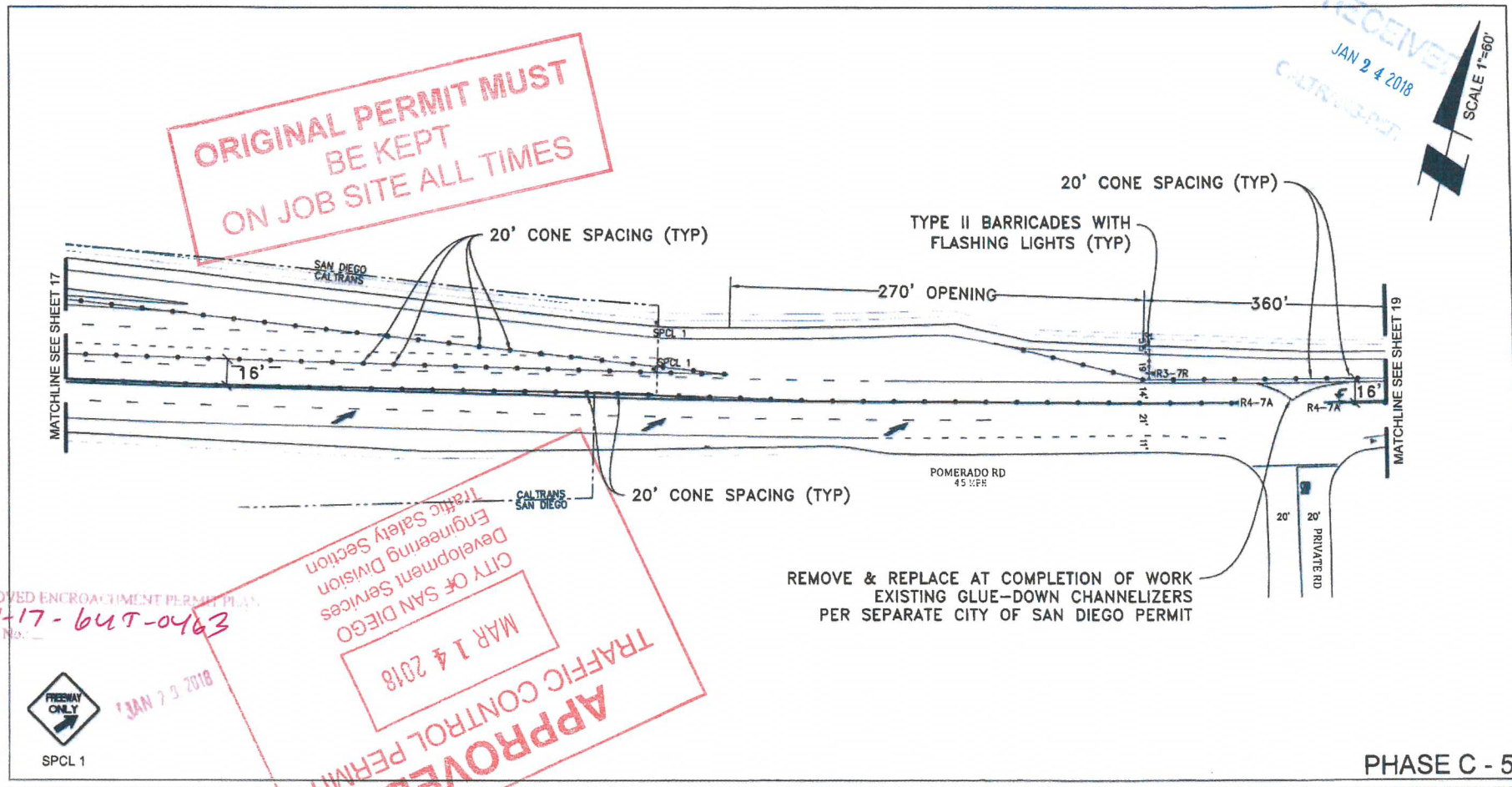
SAN DIEGO, CA 92128
P: 858.385 0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

SHEET 17 OF 48



PHASE C - 5

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

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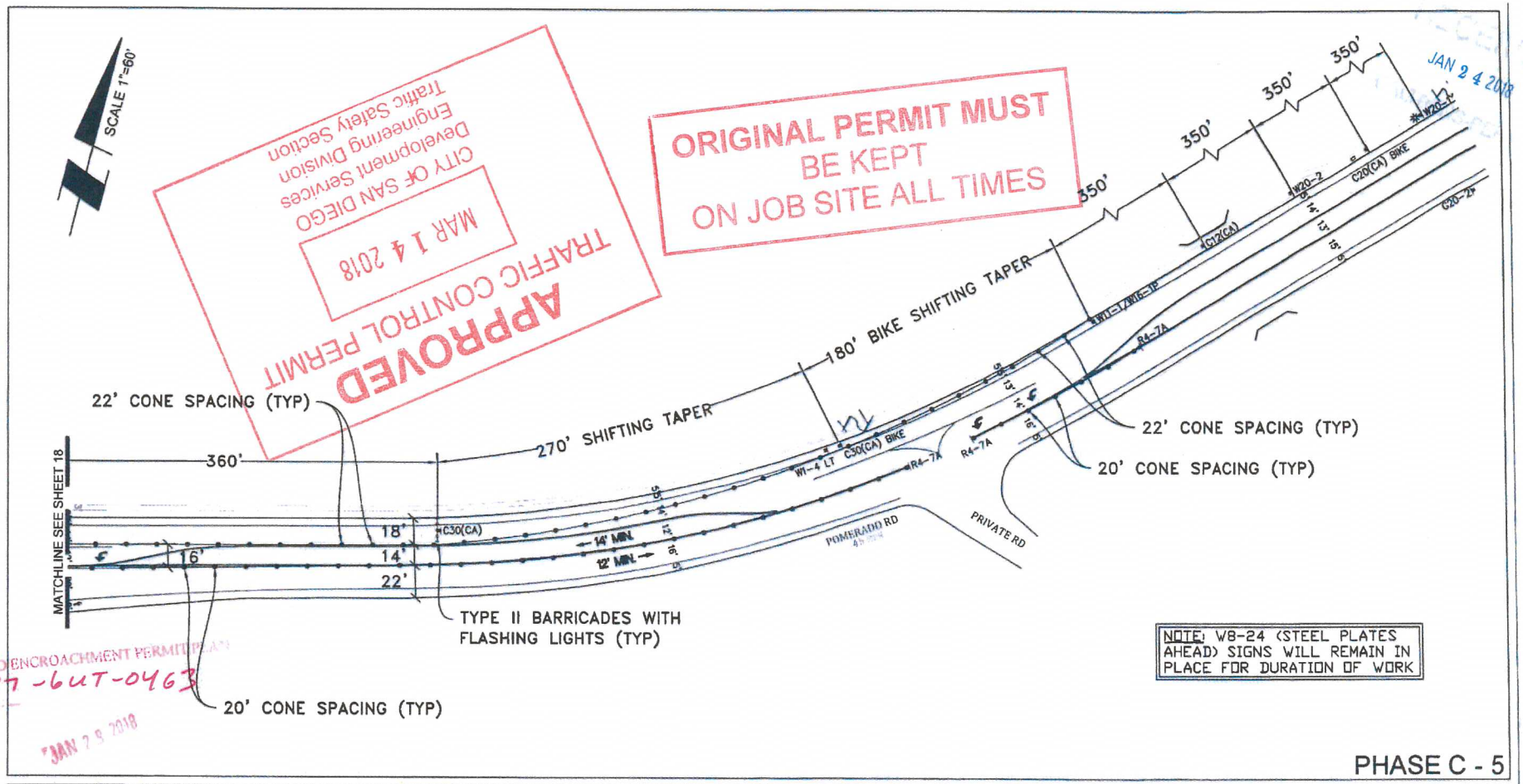
AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

SHEET 18 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

APPROVED TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018

JAN 24 2018

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
JAN 29 2018

PHASE C - 5

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

AIRX SURVEYORS, INC
Gail McMorran
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2634 EAST EL NORTE PARKWAY SUITE C
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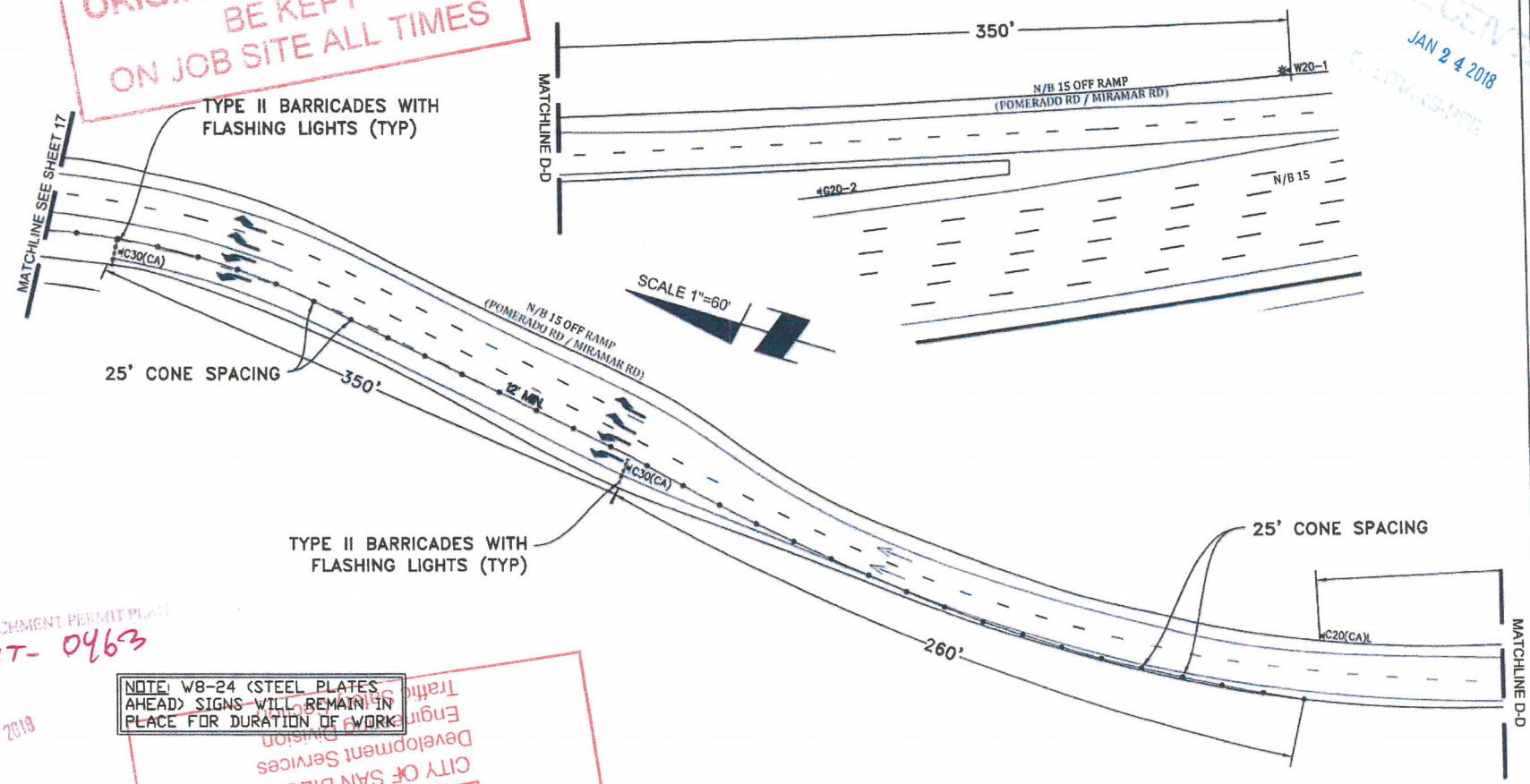
AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46128 CIVIL STATE OF CALIFORNIA

SHEET 19 OF 48

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES



JAN 24 2018

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
JAN 29 2018

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

APPROVED
CITY OF SAN DIEGO
Development Services
Engineering & Capital Projects Division
Traffic Control Permit
MAR 14 2018

PHASE C - 5

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
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UTILITY SURVEYORS, INC. AIRX
Gail McMorran
President
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ESCONDIDO, CA 92027
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AIRX JOB#: X160218
MISC/POTHOLES#:
TYPE OF WORK: TRENCHING / CONDUIT

THOMAS GRID#: 1209–F6
DRAWN FOR: SAN DIEGO

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB CIVIL STATE OF CALIFORNIA

SHEET 20 OF 48

ORIGINAL PERMIT MUST
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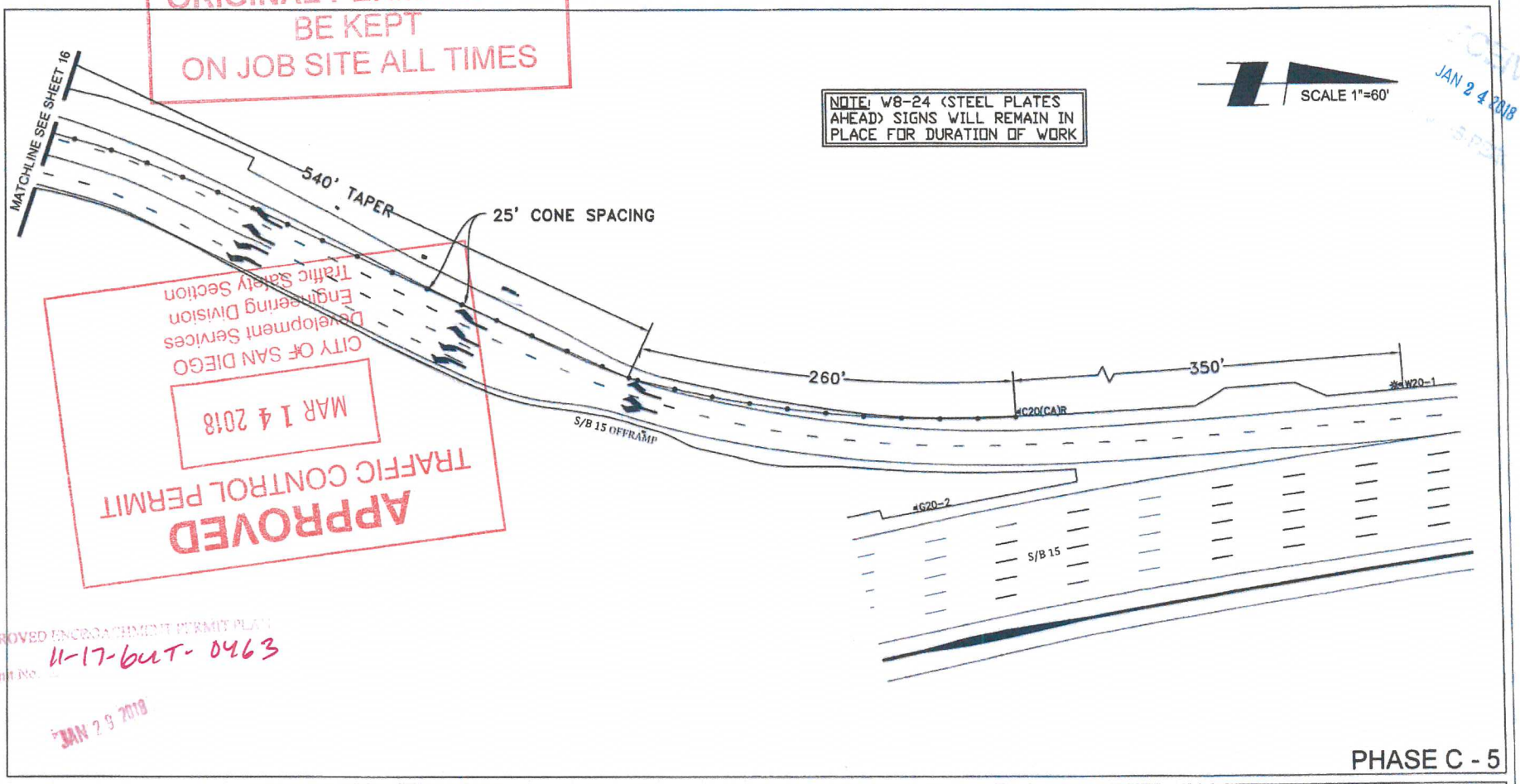

APPROVED
TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
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APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
JAN 29 2018

RECEIVED
JAN 24 2018

PHASE C - 5

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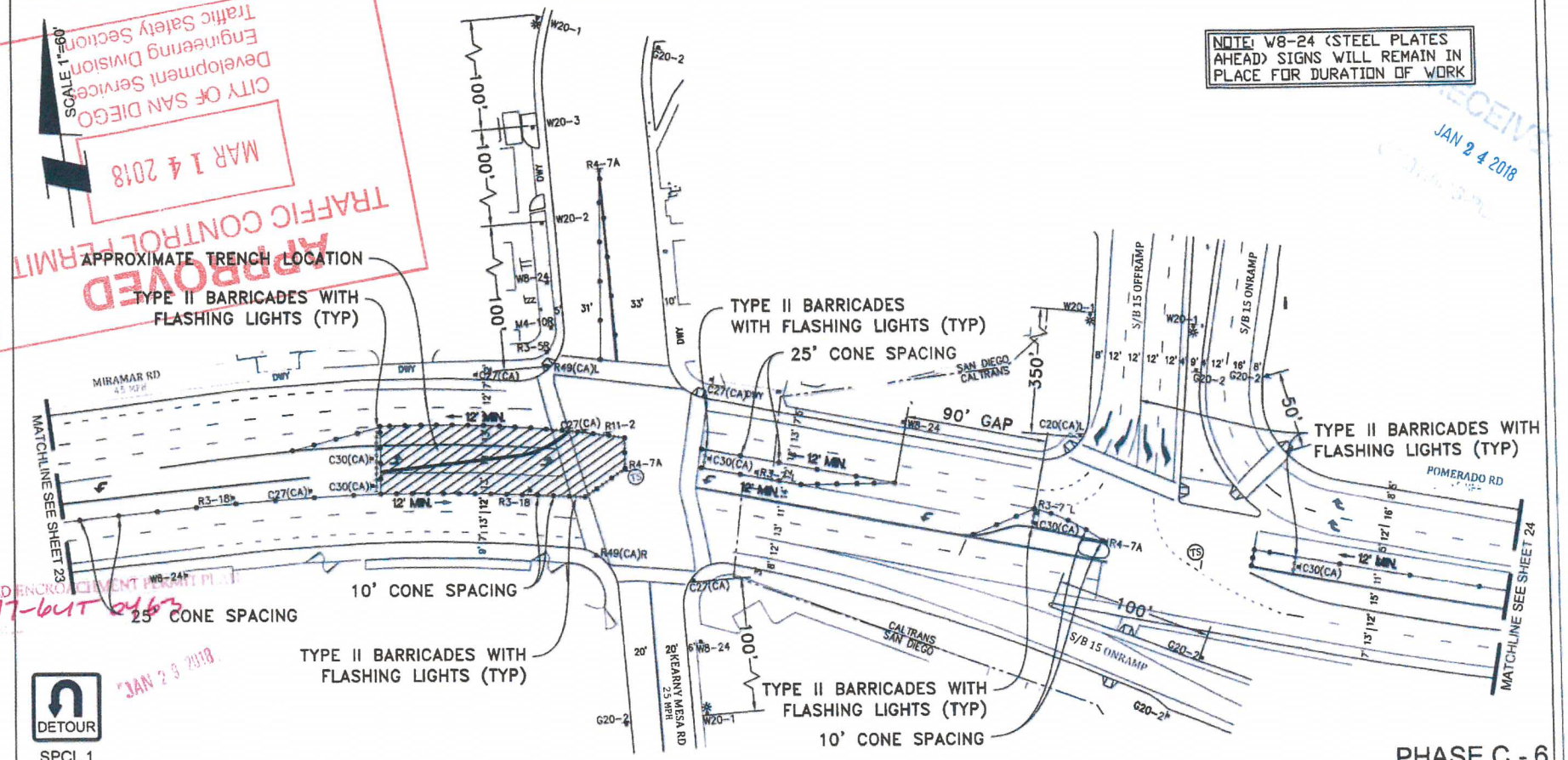
		MISC/POTHOLES#:	DRAWN FOR: SAN DIEGO
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 21 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 48828 CIVIL STATE OF CALIFORNIA

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES



CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018
TRAFFIC CONTROL PERMIT
APPROVED

RECEIVED
JAN 24 2018

APPROVED ENCROACHMENT PERMIT PLAN
11-17-6UT 2463
Permit No.
JAN 23 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX SURVEYORS, INC. Gail McMorran, President; 253M East El Norte Parkway Suite C, Escondido, CA 92027; Phone (760) 489-2347; Cell (760) 419-3738	NV5; 15092 Avenue of Science, Suite 200, San Diego, CA 92128; P: 858 385 0500; WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: SAN DIEGO
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 22 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46028 CIVIL STATE OF CALIFORNIA

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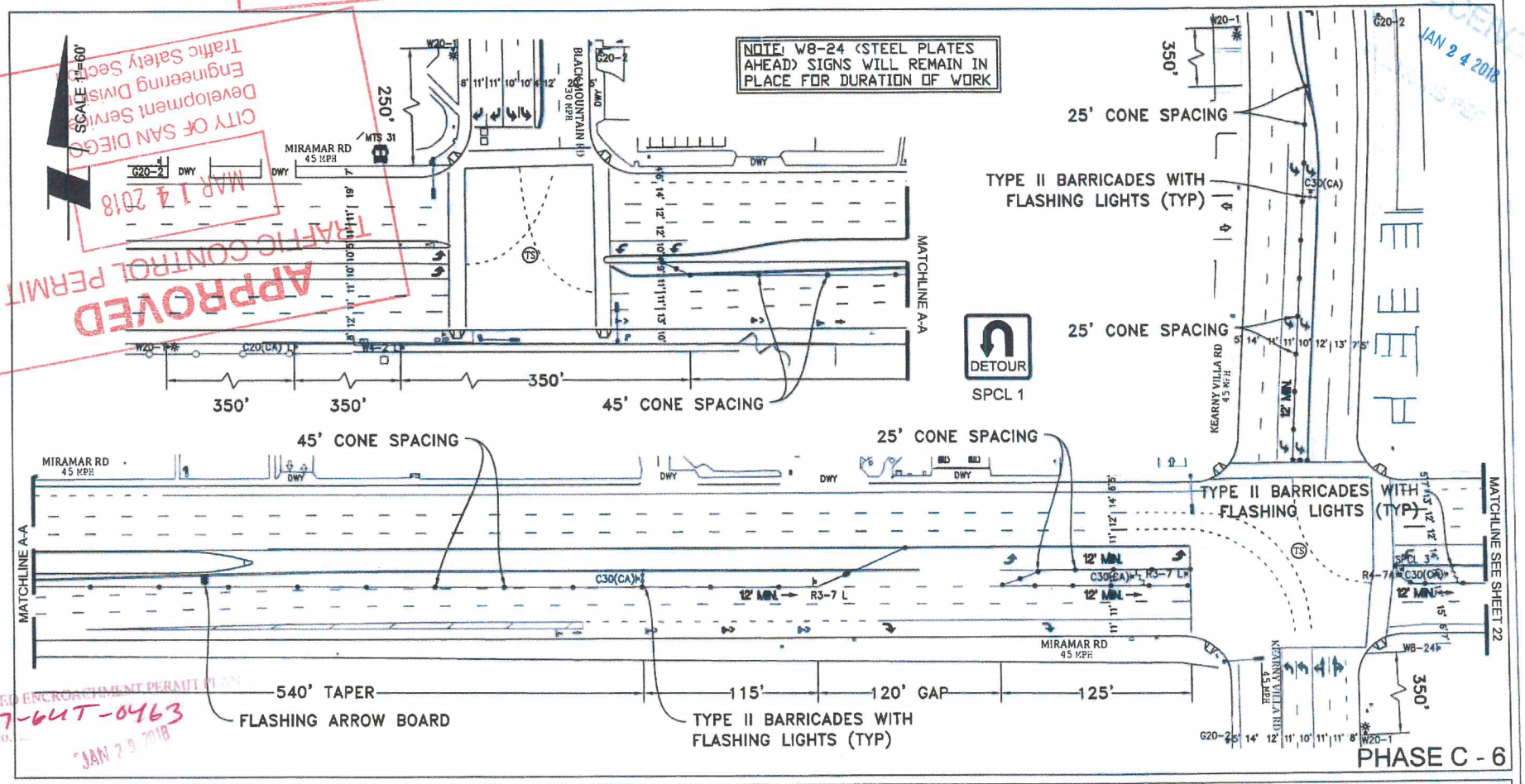

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
JAN 29 2018

CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
APPROVED
TRAFFIC CONTROL PERMIT
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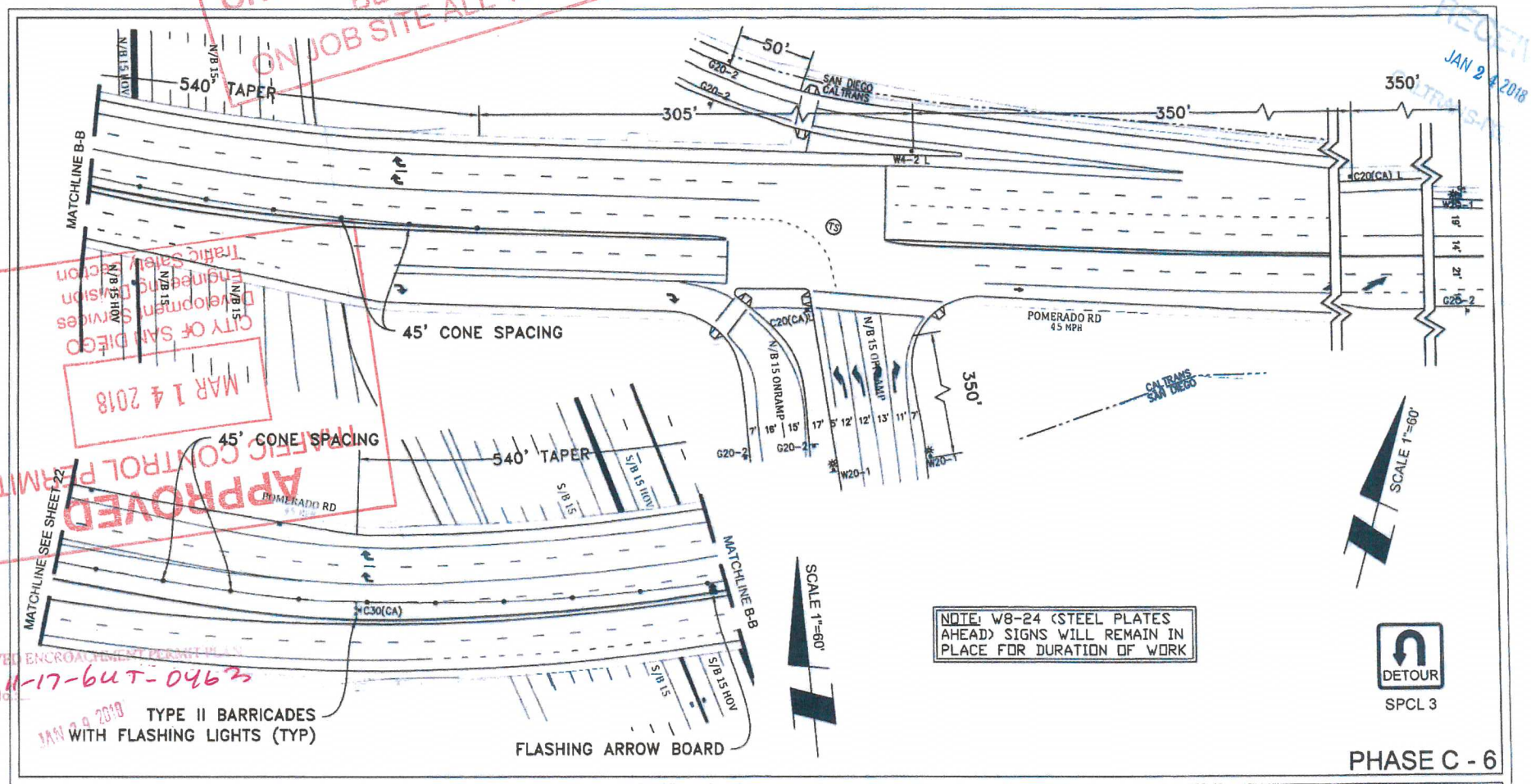
JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX SURVEYORS, INC. Gail McMorran, President; 2534 EAST EL NORTE PARKWAY, SUITE C, ESCONDIDO, CA 92027; PHONE (760) 480-2347; CELL: (760) 419-3738	NV5; 15092 AVENUE OF SCIENCE, SUITE 200, SAN DIEGO, CA 92128; P: 858 385.0500 WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: SAN DIEGO
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 23 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46326 CIVIL STATE OF CALIFORNIA

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

RECEIVED JAN 24 2018 CALTRANS-PT



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

CITY OF SAN DIEGO Development Services Engineering Division Traffic Safety Section
MAR 14 2018
APPROVED TRAFFIC CONTROL PERMIT

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
JAN 29 2019

PHASE C - 6

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
ESCONDIDO, CA 92027
PHONE: (760) 480-2347
CELL: (760) 419-3738

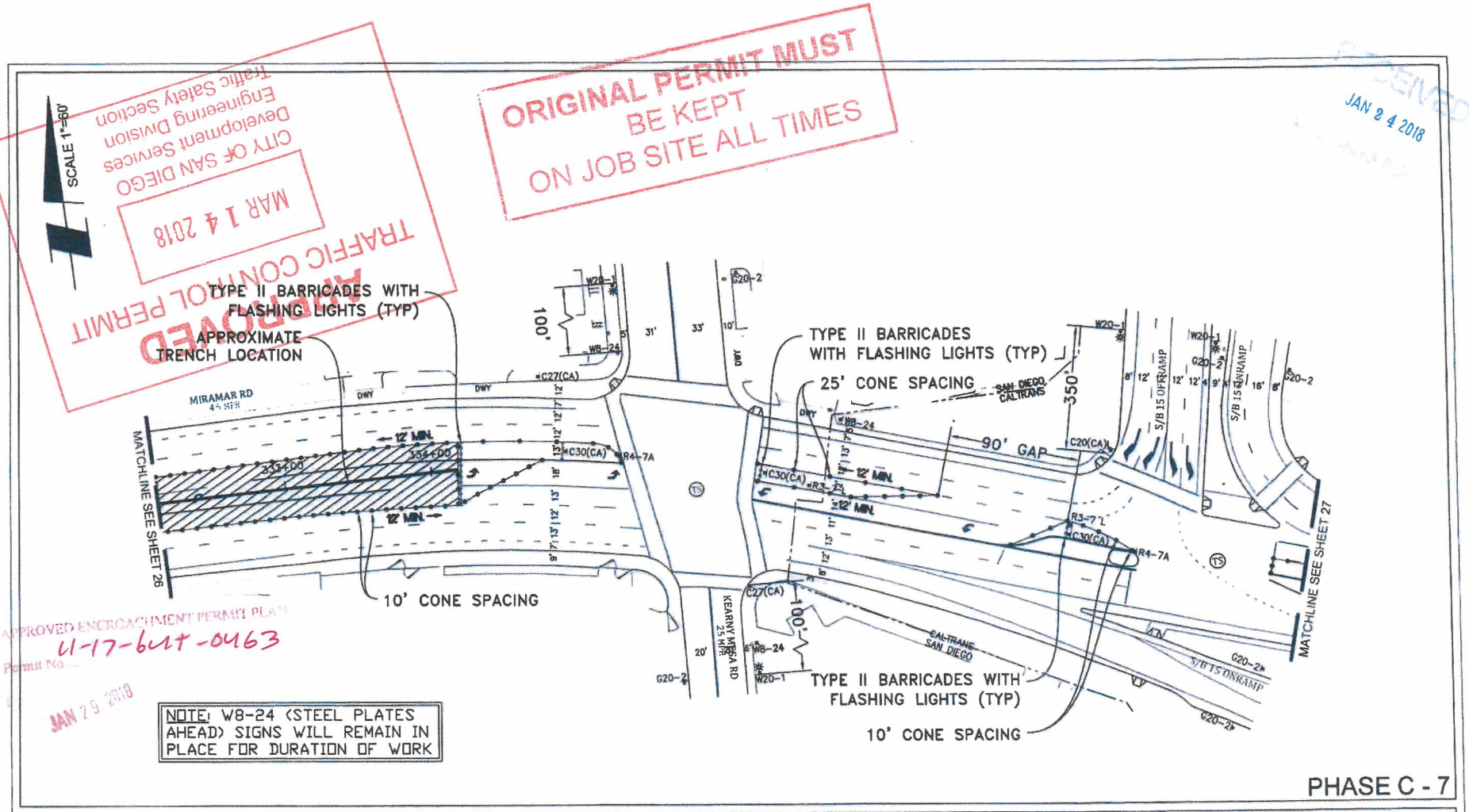
NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858 385 0500 WWW.NV5.COM

AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: SAN DIEGO
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 48328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 24 OF 48



ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

APPROVED TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018

RECEIVED
JAN 24 2018

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6114-0463
JAN 29 2018

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

PHASE C - 7

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

AIRX UTILITY SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
ESCONDIDO, CA 92027
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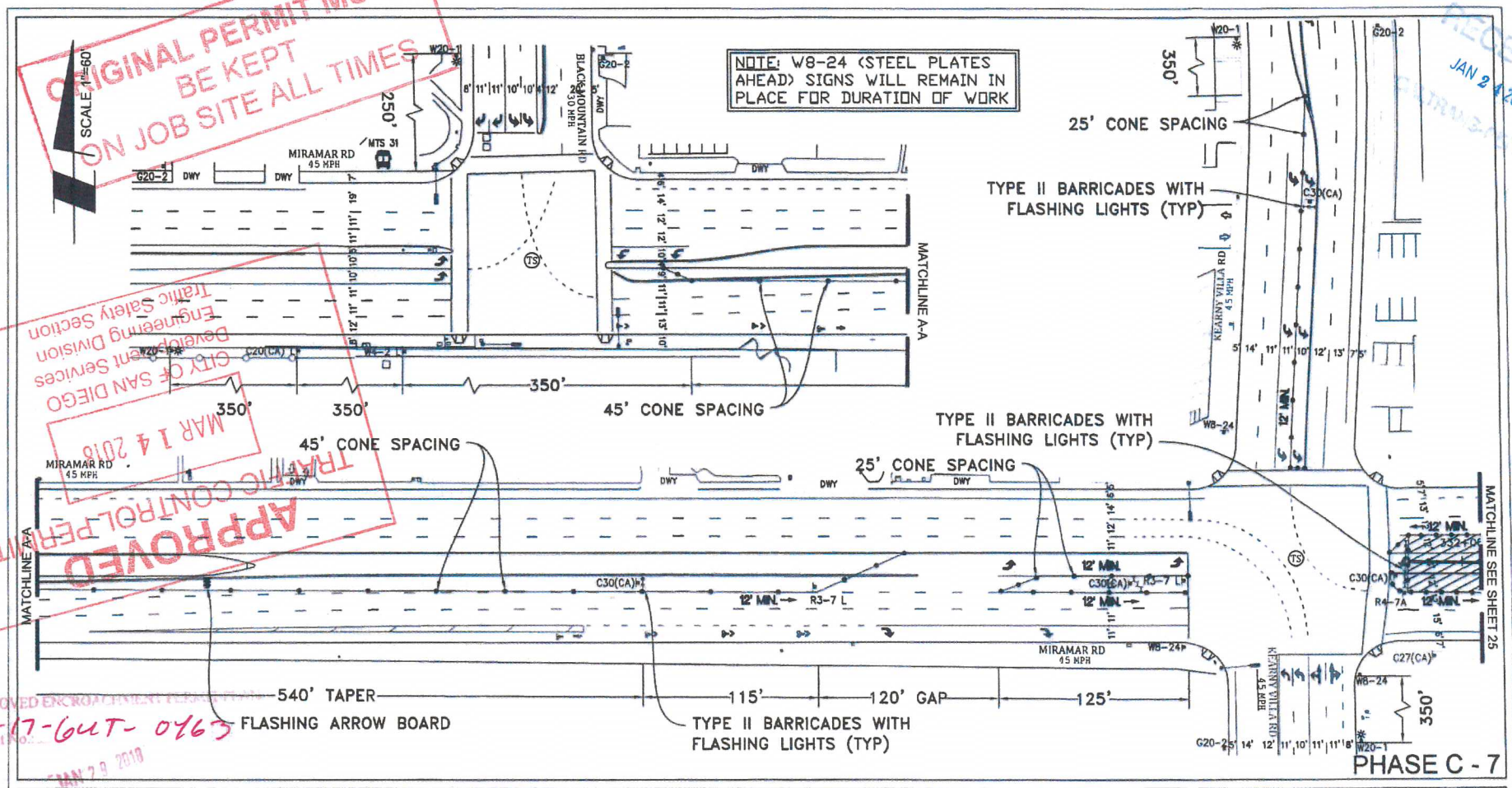
NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858 385 0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46828 CIVIL STATE OF CALIFORNIA

SHEET 25 OF 48



ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES
APPROVED TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO Development Services Engineering Division Traffic Safety Section
MAR 14 2018
RECEIVED JAN 24 2018
APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-CUT-0163
JAN 29 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC
Gail McMorran
President
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NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858 385 0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT

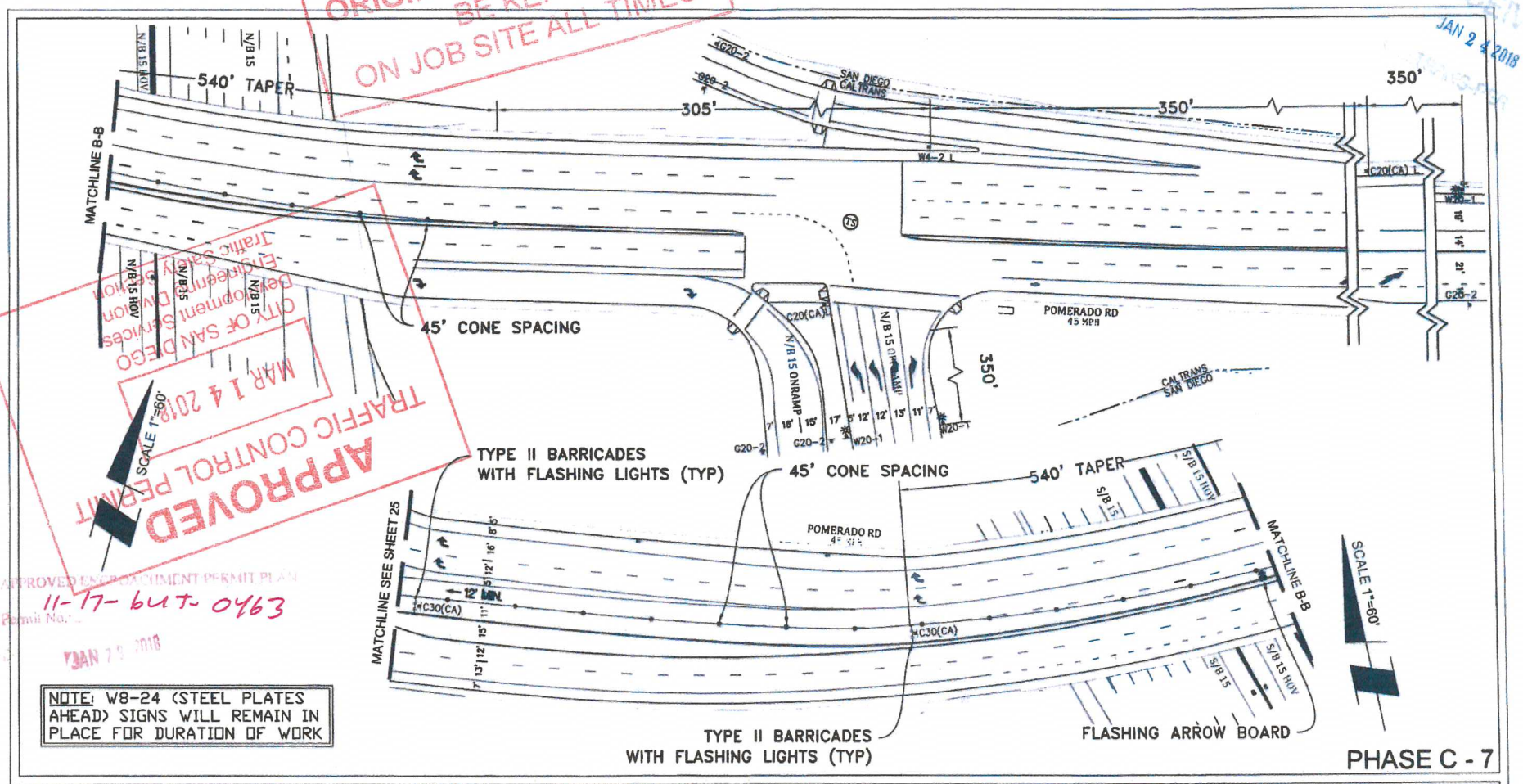
REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 49328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 26 OF 48

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

JAN 24 2018



APPROVED
TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section

APPROVED ENCROACHMENT PERMIT PLAN
Permit No.: 11-17-6UT-0463
JAN 29 2018

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

PHASE C - 7

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
ESCONDIDO, CA 92027
PHONE: (760) 480-2347
CELL: (760) 419-3736

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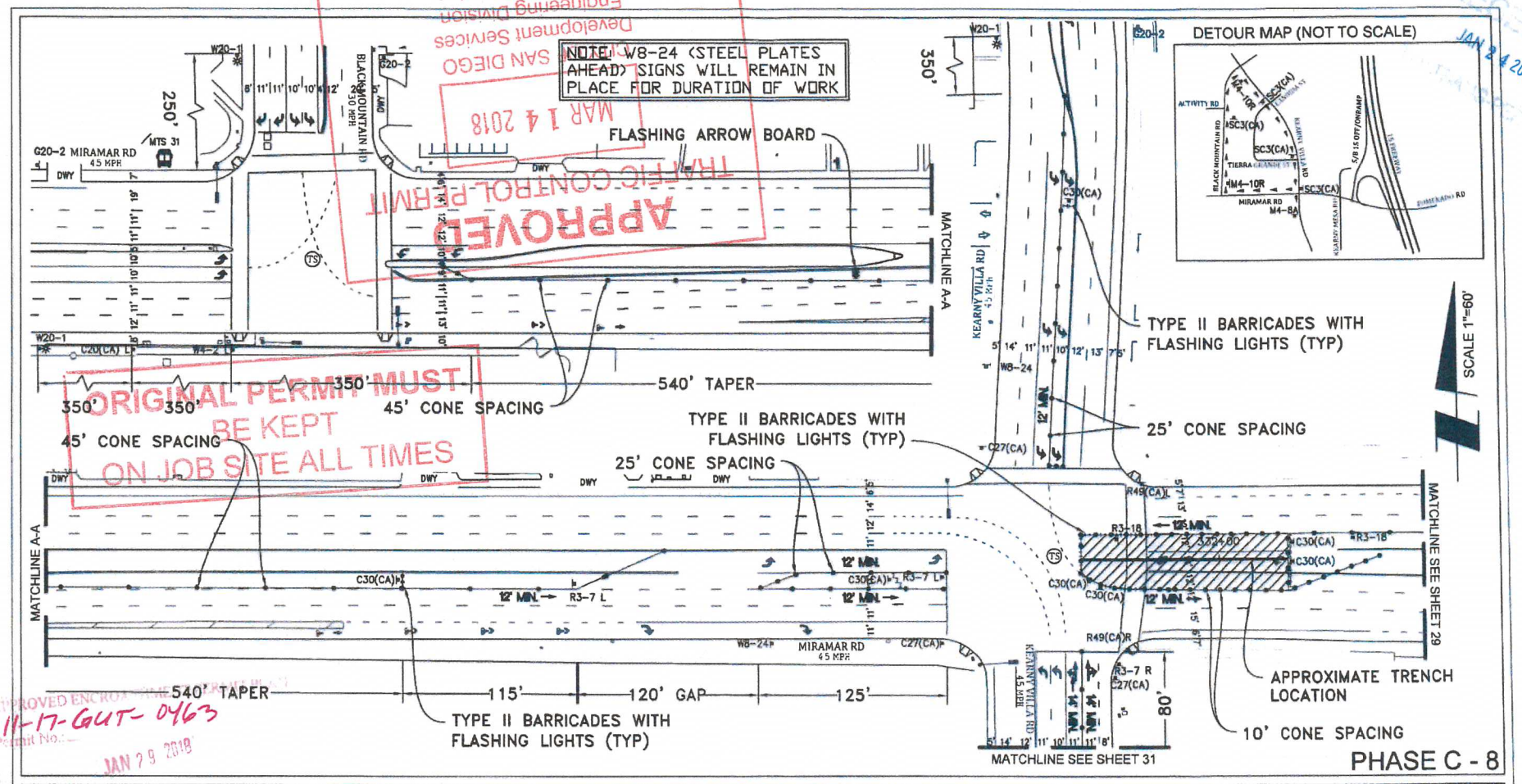
SAN DIEGO, CA 92128
P: 858.385.0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46128 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 27 OF 48



APPROVED TRAFFIC CONTROL PERMIT
SAN DIEGO Development Services Engineering Division Traffic Safety Section
MAR 14 2018
ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES
APPROVED ENCROACHMENT PERMIT
11-17-GUT-0463
Permit No.
JAN 29 2018
JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
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CELL (760) 419-3738

NV5
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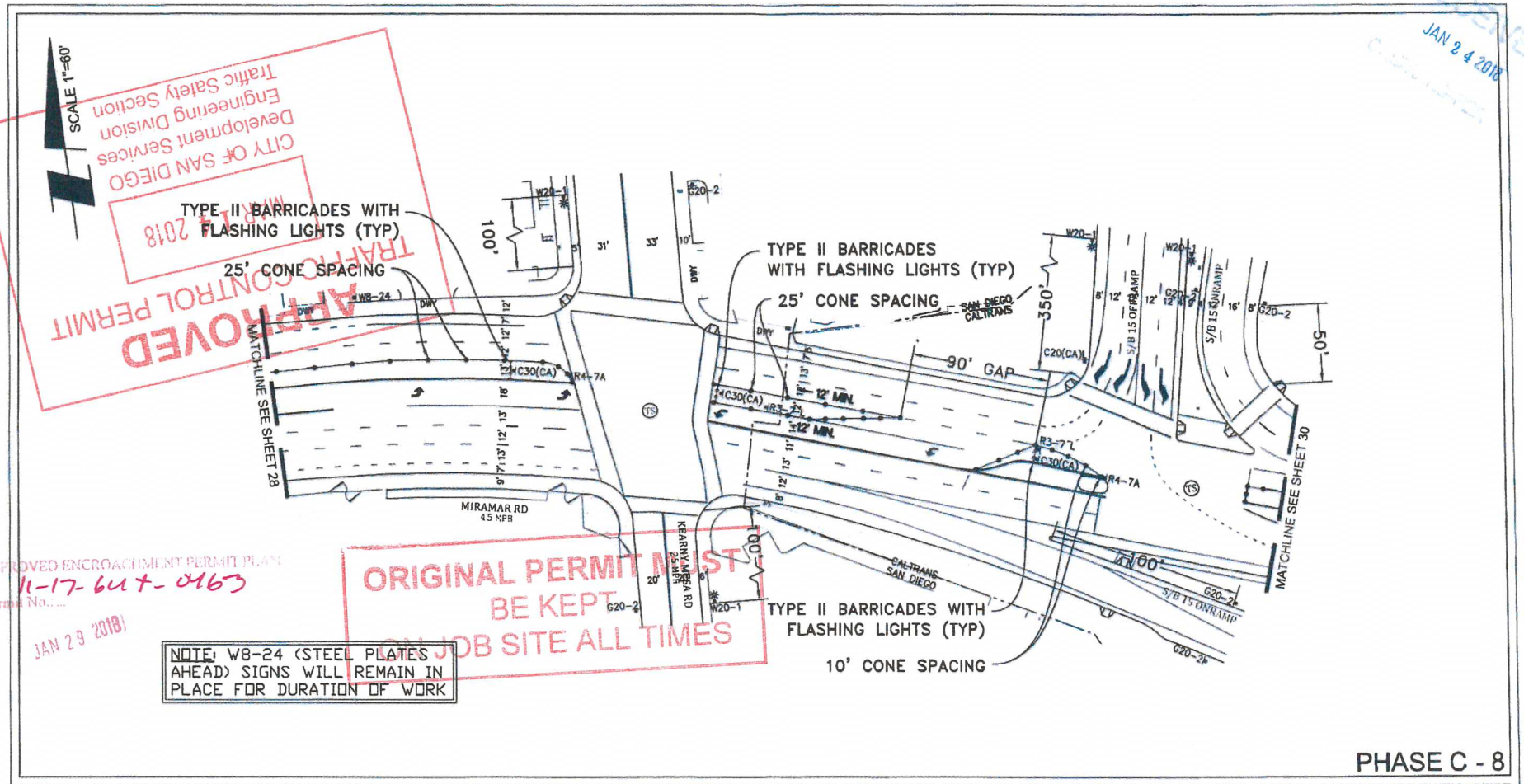
SAN DIEGO, CA 92128
P: 858.385 0500 WWW.NV5.COM

AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46320 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 28 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018
APPROVED
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APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6447-0163
JAN 29 2018

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JAN 24 2018

PHASE C - 8

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
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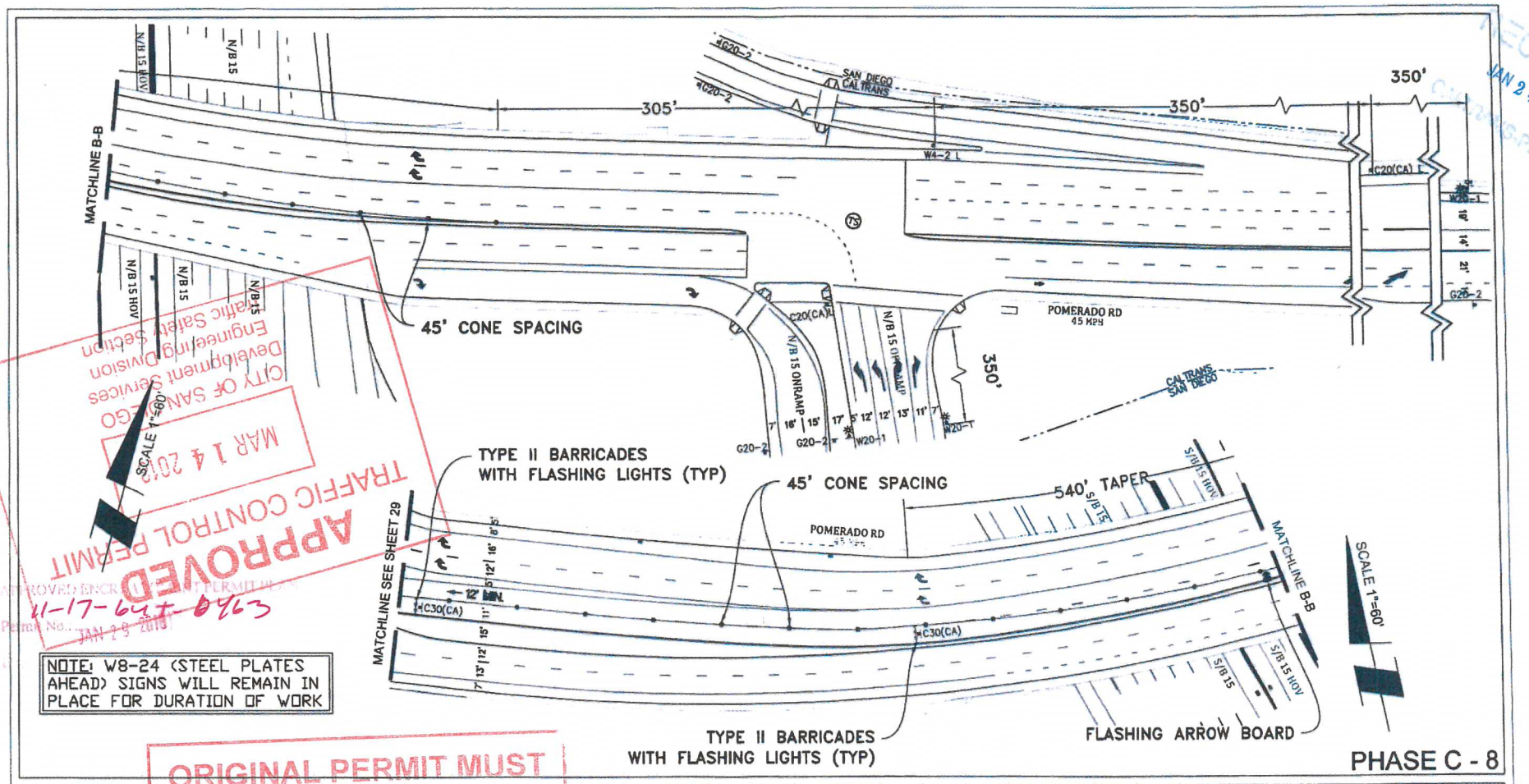
P: 858.385.0500 WWW.NV5.COM

AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 29 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

RECEIVED JAN 24 2018 CITY OF SAN DIEGO
CITY OF SAN DIEGO Development Services Engineering Division Traffic Safety Section
MAR 14 2018
APPROVED TRAFFIC CONTROL PERMIT
APPROVED ENCROACHMENT PERMIT
Permit No. 41-17-647-0463
JAN 29 2018
ORIGINAL PERMIT MUST BE KEPT ON JOB SITE AT TIMES

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC.
Gail McMorran
President
7534 EAST EL NORTE PARKWAY SUITE C
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P: 858.385.0500 WWW.NV5.COM

AIRX JOB#: X160218

THOMAS GRID#: 1209–F

MISC/POTHOLES#:

DRAWN FOR: CALTRANS

TYPE OF WORK: TRENCHING / CONDUIT

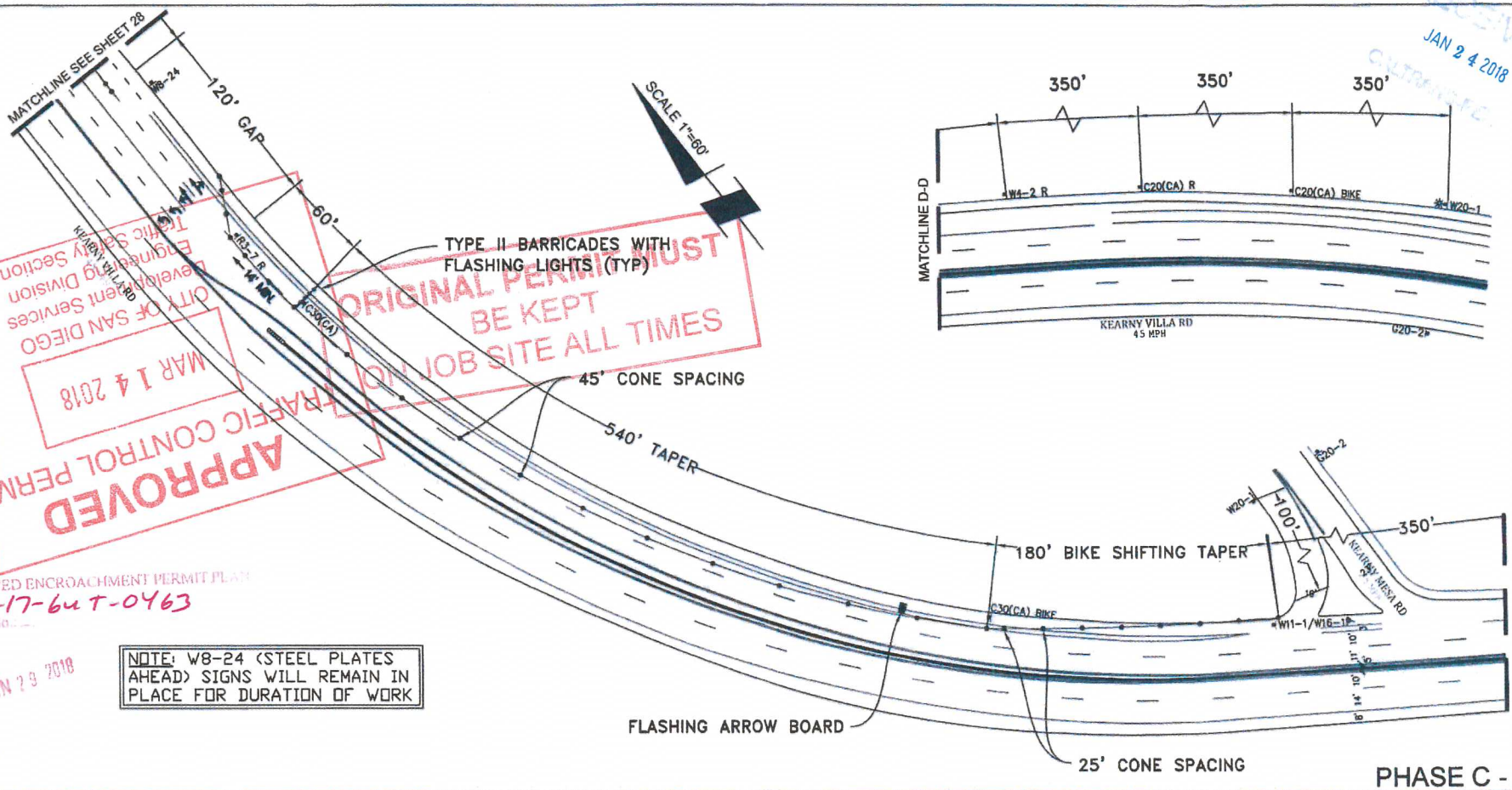
REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018

DESIGNED: Clint Jones

CHECKED BY: Mark Webb

SHEET 30 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

PHASE C - 8

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

APPROVED TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6uT-0463
JAN 29 2018

RECEIVED
JAN 24 2018
CALTRANS

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
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CELL (760) 419-3738

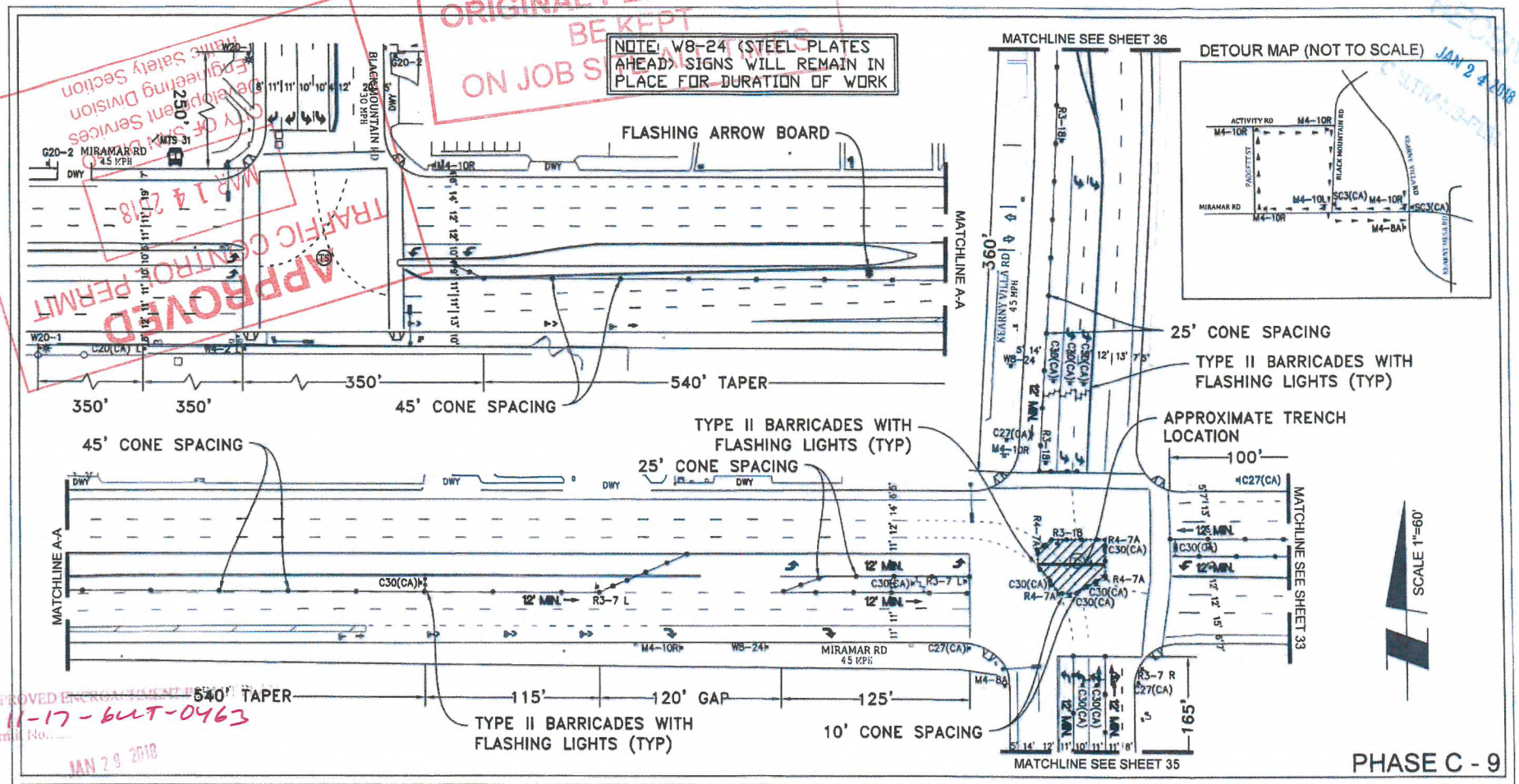
NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858 385.0500 WWW.NV5.COM

AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB NO. 46328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 31 OF 48



ORIGINAL PERMIT MUST BE KEPT ON JOB SITE AT ALL TIMES
APPROVED TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO Development Services Engineering Division Traffic Safety Section
JAN 24 2018
APPROVED ENCROACHMENT PERMIT
Permit No. 11-17-6LLT-0463
JAN 29 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

AIRX UTILITY SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
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PHONE (760) 480-2347
CELL (760) 419-3738

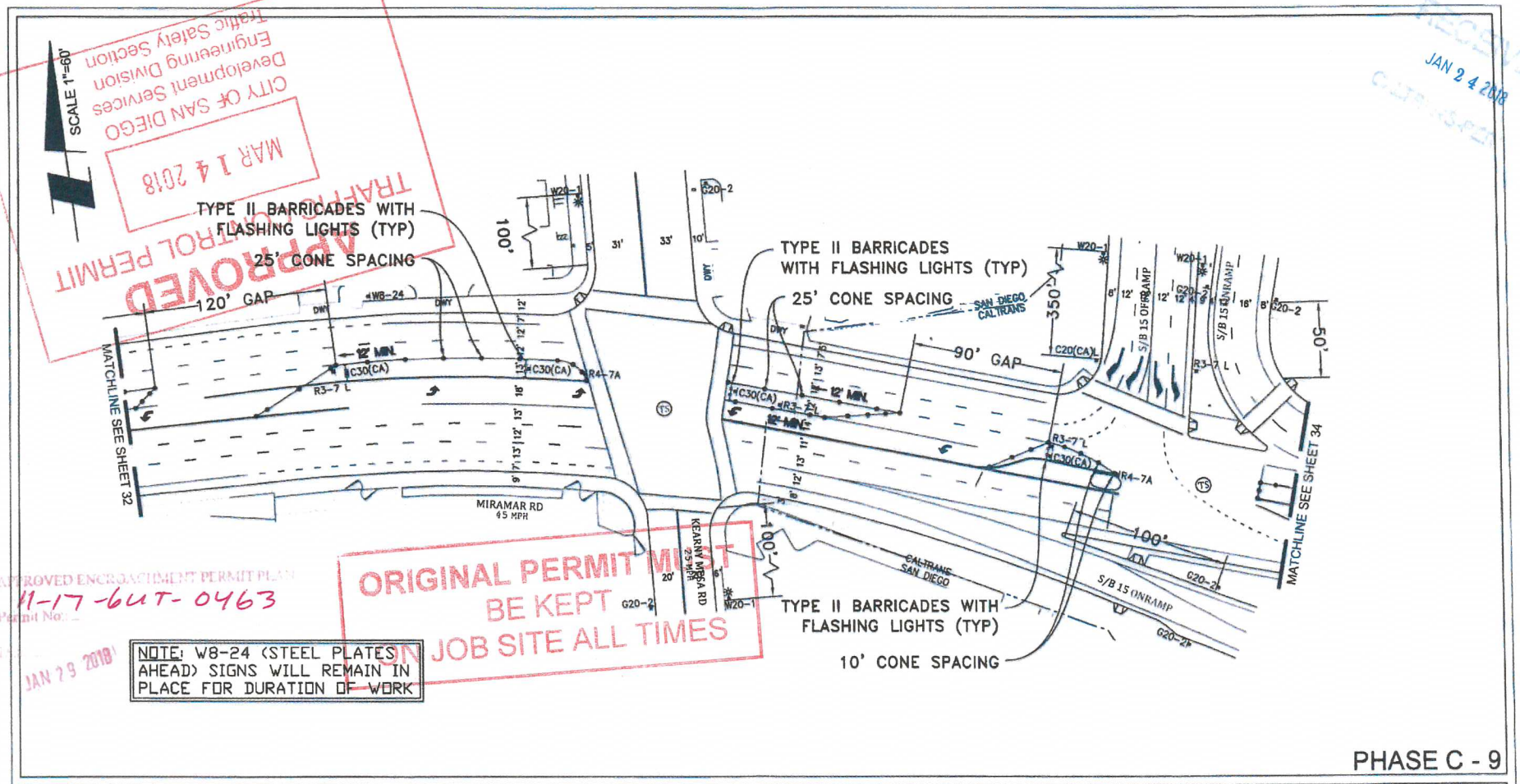
NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858 385 0500 WWW.NV5.COM

AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46326 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 32 OF 48



CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018
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JAN 24 2018

APPROVED ENCROACHMENT PERMIT PLAN
Permit No.: 11-17-6UT-0463
JAN 29 2019

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

PHASE C - 9

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

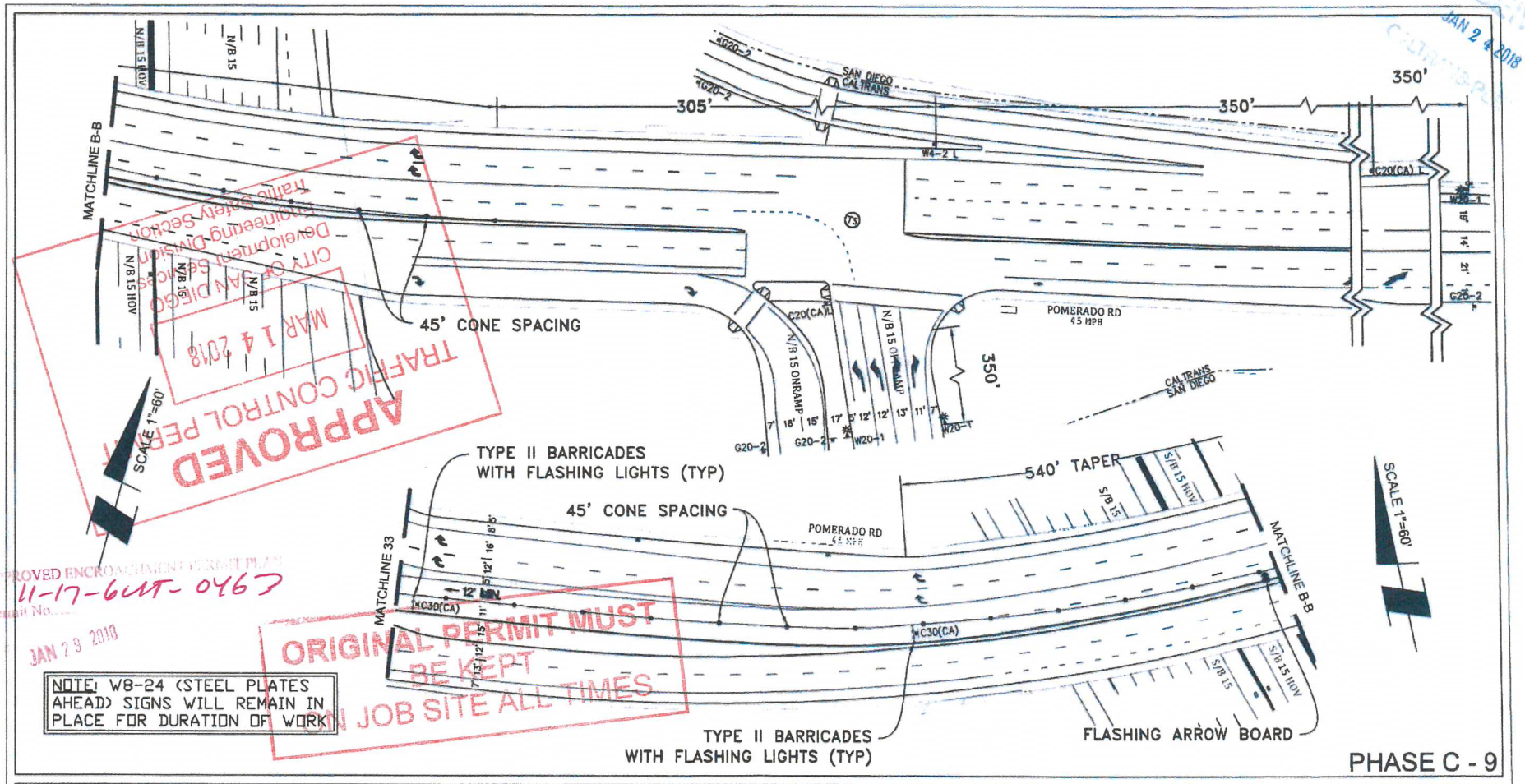
UTILITY SURVEYORS, INC.
AIRX
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
ESCONDIDO, CA 92027
PHONE: (760) 480-2347
CELL (760) 418-3738

NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385.0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

SHEET 33 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

APPROVED
TRAFFIC CONTROL PEFM
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section

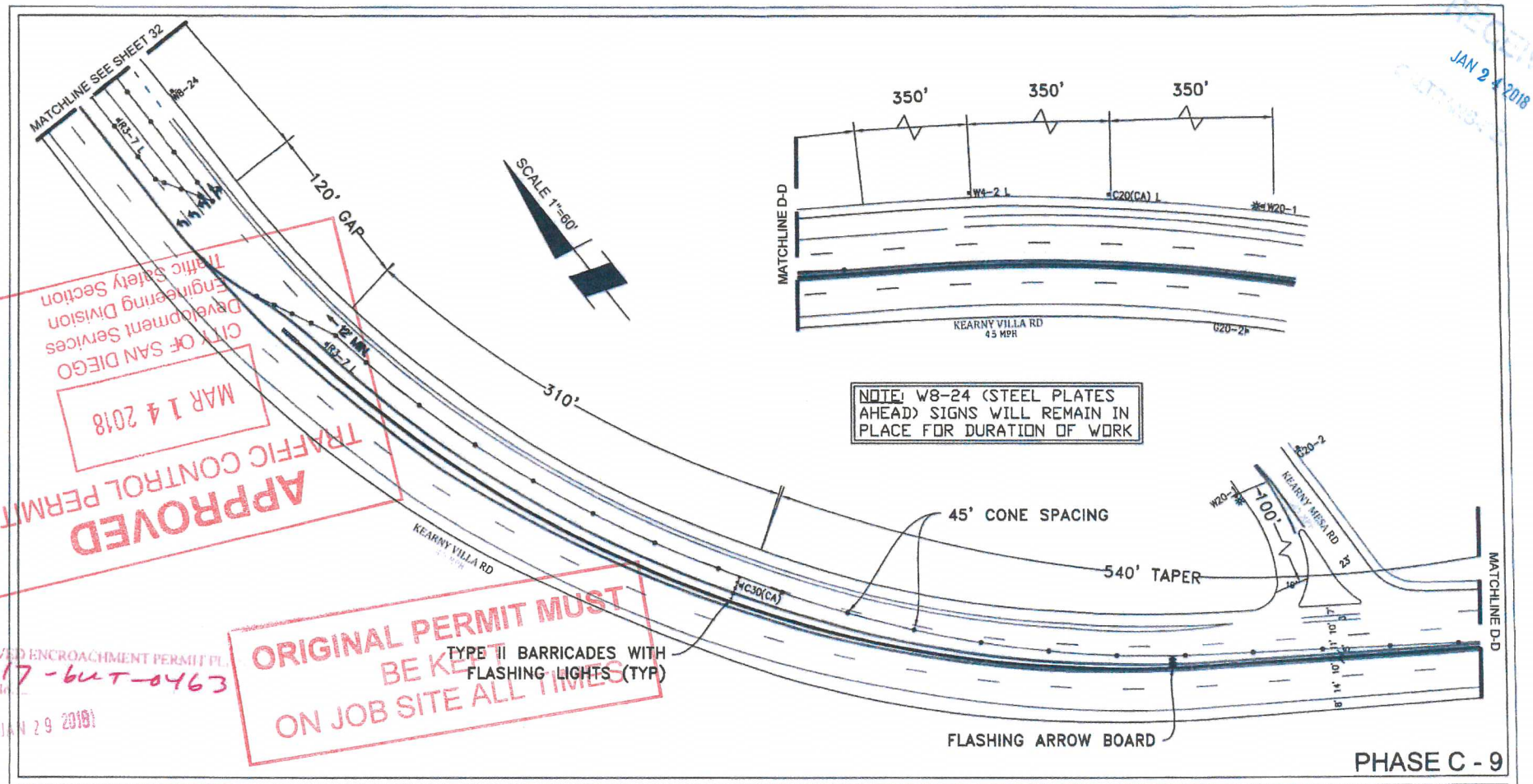
APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0467
JAN 23 2018

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

RECEIVED
JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX SURVEYORS, INC. Gail McMorran, President; 2554 EAST EL NORTE PARKWAY SUITE C, ESCONDIDO, CA 92027; PHONE: (760) 480-2347; CELL: (760) 419-3736	N|V|5 15092 AVENUE OF SCIENCE, SUITE 200, SAN DIEGO, CA 92128; P: 858 385 0500 WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: CALTRANS
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 34 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB NO. 48328 CIVIL STATE OF CALIFORNIA



PHASE C - 9

APPROVED
TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018

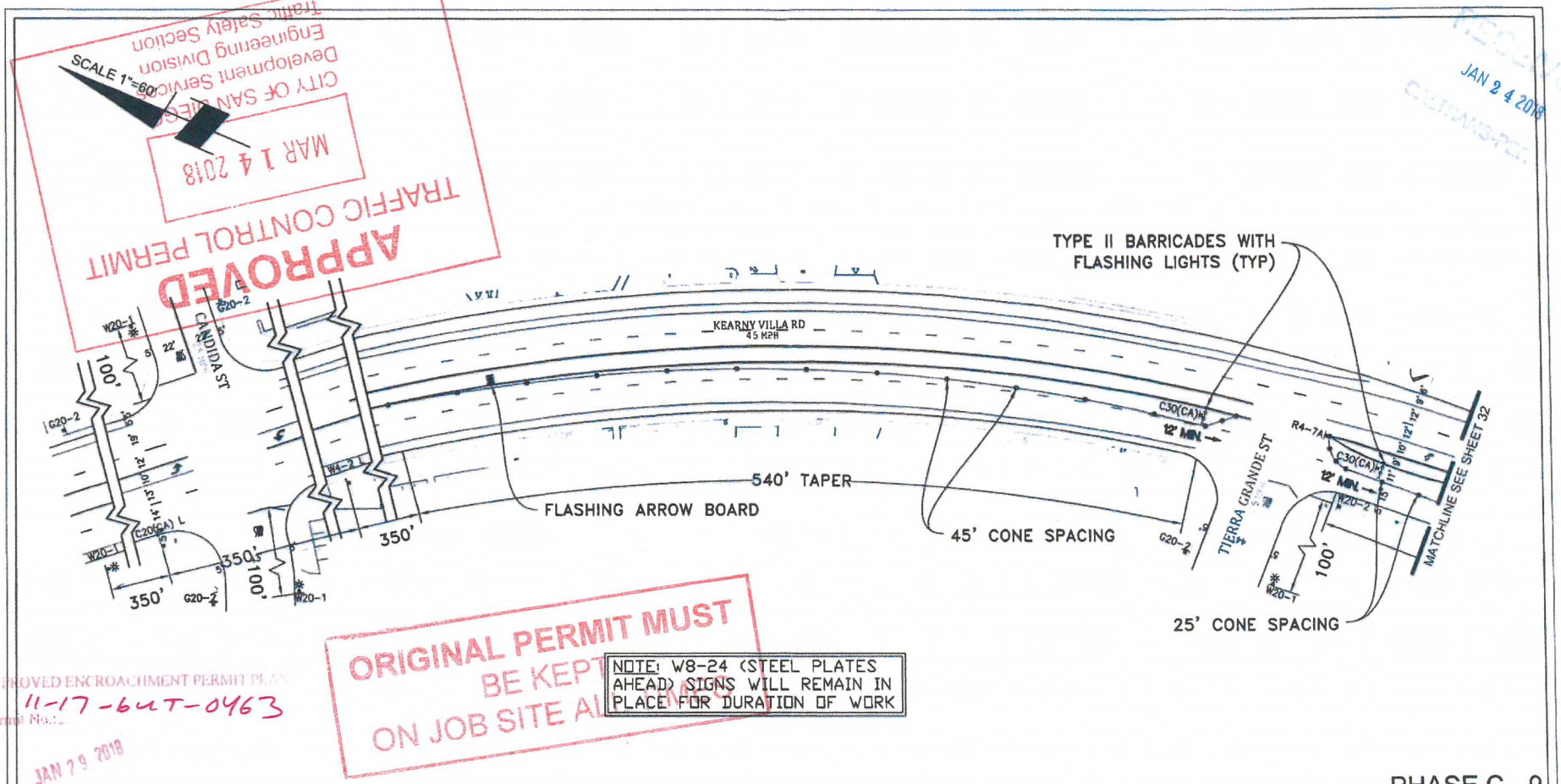
APPROVED ENCROACHMENT PERMIT PL.
Permit No. 11-17-6UT-0463
JAN 29 2018

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

RECEIVED
JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX Gail McMorran President 2534 EAST EL NORTE PARKWAY SUITE C ESCONDIDO, CA 92027 PHONE: (760) 480-2347 CELL (760) 419-3738	NV5 15092 AVENUE OF SCIENCE, SUITE 200 SAN DIEGO, CA 92128 P: 858.385.0500 WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: CALTRANS
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 35 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA



APPROVED
TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section

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JAN 24 2018
CALTRANS-TCI

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE AT ALL TIMES

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

APPROVED ENCROACHMENT PERMIT PLAN
Permit No.: 11-17-6UT-0463
JAN 29 2018

PHASE C - 9

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

AIRX SURVEYORS, INC.
Gail McMorran
President
2534 EAST EL NORTE PARKWAY SUITE C
ESCONDIDO CA 92027
PHONE (760) 480-2347
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NV5
15092 AVENUE OF SCIENCE, SUITE 200
SAN DIEGO, CA 92128
P: 858.385 0500 WWW.NV5.COM

AIRX JOB#: X160218
MISC/POTHOLES#:
TYPE OF WORK: TRENCHING / CONDUIT
THOMAS GRID#: 1209–F6
DRAWN FOR: CALTRANS

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

SHEET 36 OF 48

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

FLASHING ARROW BOARD

MATCHLINE SEE SHEET 40

DETOUR MAP (NOT TO SCALE)

SCALE 1"=60'

MIRAMAR RD 45 MPH

BLACKMOUNTAIN RD 35 MPH

KEARNY VILLA RD 45 MPH

250'

120' GAP

140'

MATCHLINE A-A

25' CONE SPACING

350' 350' 350'

540' TAPER

45' CONE SPACING

APPROXIMATE TRENCH LOCATION

10' CONE SPACING

TYPE II BARRICADES WITH FLASHING LIGHTS (TYP)

TYPE II BARRICADES WITH FLASHING LIGHTS (TYP)

100' 120' GAP

12' MIN.

MATCHLINE SEE SHEET 38

540' TAPER 300'

TYPE II BARRICADES WITH FLASHING LIGHTS (TYP)

TYPE II BARRICADES WITH FLASHING LIGHTS (TYP)

25' CONE SPACING

10' CONE SPACING

MATCHLINE SEE SHEET 38

PHASE C - 10

APPROVED TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 1 2018

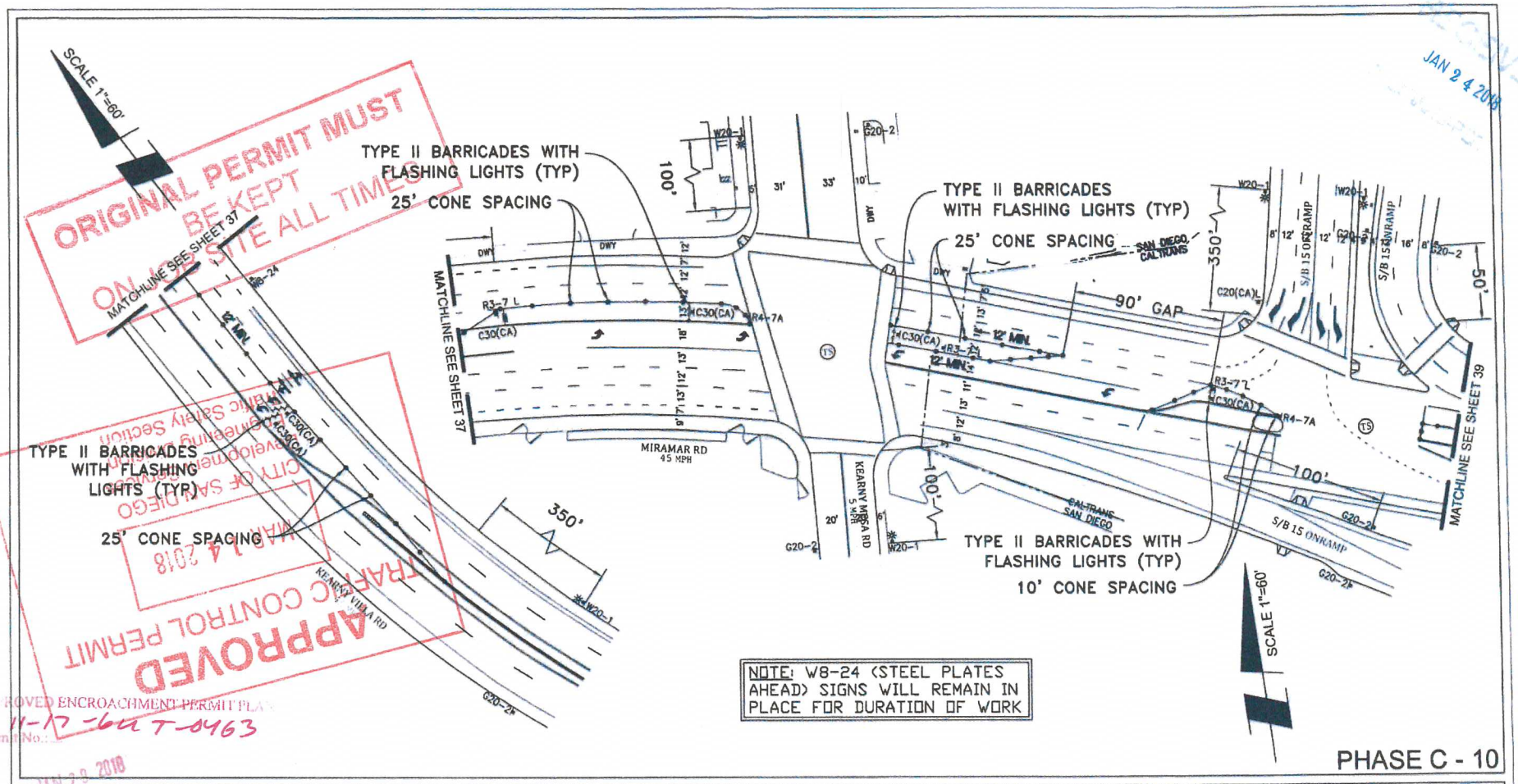
ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

APPROVED ENCROACHMENT PERMIT
Permit No. 11-17-6LT-0463
JAN 29 2018

RECEIVED JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX SURVEYORS, INC. Gail McMorran President 2534 EAST EL NORTE PARKWAY SUITE C ESCONDIDO, CA 92027 PHONE: (760) 480-2347 CELL (760) 419-3738	NV5 15092 AVENUE OF SCIENCE, SUITE 200 SAN DIEGO, CA 92128 P: 858 385 0500 WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: CALTRANS
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 37 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

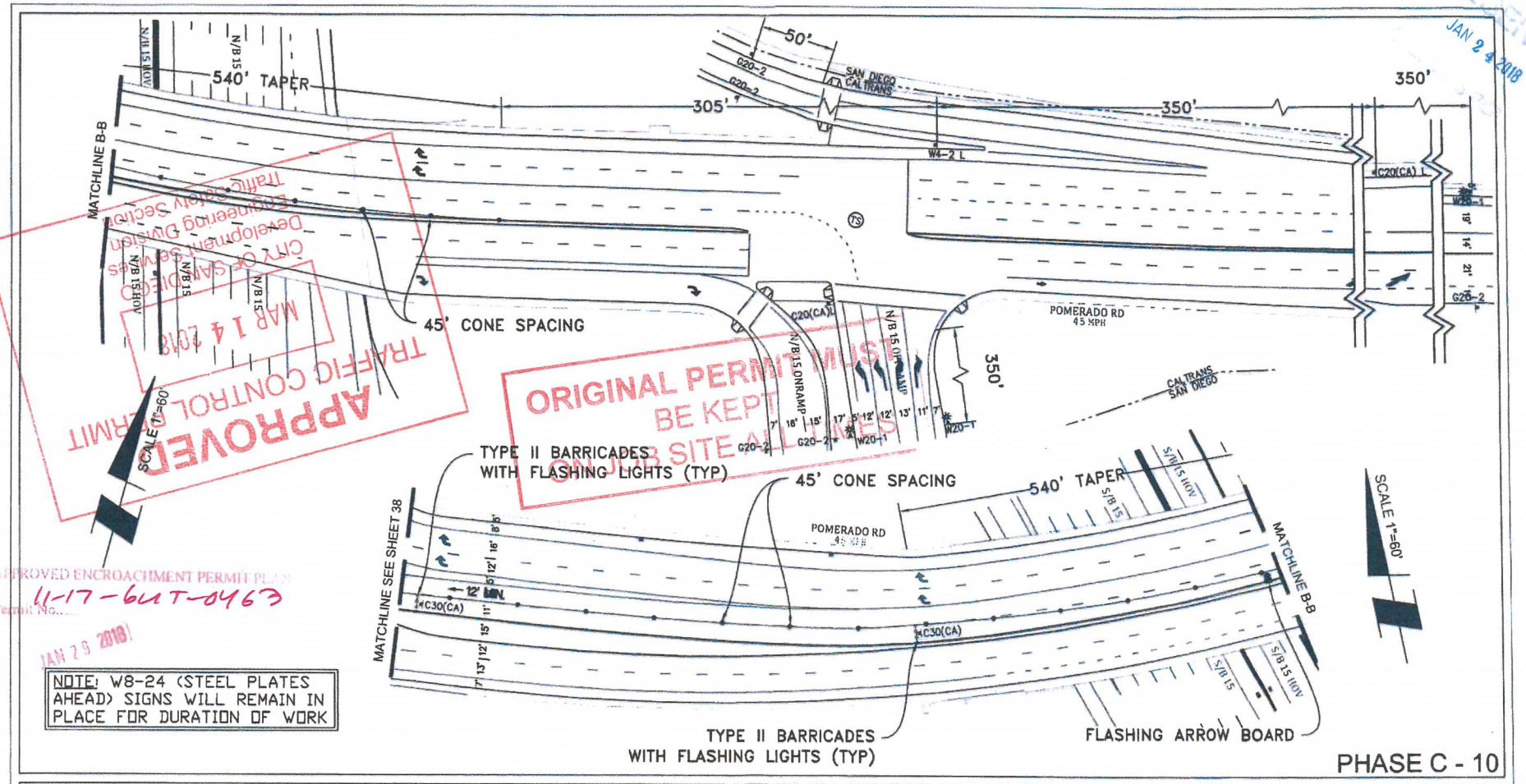


NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

PHASE C - 10

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX SURVEYORS, INC. Gail McMorran President, 2534 EAST EL NORTE PARKWAY SUITE C, ESCONDIDO, CA 92027, PHONE (760) 480-2947, CELL: (760) 419-3738	NV5, 15092 AVENUE OF SCIENCE, SUITE 200, SAN DIEGO, CA 92128, P: 858.385.0500, WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: CALTRANS
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 38 OF 48

REGISTERED PROFESSIONAL ENGINEER, MARK H. WEBB, No. 48328, CIVIL, STATE OF CALIFORNIA



PHASE C - 10

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

APPROVED TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE AT ALL TIMES

APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
JAN 29 2018

JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

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Gail McMorran
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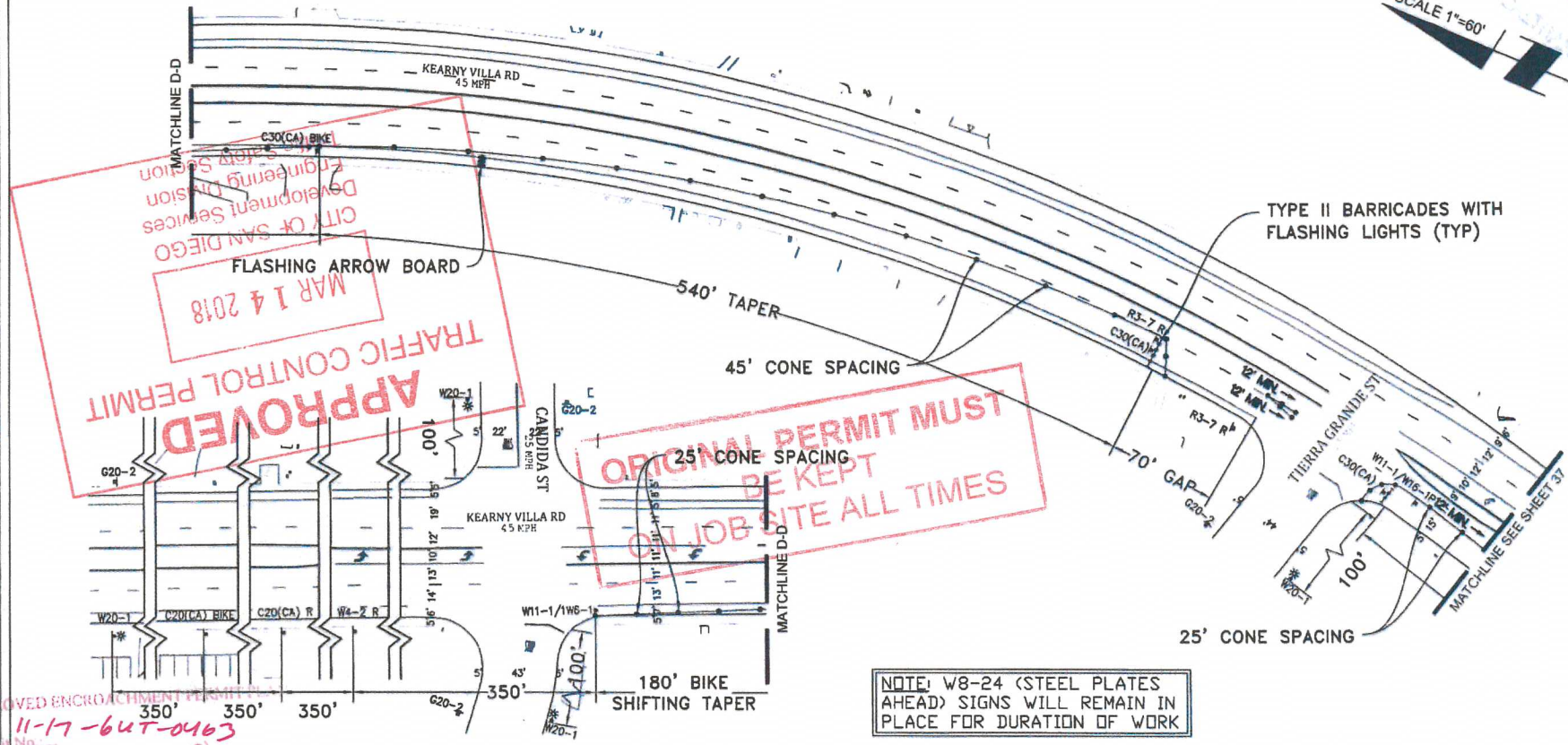
SAN DIEGO, CA 92128
P: 858 385.0500 WWW.NV5.COM

AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 39 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

PHASE C - 10

APPROVED
TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Control Section

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

APPROVED ENCROACHMENT PERMIT
Permit No. 11-17-6UT-0463
JAN 29 2018

JAN 24 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground			DATE: 1/22/2018 DESIGNED: Clint Jones CHECKED BY: Mark Webb
AIRX SURVEYORS, INC. Gail McMorran President, 7534 EAST EL NORTE PARKWAY SUITE C, ESCONDIDO, CA 92027, PHONE: (760) 480-2947, CELL: (760) 419-3728	N|V|5 15092 AVENUE OF SCIENCE, SUITE 200, SAN DIEGO, CA 92128, P: 858.385.0500, WWW.NV5.COM	AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
		MISC/POTHOLES#:	DRAWN FOR: CALTRANS
		TYPE OF WORK: TRENCHING / CONDUIT	SHEET 40 OF 48

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 45328 CIVIL STATE OF CALIFORNIA

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

MIRAMAR RD 45 MPH

PADGETT ST 25 MPH

BLACK MOUNTAIN RD 30 MPH

FLASHING ARROW BOARD

MATCHLINE A-A

25' CONE SPACING

SCALE 1"=60'

TYPE II BARRICADES WITH FLASHING LIGHTS (TYP)

10' CONE SPACING

100'

250'

350'

350'

350'

540' TAPER

45' CONE SPACING

540' TAPER

45' CONE SPACING

120' GAP

25' CONE SPACING

280'

TYPE II BARRICADES WITH FLASHING LIGHTS (TYP)

10' CONE SPACING

MATCHLINE SEE SHEET 42

PHASE C - 11

APPROVED TRAFFIC CONTROL PERMIT
MAR 14 2018
OFFICE SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

RECEIVED JAN 24 2018 CALTRANS-PL

APPROVED TRAFFIC CONTROL PERMIT PLAN
Permit No.: 11-17-6UT-0463
JAN 18 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

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AIRX JOB#: X160218

MISC/POTHOLES#:

TYPE OF WORK: TRENCHING / CONDUIT

THOMAS GRID#: 1209–F6

DRAWN FOR: CALTRANS

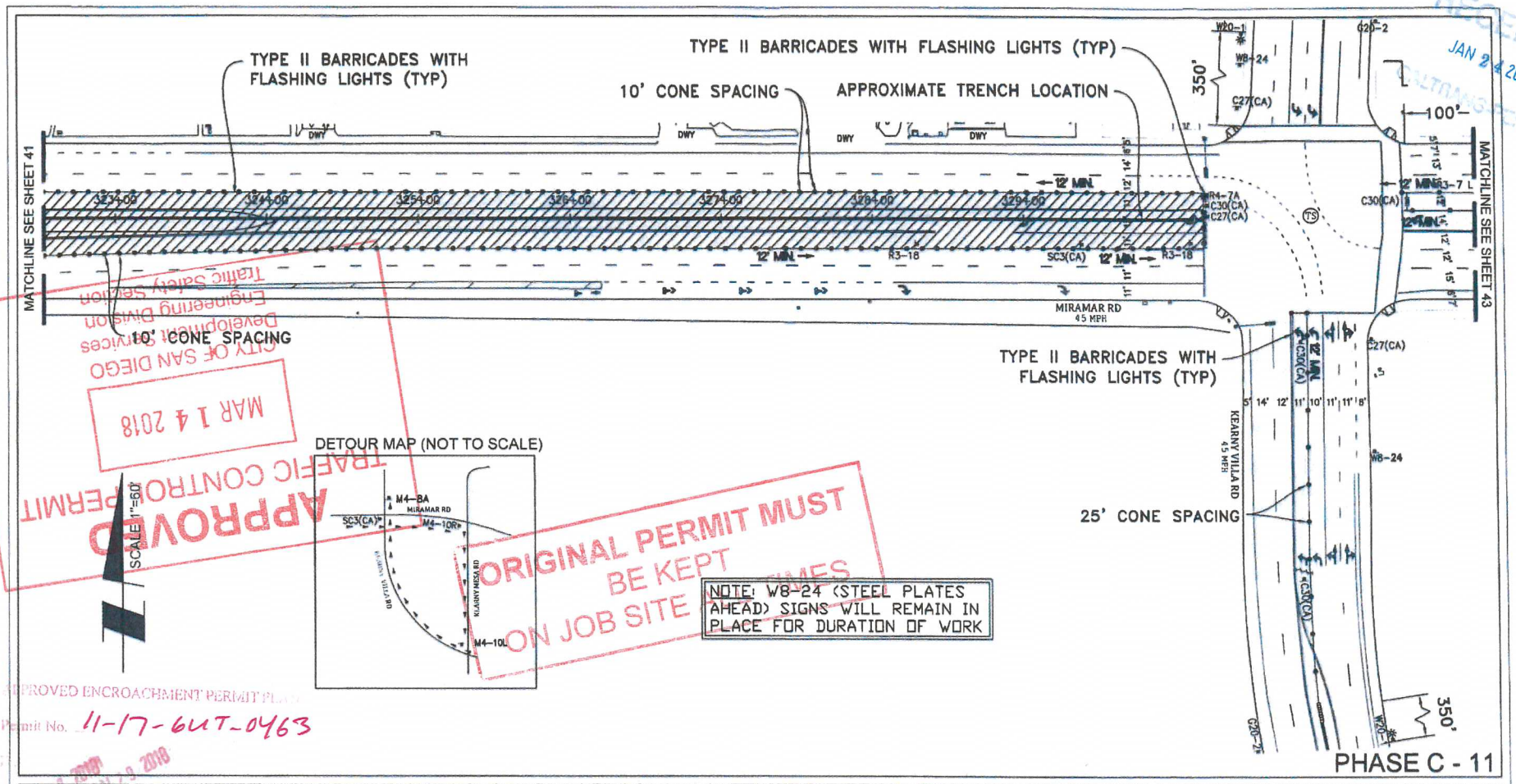
REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 48328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018

DESIGNED: Clint Jones

CHECKED BY: Mark Webb

SHEET 41 OF 48



RECEIVED JAN 24 2018 CALTRANS
APPROVED TRAFFIC CONTROL PERMIT MAR 14 2018 CITY OF SAN DIEGO Development Services Engineering Division Traffic Safety Section
ORIGINAL PERMIT MUST BE KEPT ON JOB SITE
APPROVED ENCROACHMENT PERMIT PLAN
Permit No. 11-17-6UT-0463
APR 23 2018

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

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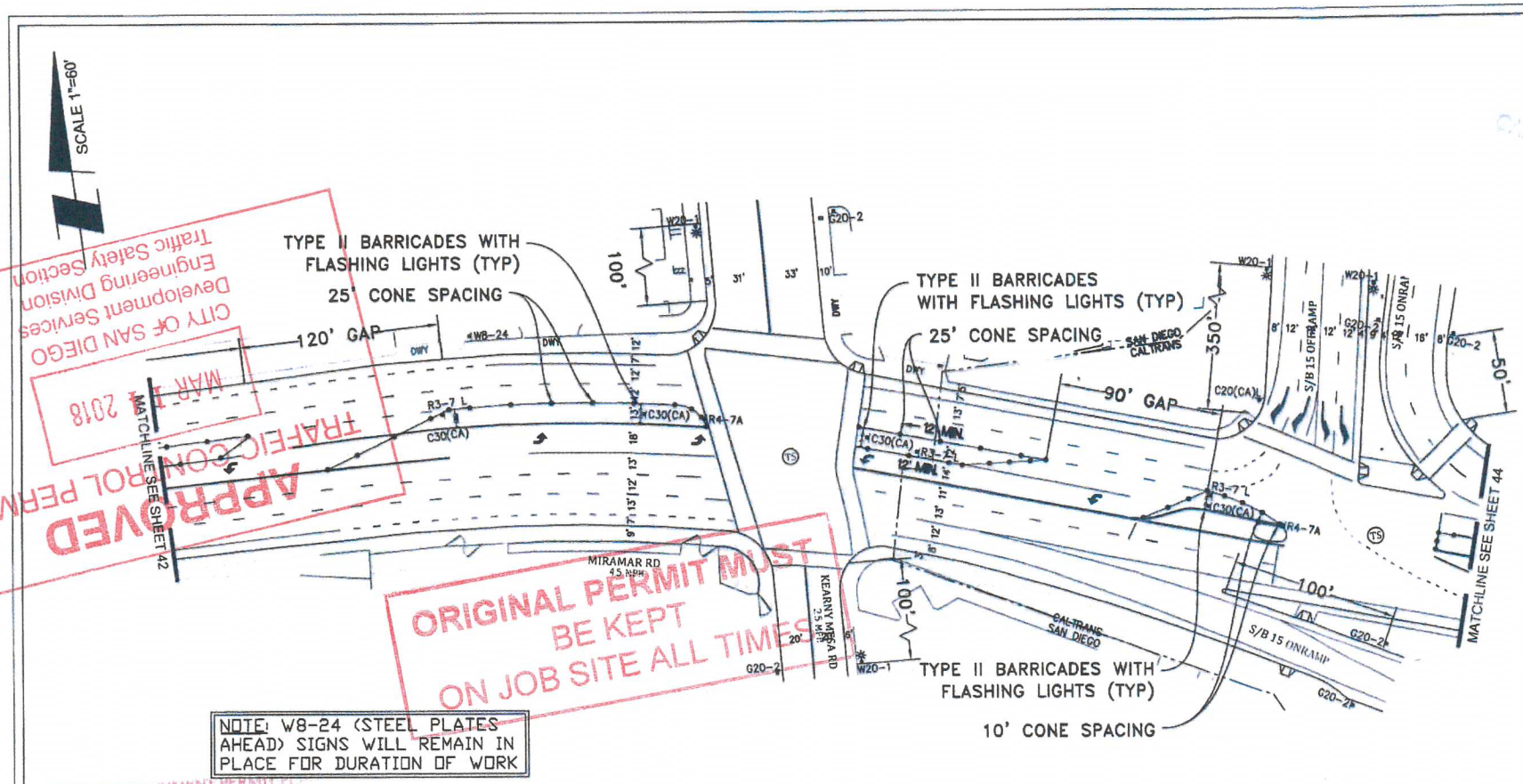
AIRX JOB#: X160218	THOMAS GRID#: 1209–F6
MISC/POTHOLES#:	DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT	

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 42 OF 48



NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

APPROVED ENCROACHMENT PERMIT
Permit No.: 11-17-6L1-0463

JAN 19 2018

RECEIVED
JAN 24 2018
CALTRANS-PER

APPROVED
TRAFFIC CONTROL PERMIT
MAR 14 2018
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

PHASE C - 11

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

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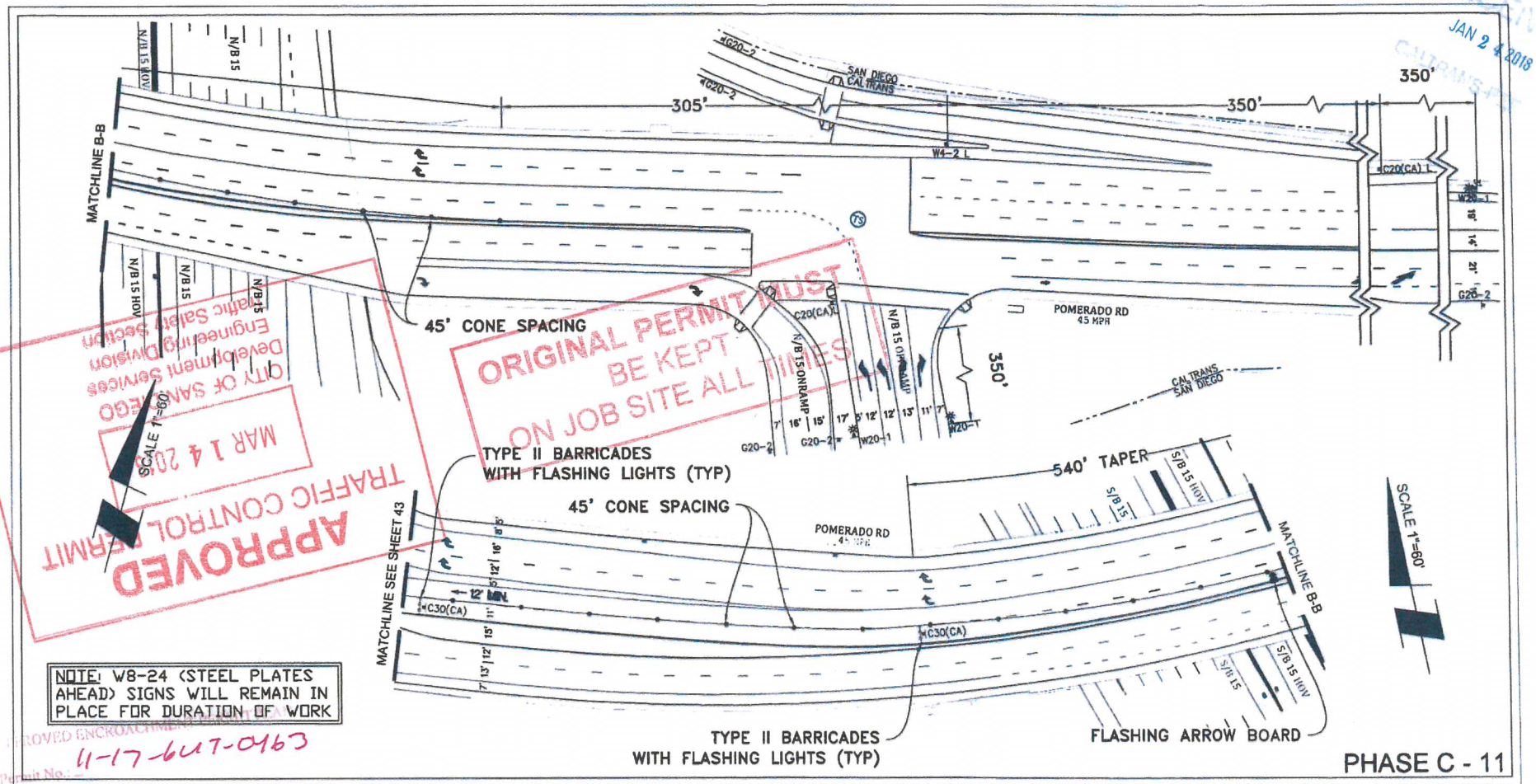
AIRX JOB#: X160218
THOMAS GRID#: 1209–F6
MISC/POTHOLES#:
DRAWN FOR: CALTRANS
TYPE OF WORK: TRENCHING / CONDUIT

REGISTERED PROFESSIONAL ENGINEER MARK H. WEBB No. 46328 CIVIL STATE OF CALIFORNIA

SHEET 43 OF 48



RECEIVED
JAN 24 2018
CALTRANS

ORIGINAL PERMIT MUST BE KEPT ON JOB SITE ALL TIMES

APPROVED
TRAFFIC CONTROL PERMIT
CITY OF SAN DIEGO
Development Services
Engineering Division
Traffic Safety Section
MAR 14 2018

NOTE: W8-24 (STEEL PLATES AHEAD) SIGNS WILL REMAIN IN PLACE FOR DURATION OF WORK

APPROVED ENCROACHMENT PERMIT
Permit No.: 11-17-6U7-0163

PHASE C - 11

PROJECT NAME: TL23071 – Sycamore Canyon Substation To Penasquitos Substation – 230 KV Underground

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AIRX JOB#: X160218
MISC/POTHOLES#:
TYPE OF WORK: TRENCHING / CONDUIT
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DRAWN FOR: CALTRANS

REGISTERED PROFESSIONAL ENGINEER
MARK H. WEBB
No. 46328
CIVIL
STATE OF CALIFORNIA

DATE: 1/22/2018
DESIGNED: Clint Jones
CHECKED BY: Mark Webb

SHEET 44 OF 48