

COORDINATES, BEARINGS AND DISTANCES SHOWN ARE ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 3, EPOCH 2017.50. MULTIPLY DISTANCES SHOWN BY 1.0000333 TO OBTAIN GROUND LEVEL DISTANCES.

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**SURVEYOR'S STATEMENT**

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE LAND SURVEYORS' ACT AT THE REQUEST OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION IN APRIL, 2020.

SIGNED: Jerry Zhong 10/13/2020  
 JERRY ZHONG, PLS 7784  
 LICENSE EXPIRES 12/31/2021



**COUNTY SURVEYOR'S STATEMENT**

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE LAND SURVEYORS' ACT THIS 27th DAY OF OCTOBER, 2020.

BY: Tracy W. Park  
 TRACY W. PARK, PLS 8176  
 COUNTY SURVEYOR

BY: David O. Knell  
 DAVID O. KNELL, PLS 5301  
 DEPUTY COUNTY SURVEYOR



**RECORDER'S STATEMENT**

FILED THIS 30th DAY OF Oct, 2020 AT 8:00 A.M. IN BOOK 2020 OF MAPS AT PAGE 269, AT THE REQUEST OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION AND THE MARIN COUNTY DEPARTMENT OF PUBLIC WORKS.

SERIAL NO. 2020-0053625.

Shelby Scott  
 COUNTY RECORDER

Ann D. Hagan  
 DEPUTY COUNTY RECORDER

RECORDED WITHOUT FEE PER G.C. 27383

**LEGEND**

- ⊙ CSRC/CORS SITE
- ▲ FOUND HPGN STATION AS NOTED
- FOUND GRANITE MONUMENT AS NOTED, SEE SHEETS 2 AND 3 FOR ADDITIONAL INFORMATION
- GPS BASELINE
- C.G.F. COMBINED GRID FACTOR
- G.C. GOVERNMENT CODE

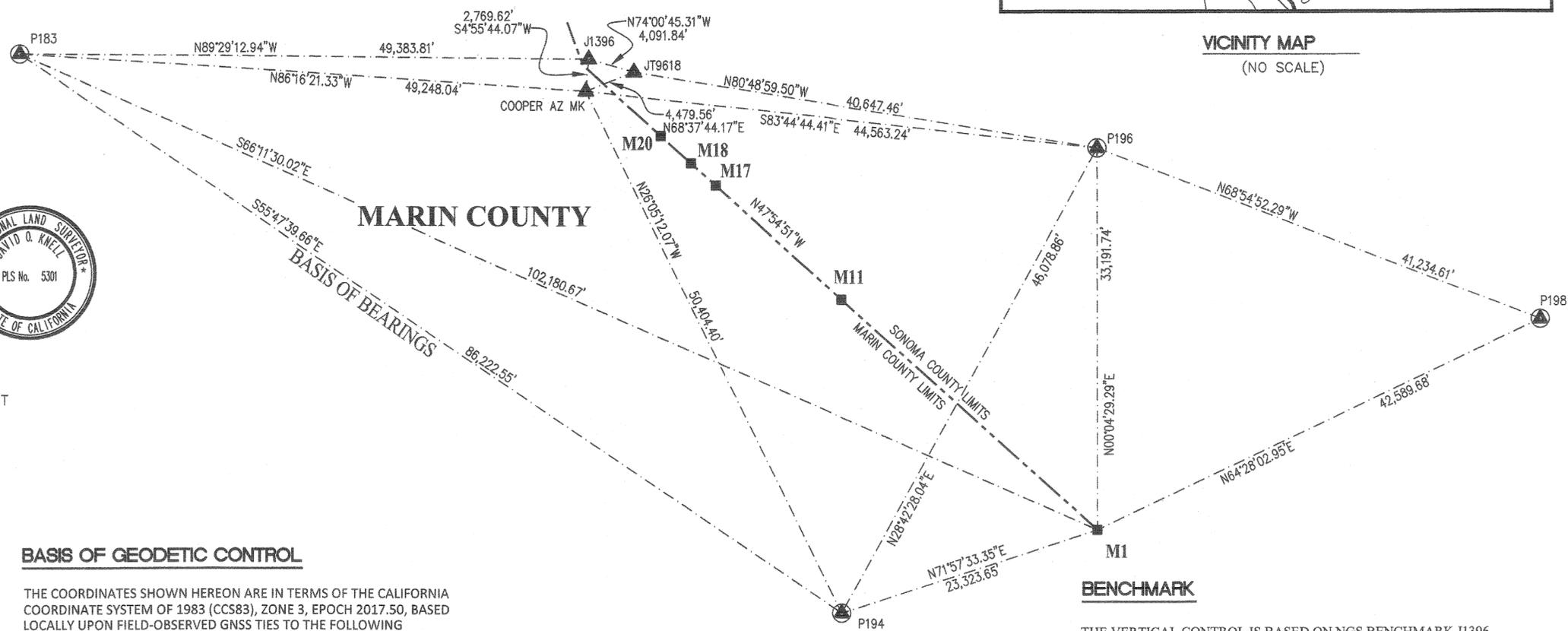
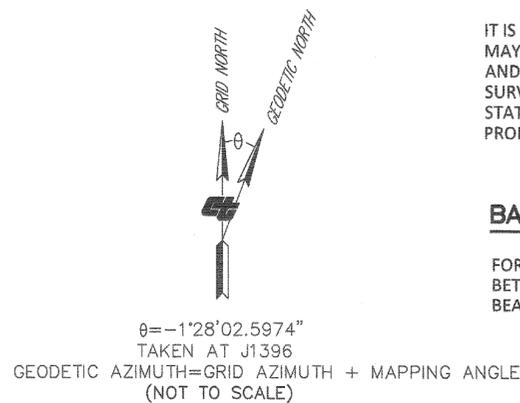
S-901.0

**COUNTY SURVEYOR'S NOTE**

IT IS THE COUNTY SURVEYOR'S OPINION THAT EVIDENCE EXISTS WHICH MAY ALTER THE POSITION OF POINTS & LINES SHOWN ON THIS SURVEY; AND THE 6"X6" CONCRETE MONUMENTS ARE COMMONLY HELD BY SURVEYORS AS IDENTIFYING THE POSITIONS OF THE CORNERS OF THE STATE'S RIGHT-OF-WAY, AS WELL AS THE CORNERS OF ADJOINING PROPERTY OWNERS.

**BASIS OF BEARINGS**

FOR THE PURPOSE OF THIS MAP THE GRID BEARING OF S55°47'39.66"E BETWEEN STATIONS P183 AND P194 SHALL BE USED AS THE BASIS OF BEARING AS CALCULATED FROM THE COORDINATES SHOWN HEREON.

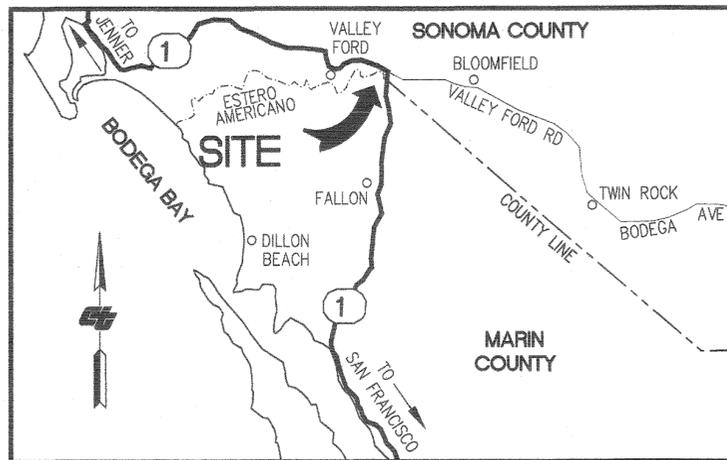


**BASIS OF GEODETIC CONTROL**

THE COORDINATES SHOWN HEREON ARE IN TERMS OF THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 3, EPOCH 2017.50, BASED LOCALLY UPON FIELD-OBSERVED GNSS TIES TO THE FOLLOWING CONTINUOUSLY OPERATING REFERENCE STATIONS AS PUBLISHED BY SOPAC/CSRC AND THE NATIONAL GEODETIC SURVEY:

- P183 (PID DN7547)
- P194 (CSRC)
- P196 (PID DM7542)
- P198 (PID DH7229)

STATION	NORTHING	EASTING	LONGITUDE	LATITUDE	ELEVATION	C.G.F.
P183 (PID DN7547)	2310923.042	5824683.775	123°04'07.947601"	38°18'49.183036"	141.922'	0.9999756
P194 (CSRC)	2262451.748	5895991.993	122°48'58.479138"	38°11'08.572381"	877.967'	0.9999209
P196 (PID DM7542)	2302866.635	5918125.640	122°44'33.462197"	38°17'53.310926"	402.696'	0.9999604
P198 (PID DH7229)	2288032.060	5956599.377	122°36'26.773072"	38°15'35.541214"	90.374'	0.9999692



VICINITY MAP  
(NO SCALE)

**BENCHMARK**

THE VERTICAL CONTROL IS BASED ON NGS BENCHMARK J1396. ELEVATION=30.53 FEET (NAVD88)

**STATE OF CALIFORNIA**  
**CALIFORNIA STATE TRANSPORTATION AGENCY**  
**DEPARTMENT OF TRANSPORTATION**

RECORD OF SURVEY  
 OF  
 A RETRACEMENT OF A PART OF THE MARIN AND SONOMA COUNTY LINE SHOWN ON THAT CERTAIN MAP FILED IN BOOK 9 OF MAPS, AT PAGE 13, IN THE OFFICE OF THE COUNTY RECORDER OF SONOMA COUNTY, STATE OF CALIFORNIA  
 MARCH, 2020

DISTRICT	COUNTY	ROUTE	SHEET PM	SHEET NO.	TOTAL SHEETS
04	MRN/SON	1	50.5/0.0	1	3

COORDINATES, BEARINGS AND DISTANCES SHOWN ARE ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 3, EPOCH 2017.50. MULTIPLY DISTANCES SHOWN BY 1.0000333 TO OBTAIN GROUND LEVEL DISTANCES.

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STATION	NORTHING	EASTING	LONGITUDE	LATITUDE	ELEVATION	C.G.F.	DESCRIPTION
J1396	2310480.825	5874065.605	122°53'48.423783"	38°18'57.762546"	30.53'	0.9999813	FOUND METAL ROD IN MONUMENT WELL ABOUT 1 FOOT EASTERLY FROM A WITNESS POST AND FENCE, 49.2 FEET WEST OF THE CENTERLINE OF STATE HIGHWAY 1 AND 171.9 FEET SOUTH OF THE CENTERLINE OF VALLEY FORD-FREESTONE ROAD, ABOUT 5.05 MILES NORTHERLY ALONG THE HIGHWAY FROM THE JUNCTION OF FIRST STREET IN TOMALES.
JT9618	2309353.824	5877999.185	122°52'58.724263"	38°18'47.618190"	48.97'	0.9999799	FOUND SURVEY DISK ENCASED IN PVC PIPE ON THE RIGHT SIDE OF A DRIVEWAY, 2.3 FEET NORTH OF A CARSONITE WITNESS POST, 47.3 FEET SOUTH OF THE CENTERLINE OF PETALUMA-VALLEY FORD ROAD, 0.75 OF A MILE SOUTHEASTERLY FROM THE INTERSECTION OF STATE HIGHWAY 1 AND PETALUMA-VALLEY FORD ROAD ALONG PETALUMA-VALLEY FORD ROAD.
COOPER AZ MK	2307721.443	5873827.640	122°53'50.521773"	38°18'30.433547"	77.81'	0.9999777	FOUND AZIMUTH MARK DISK STAMPED "COOPER 1972" SET IN TOP OF A 12 INCH CONCRETE CYLINDER FLUSH WITH THE GROUND ON THE CREST OF A SMALL HILL ON THE EAST SIDE OF STATE HIGHWAY 1 ABOUT 2.0 MILES, AIRLINE, IN AN EASTERLY DIRECTION FROM THE TOWN OF VALLEY FORD.
M1	2269674.922	5918168.974	122°44'22.955187"	38°12'25.294150"	235.04'	0.9999545	FOUND 11"x11" GRANITE MONUMENT ENGRAVED "S 1 M" SHOWN ON (R1)
M11	2289736.448	5895955.337	122°49'07.404494"	38°15'38.209806"	61.27'	0.9999707	FOUND 6"x6" GRANITE MONUMENT ENGRAVED "S 11 M" SHOWN ON (R1)
M17	2299545.076	5885094.281	122°51'26.632450"	38°17'12.461282"	284.80'	0.9999642	FOUND 6"x6" GRANITE MONUMENT ENGRAVED "S 17 M" SHOWN ON (R1)
M18	2301479.832	5882951.114	122°51'54.117164"	38°17'31.046764"	408.42'	0.9999591	FOUND 6"x6" GRANITE MONUMENT ENGRAVED "S 18 M" SHOWN ON (R1)
M20	2303839.047	5880339.924	122°52'27.609787"	38°17'53.707760"	288.53'	0.9999659	FOUND 6"x6" GRANITE MONUMENT ENGRAVED "S 20 M" SHOWN ON (R1)

**ADJUSTMENT NOTES**

SEVEN TRIMBLE R8 DUAL FREQUENCY GNSS RECEIVERS WERE USED ON NOV 09, 2018 AND SIX RECEIVERS WERE USED ON FEB 07, 2019. THE CAMPAIGNS CONSISTED OF THREE AND FOUR OCCUPATION SESSIONS RESPECTIVELY. EACH OCCUPATION WAS FOR A MINIMUM OF 60 MINUTES WITH EVERY MONUMENT BEING OBSERVED AT LEAST THREE TIMES. STATIC DATA WAS COLLECTED AT A 5 SECOND EPOCH RATE WITH AN ELEVATION MASK OF 10 DEGREES.

GNSS DATA WAS REDUCED TO GEODETIC VECTORS USING TRIMBLE BUSINESS CENTER (TBC), VERSION 5.0. LOOP CLOSURE ANALYSIS RESULTED IN 261 LOOPS WITH THE AVERAGE RESIDUALS BEING 0.027' HORIZONTAL AND 0.043' VERTICAL. 88 INDEPENDENT BASELINES WERE EXPORTED FOR ADJUSTMENT IN STAR\*NET-PRO VERSION 9.

A MINIMALLY CONSTRAINED ADJUSTMENT WAS PERFORMED TO VERIFY THE INTEGRITY OF THE GNSS DATA EXCLUSIVE OF ANY EXTERNAL CONSTRAINTS. CSRC STATION P183 WAS FIXED IN LAT, LON AND J1396 WAS FIXED IN ELEVATION. THE DEFAULT STANDARD ERRORS OF THE BASELINE X, Y AND Z COMPONENTS WERE SCALED BY 1.10 AND A CENTERING ERROR OF 0.003 METERS WAS APPLIED IN BOTH HORIZONTAL AND VERTICAL DIRECTIONS. APPLICATION OF THIS WEIGHTING STRATEGY RESULTED IN A NETWORK VARIANCE OF UNIT WEIGHT OF 0.889 WITH 222 DEGREES OF FREEDOM AND PASSED THE CHI-SQUARE TEST. ERROR ELLIPSES AT THE 95% CONFIDENCE LEVEL (2 SIGMA) AVERAGED 0.02' HORIZONTALLY AND 0.03' VERTICALLY.

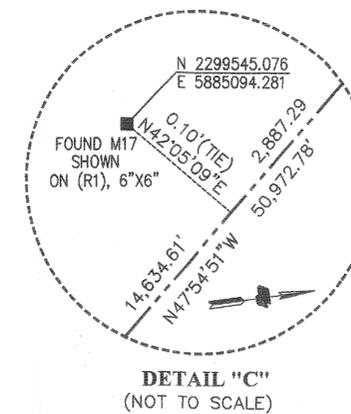
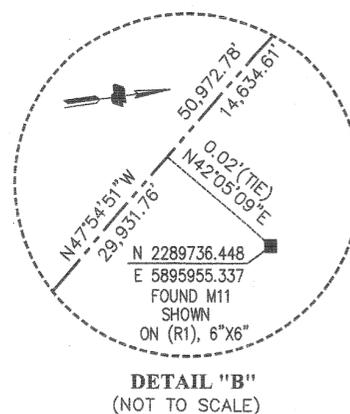
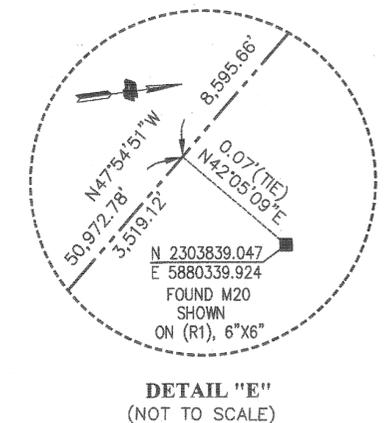
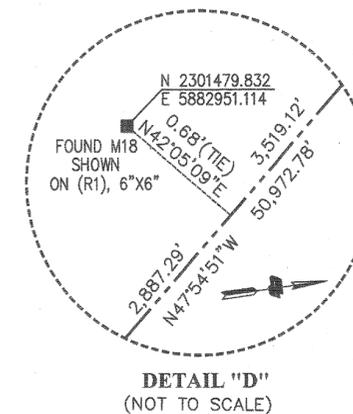
HORIZONTAL DIFFERENCES BETWEEN THE PUBLISHED COORDINATES OF THE CSRC STATIONS AND THE MINIMALLY ADJUSTED COORDINATES ARE AS FOLLOWS:

STATION	Δ NORTH (FT)	Δ EAST (FT)	Δ ELEV (FT)
P194	-0.03	0.02	0.08
P196	-0.04	0.03	0.08
P198	-0.05	0.03	0.10

A CONSTRAINED ADJUSTMENT WAS PERFORMED UTILIZING CSRC STATIONS P183, P194, P196, AND P198 AS HORIZONTAL CONSTRAINTS. THE DEFAULT STANDARD ERRORS OF THE BASELINE X, Y AND Z COMPONENTS WERE SCALED BY 1.10 AND A CENTERING ERROR OF 0.003 METERS WAS APPLIED IN BOTH HORIZONTAL AND VERTICAL DIRECTIONS. THIS RESULTED IN A NETWORK VARIANCE OF UNIT WEIGHT (ERROR FACTOR) OF 1.071 WITH 228 DEGREES OF FREEDOM AND PASSED THE CHI-SQUARE TEST. ERROR ELLIPSES AT THE 95% CONFIDENCE LEVEL (2 SIGMA) AVERAGED 0.01' HORIZONTALLY AND 0.03' VERTICALLY.

**GENERAL NOTES**

- THIS RECORD OF SURVEY IS BEING FILED IN ACCORDANCE WITH SECTION 8762, PARAGRAPH "A" OF THE LAND SURVEYOR'S ACT.
- ALL DISTANCES ARE GRID AND ARE EXPRESSED IN U.S. SURVEY FEET AND DECIMALS THEREOF. TO OBTAIN GROUND DISTANCES MULTIPLY BY AN AVERAGE OF 1.0000333. SEE THIS SHEET AND SHEET 1 FOR COMBINED GRID FACTOR (C.G.F.) OF EACH INDIVIDUAL STATION.
- THIS SURVEY WAS PERFORMED USING HIGH PRECISION GNSS SURVEY TECHNIQUES PER THE CALTRANS SURVEY MANUAL.
- THE STATIC GPS SURVEY WAS PERFORMED ON NOVEMBER 09, 2018 AND FEBRUARY 07, 2019 TO ESTABLISH COORDINATES ON FOUND MONUMENTS TO BE USED IN DETERMINING THE LOCATION OF THE SONOMA MARIN COUNTY LINE AND TO RE-SET MONUMENT M22 WHICH WAS DUG UP DURING CONSTRUCTION OF THE ESTERO AMERICANO BRIDGE IN VALLEY FORD, CA.
- NOT ALL THE GRANITE MONUMENTS SHOWN ON R1 (9 M 13, SONOMA COUNTY RECORDS) WERE SEARCHED FOR DUE TO INACCESSIBILITY.
- NOT ALL BASELINES ARE SHOWN FOR CLARITY.
- COUNTY LINE BETWEEN MARIN AND SONOMA COUNTY SHOWN HEREON WITH A BEARING OF N 47°54'51" W IS A BEST FIT THROUGH FOUND MONUMENTS.
- ALL DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF.
- ALL TIES SHOWN HEREON ARE PERPENDICULAR UNLESS SHOWN OTHERWISE.



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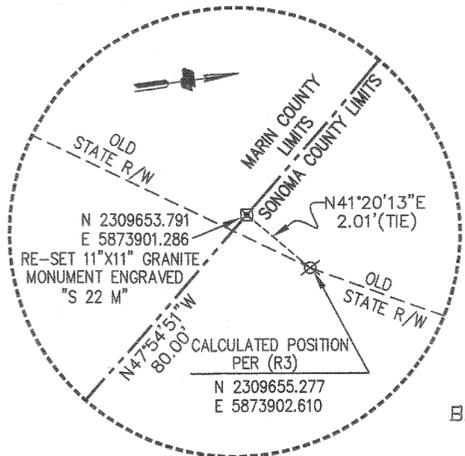
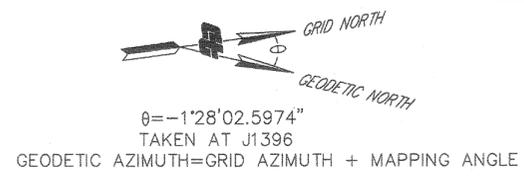
DISTRICT	COUNTY	ROUTE	SHEET PM	SHEET NO.	TOTAL SHEETS
04	MRN/SON	1	50.5/0.0	2	3

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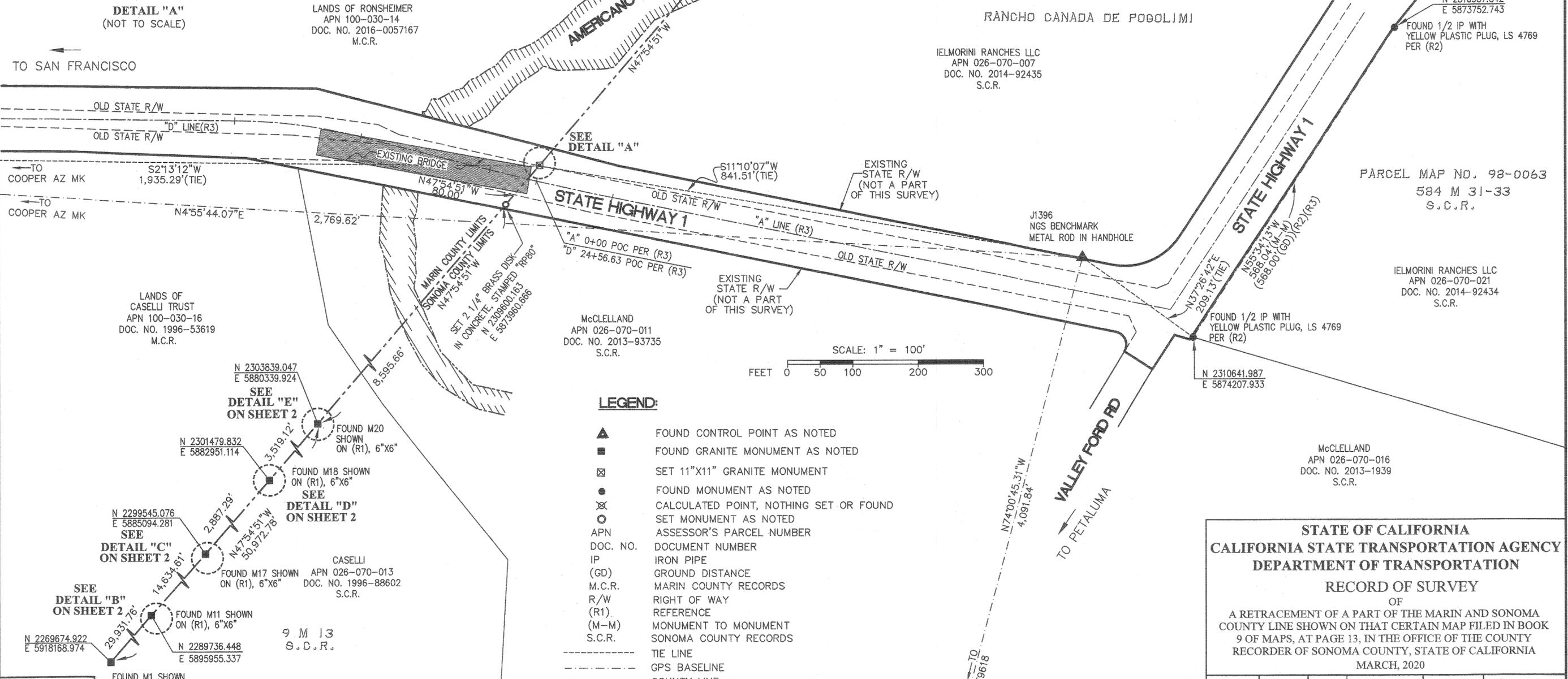
**REFERENCES:**

- (R1) MAP ENTITLED "PART OF THE MARIN AND SONOMA CO. LINE", FILED IN BOOK 9 OF MAPS, AT PAGE 13, IN THE OFFICE OF THE COUNTY RECORDER OF SONOMA COUNTY.
- (R2) PARCEL MAP NO. 98-0063, FILED OCTOBER 20, 1998, IN BOOK 584 OF MAPS, AT PAGES 31 TO 33, IN THE OFFICE OF THE COUNTY RECORDER OF SONOMA COUNTY.
- (R3) CALIFORNIA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY RECORD MAPS IV-MRN-56-D/04-MRN-1, R-118.46 TO R-118.48.



**MARIN COUNTY**

**SONOMA COUNTY**



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S-901.2