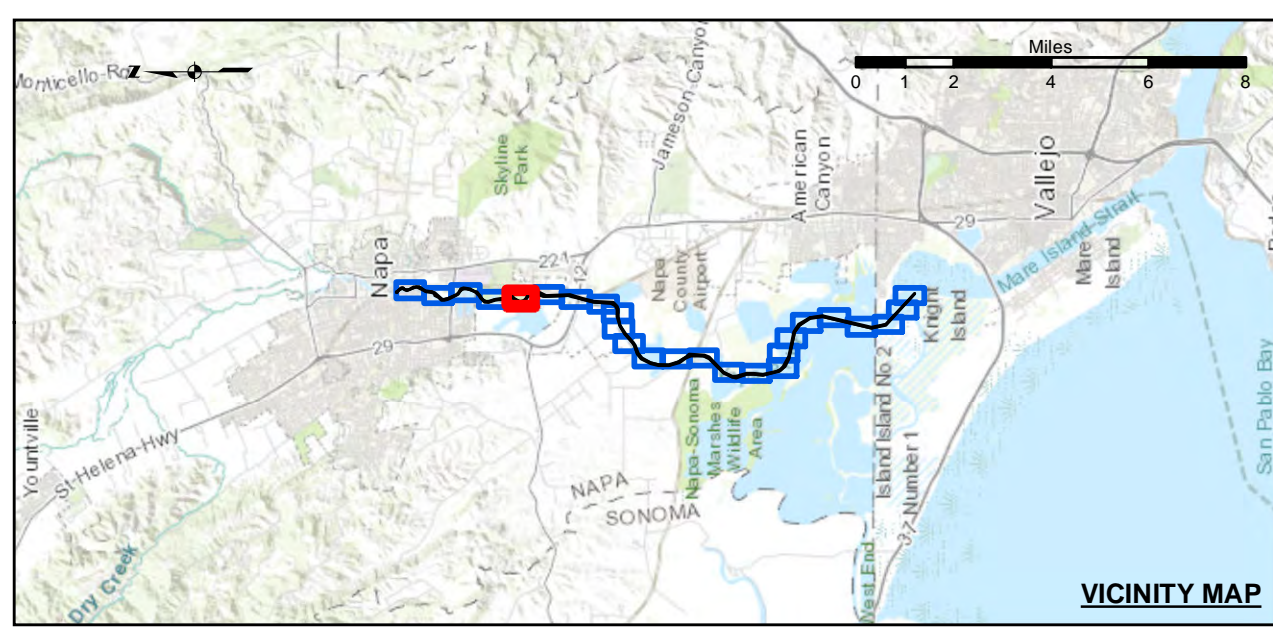




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Prepared Under the Direction of	Chart Date:
JOHN D. CUNNINGHAM	Mar 19, 2021
LT Colonel, C.E., District Engineer	Designed by:
Hydro Survey Team Leader	PDT
Chief, Hydro Survey Section	Checked by:
Chief, Construction Branch	PDT
Drawn by:	PDT



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
Anchorage Area	Navigation Buoy	-12
Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
Angle Point		

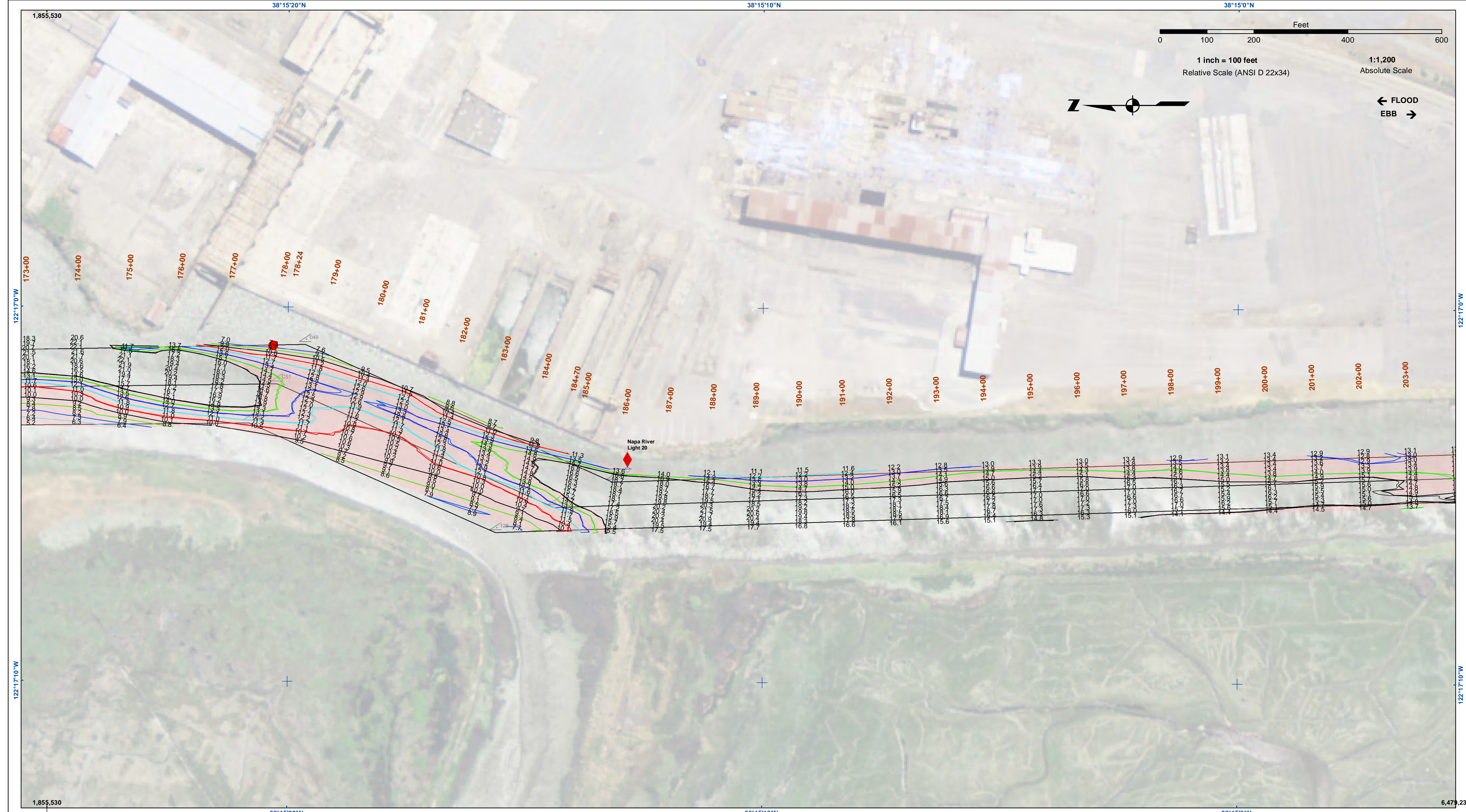
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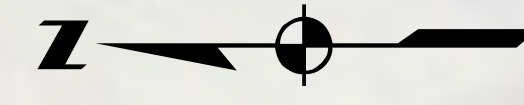
CALIFORNIA  
 NAPA COUNTY  
 NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021

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 Number  
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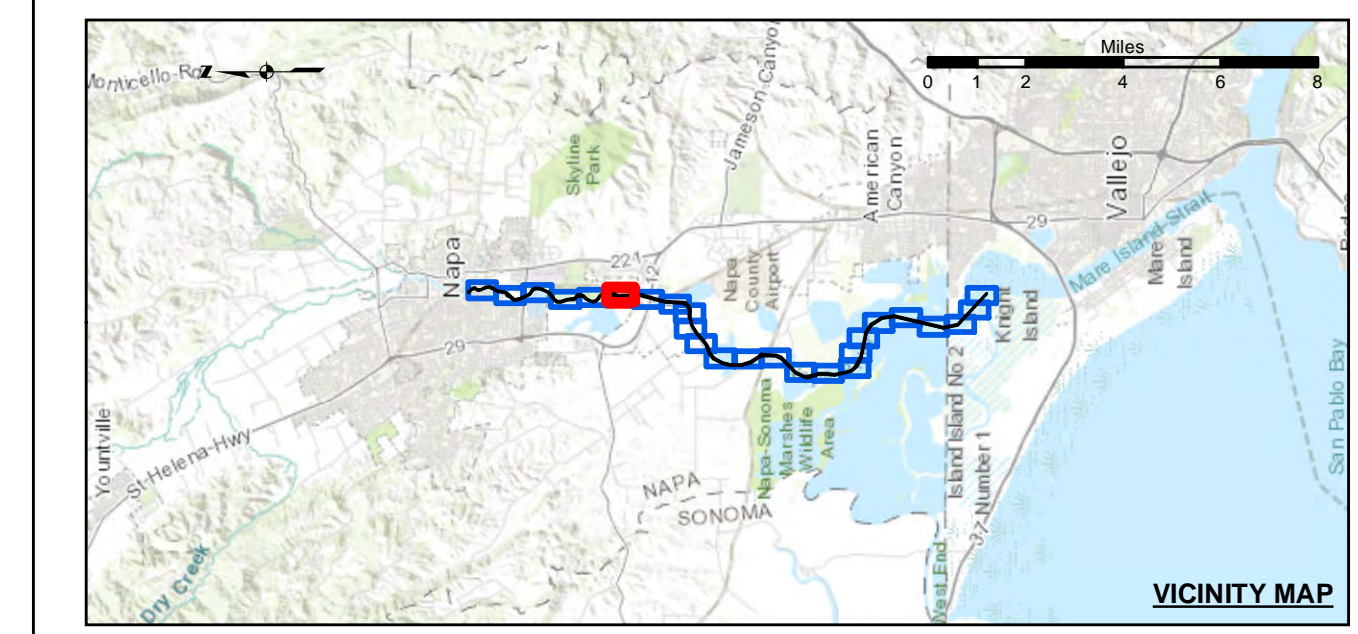


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 450 Market Street  
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Federal Navigation Channel	Beacon, General	-15
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
Anchorage Area	Navigation Buoy	-12
Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
Angle Point		

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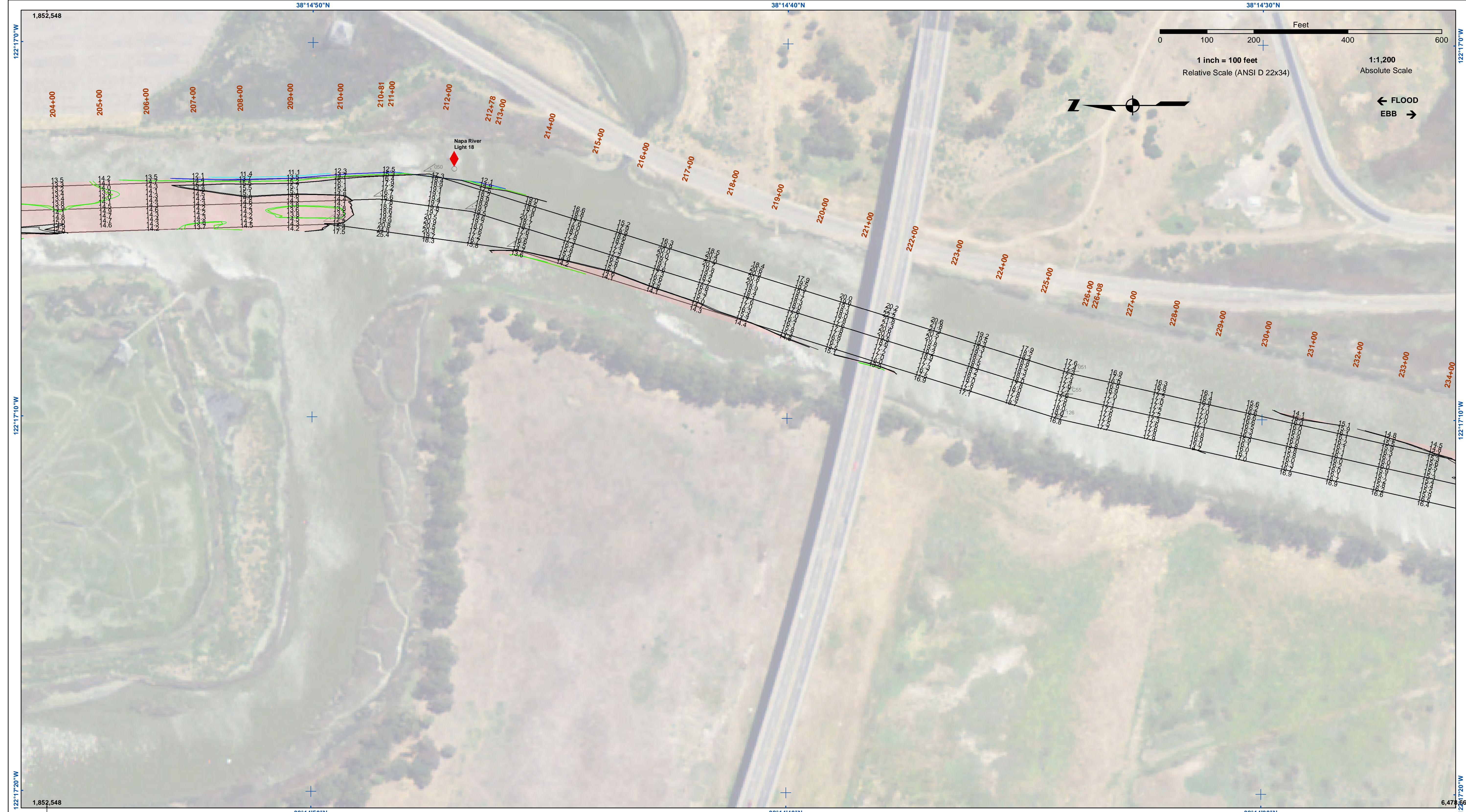
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 641+00 TO 692+00 - NARFP3 - 3.553m MLLW - 28.416m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. TRANSFERRED FROM BM 5218 J 1976 VIA RTK ON 4/10/2012 PID PENDING.

Chart Date:	Mar 19, 2021
Designed by:	PDT
Plotted by:	PDT
Checked by:	PDT
Drawn by:	PDT

CALIFORNIA  
 NAPA COUNTY  
 NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021

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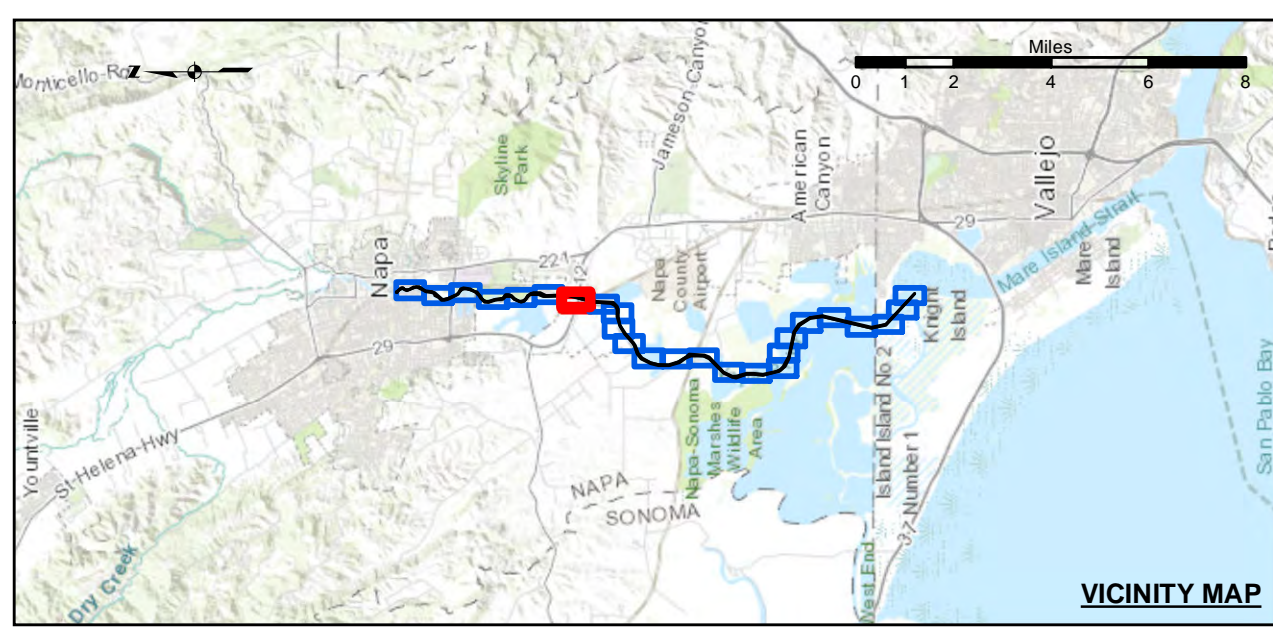
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Prepared Under the Direction of	Chart Date:
JOHN D. CUNNINGHAM	Mar 19, 2021
Submittal:	Designed by:
Hydro Survey Team Leader	PDT
Recommended:	Checked by:
Chief, Hydro Survey Section	PDT
Approved:	Drawn by:
Chief, Construction Branch	PDT

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

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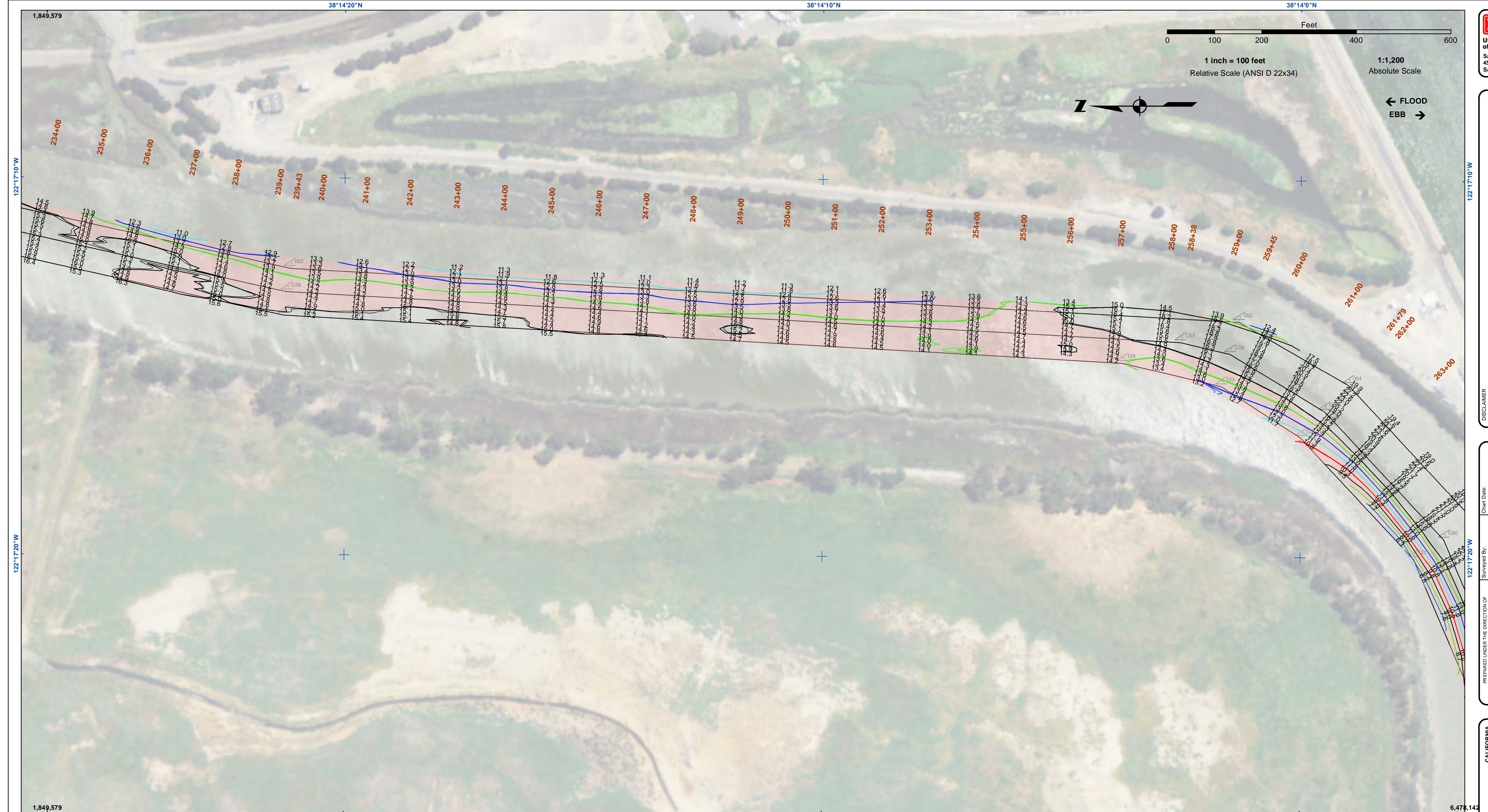


Federal Navigation Channel	Shoaling Area	Beacon, General	Contours
Placement Area	Obstruction Point	Navigation Buoy	-13
Anchorage Area	Navigation Buoy	Shoalest Sounding*	-12
Wreck Area	Shoalest Sounding*		-11
Submerged Wreck			
Angle Point			

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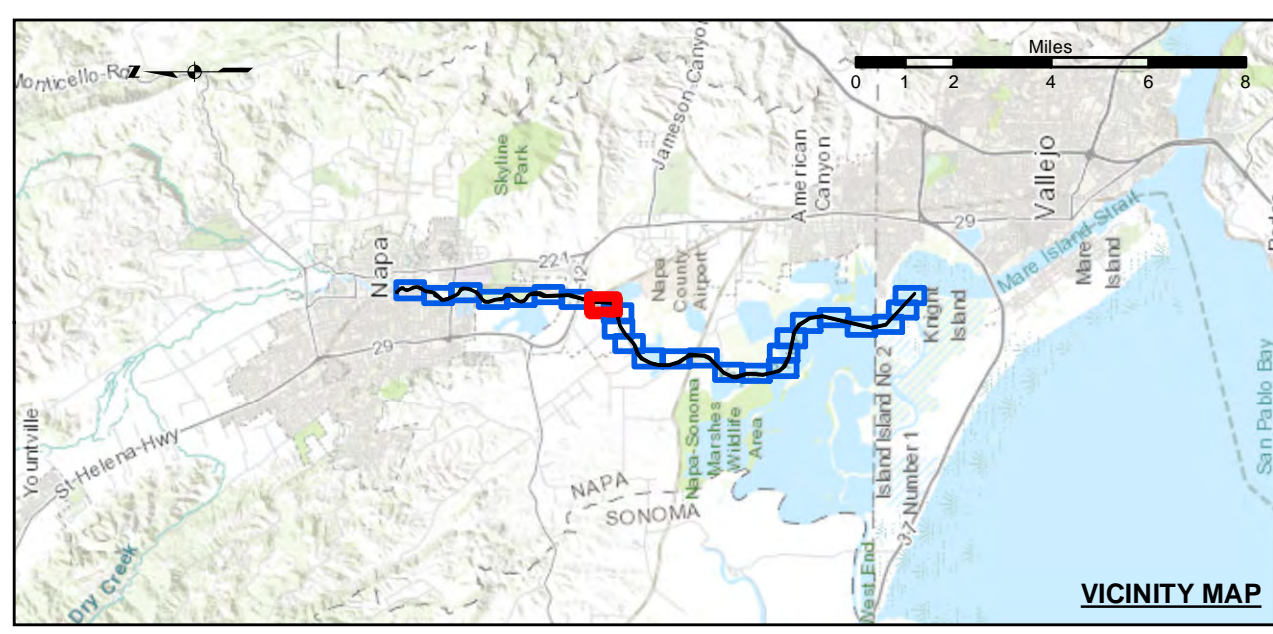
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JOHN D. CUNNINGHAM	Mar 19, 2021
LT Colonel, C.E., District Engineer	Designed by:
Subproject:	PDT
Hydro Survey Team Leader	Plotted by:
Recommended:	PDT
Chief, Hydro Survey Section	Checked by:
Approved:	PDT
Chief, Construction Branch	Drawn by:
	PDT

CALIFORNIA  
 NAPA COUNTY  
 NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021

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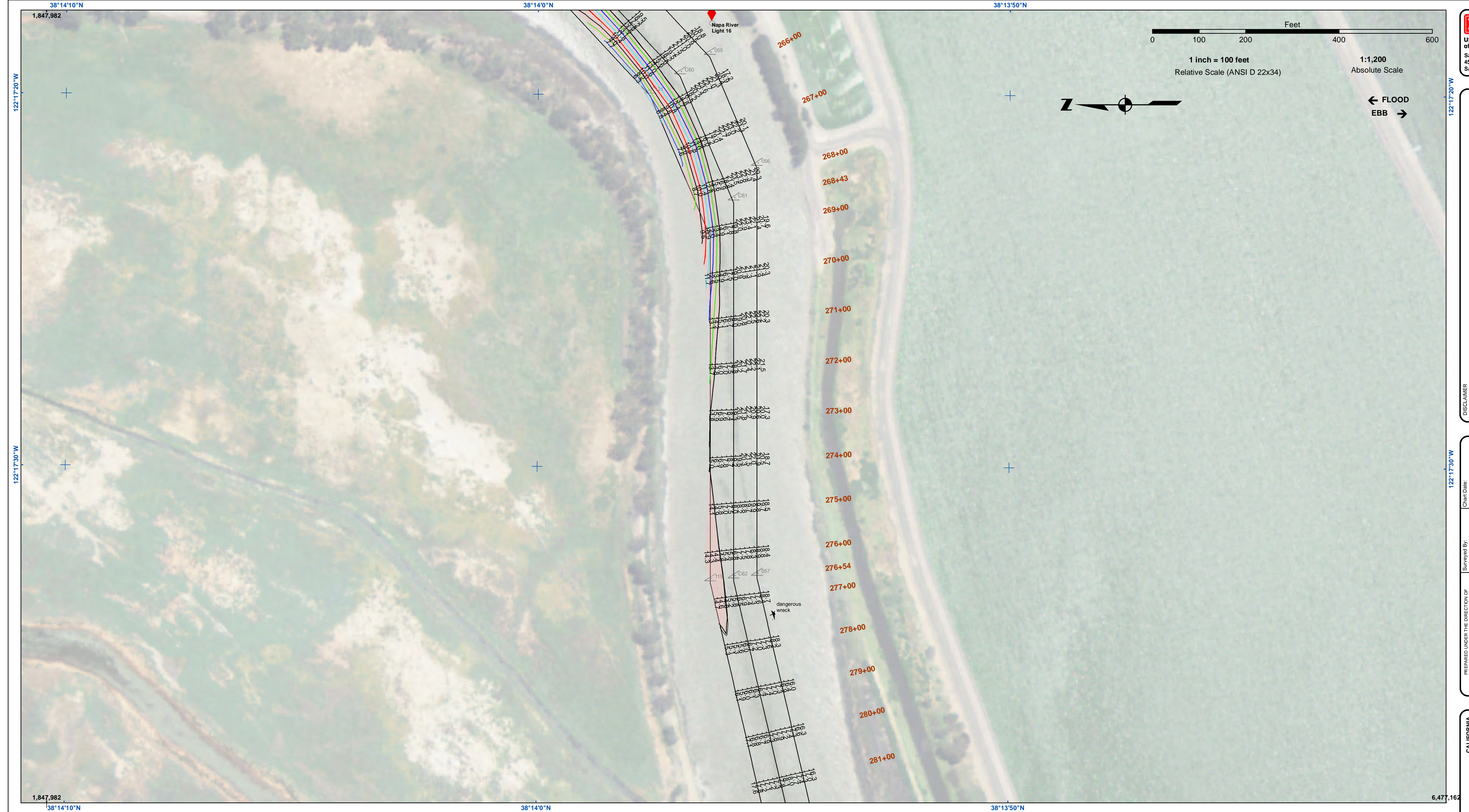


Federal Navigation Channel	Shoaling Area	Beacon, General	-15
Placement Area	Obstruction Point	Navigation Buoy	-14
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Wreck Area	Shoalest Sounding*	Shoalest Sounding*	-12
Submerged Wreck			-11
Angle Point			

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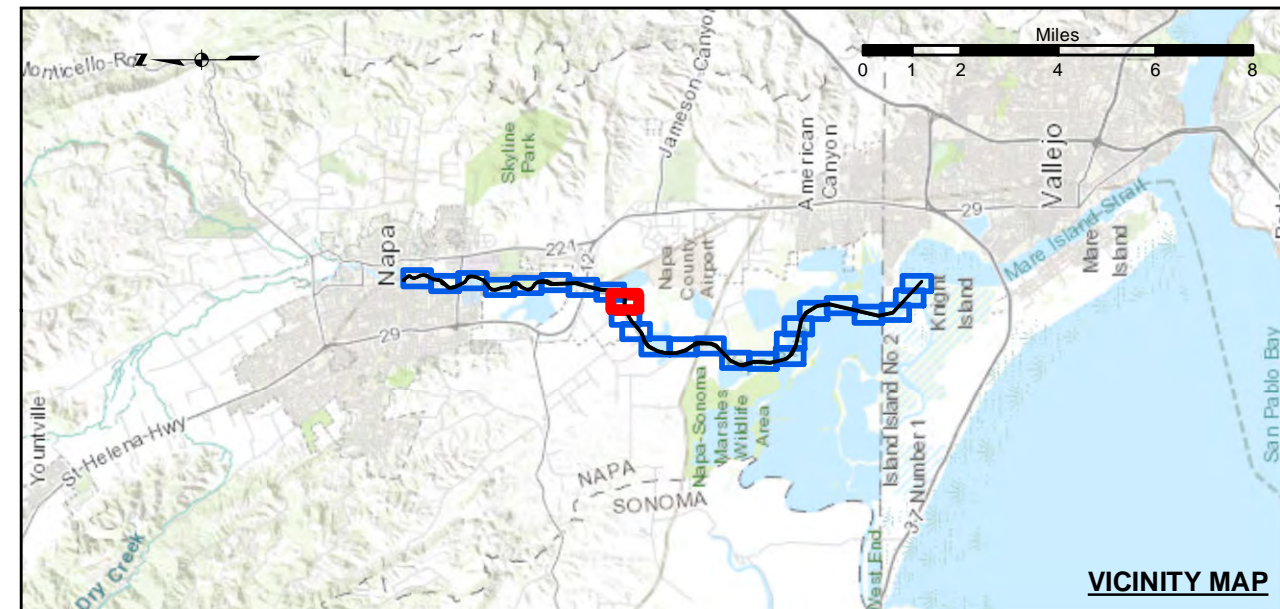




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JOHN D. CUNNINGHAM	Mar 19, 2021
LT Colonel, C.E., District Engineer	Designed by:
Submittal:	PDT
Hydro Survey Team Leader	Plotted by:
Recommended:	PDT
Chief, Hydro Survey Section	Checked by:
Approved:	PDT
Chief, Construction Branch	Drawn by:
	PDT



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	Shoaling Area		Obstruction Point		-14
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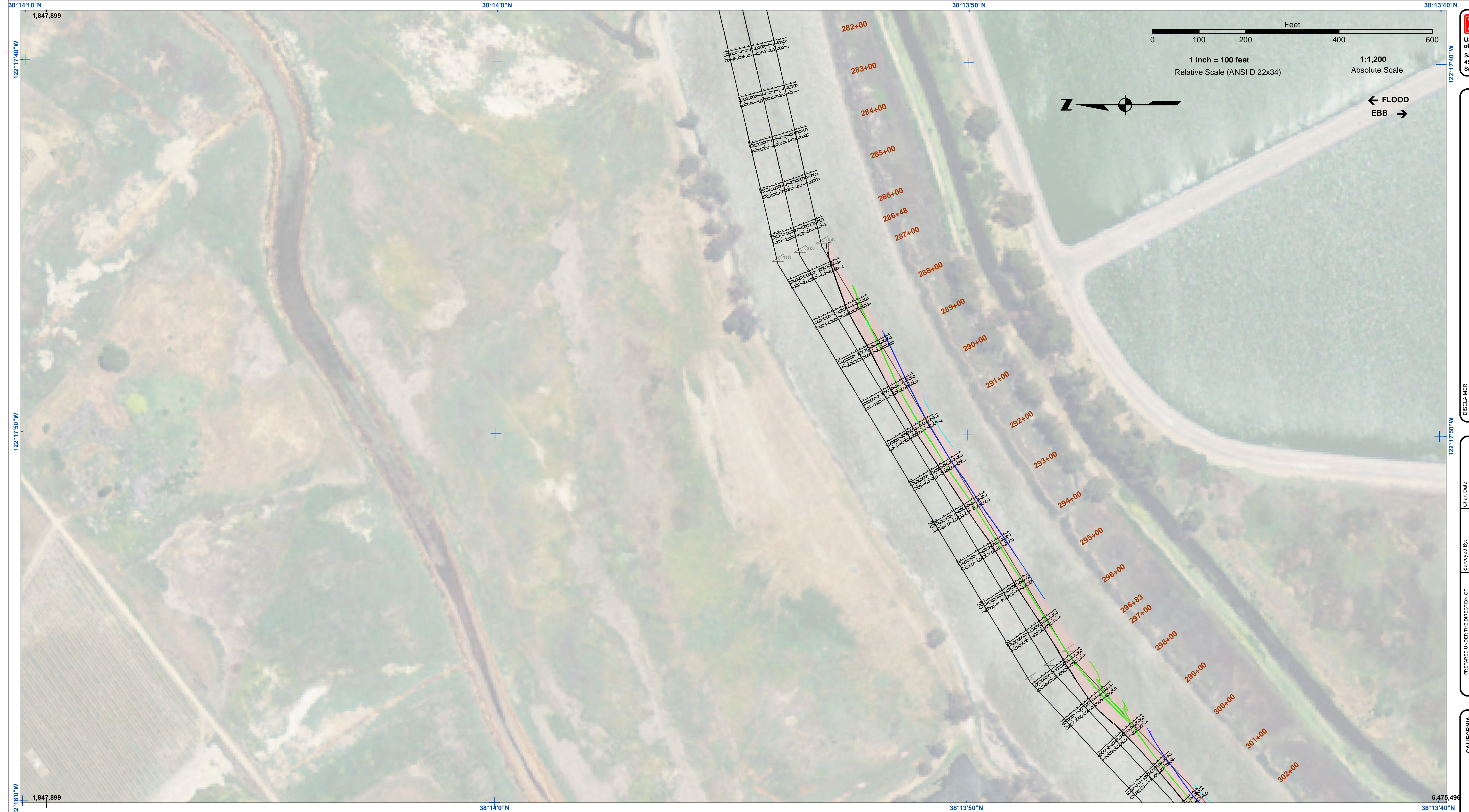
CALIFORNIA

NAPA COUNTY

NAPA RIVER  
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 CONDITION SURVEY  
 12-15 MARCH 2021

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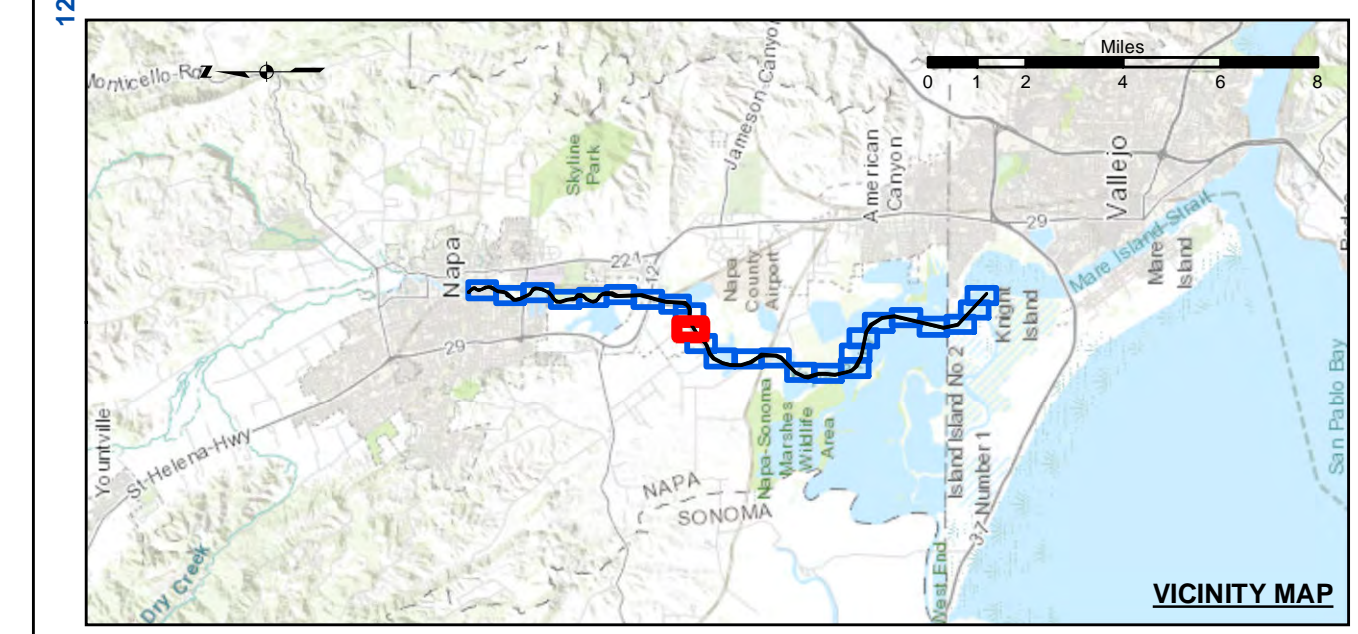
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Prepared Under the Direction of	Chart Date:
LT COLONEL, C.E. DISTRICT ENGINEER	Mar 19, 2021
Surveyed By:	Designed by:
Plotted By:	PDT
Checked By:	PDT
Drawn by:	PDT

CALIFORNIA  
 NAPA COUNTY  
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 CONDITION SURVEY  
 12-15 MARCH 2021

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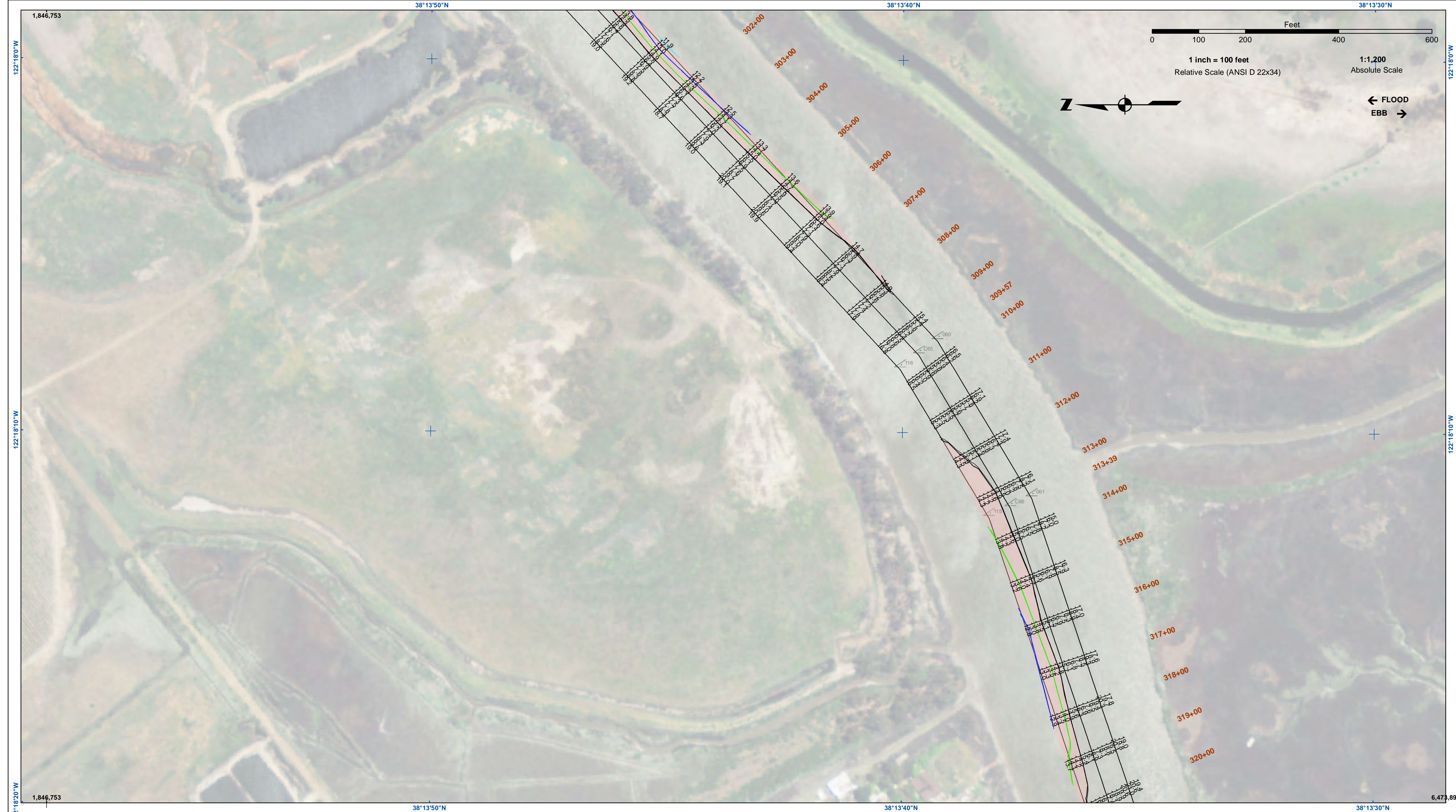


Federal Navigation Channel	Shoaling Area	Beacon, General	Contours
Placement Area	Obstruction Point	Navigation Buoy	-14
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 THE PROJECT DEPTH IS 15' FROM ENTRANCE AT THE MARE ISLAND CAUSEWAY TO ASYLUM SLOUGH, THENCE 10 FEET TO HEAD OF NAVIGATION.  
 VERTICAL CONTROLS:  
 0+00 TO 175+00 - NRFP4 - 30.54ft - USACE - RTK BASE STATION TRANSECT 11 - 6.593m MLLW - USACE - MLLW LEVELED FROM 20 AND TIDAL 5 FROM TIDE STATION 941 5623 ON 3/29/2012.  
 176+00 TO 224+00 - NAPA01 - 2.652m MLLW - 29.111m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. CALCULATED FROM TRANSECT 11 AND NRFP4 USING RTK OBSERVATIONS PID PENDING.  
 225+00 TO 640+00 - NAPA02 - 3.653m MLLW - 28.241m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. CALCULATED BY INTERPOLATING ELEVATIONS BETWEEN NOAA TIDE STATIONS 941 5623 AND 941 5218 PID PENDING.  
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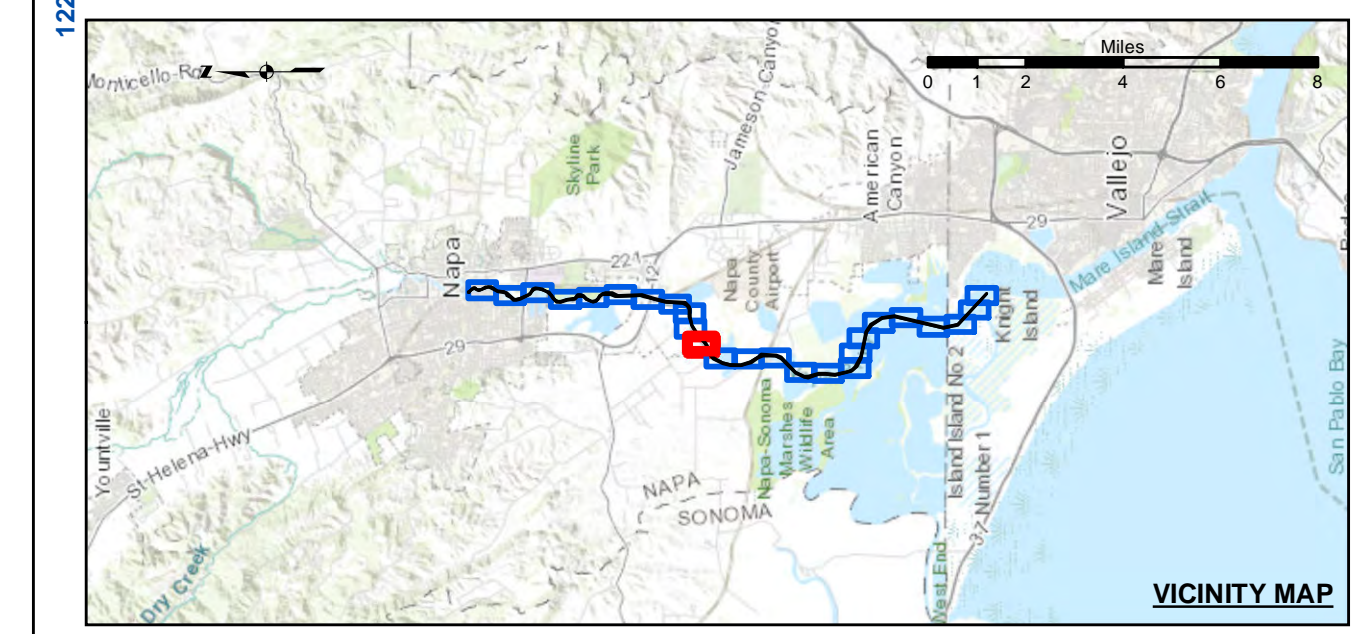




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Prepared Under the Direction of	Chart Date:
JOHN D. CUNNINGHAM	Mar 19, 2021
Submittal:	Plotted By:
Hydro Survey Team Leader	PDT
Recommended:	Checked By:
Chief, Hydro Survey Section	PDT
Approved:	Drawn by:
Chief, Construction Branch	PDT



Federal Navigation Channel	Beacon, General	-15
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
Anchorage Area	Navigation Buoy	-12
Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
Angle Point		

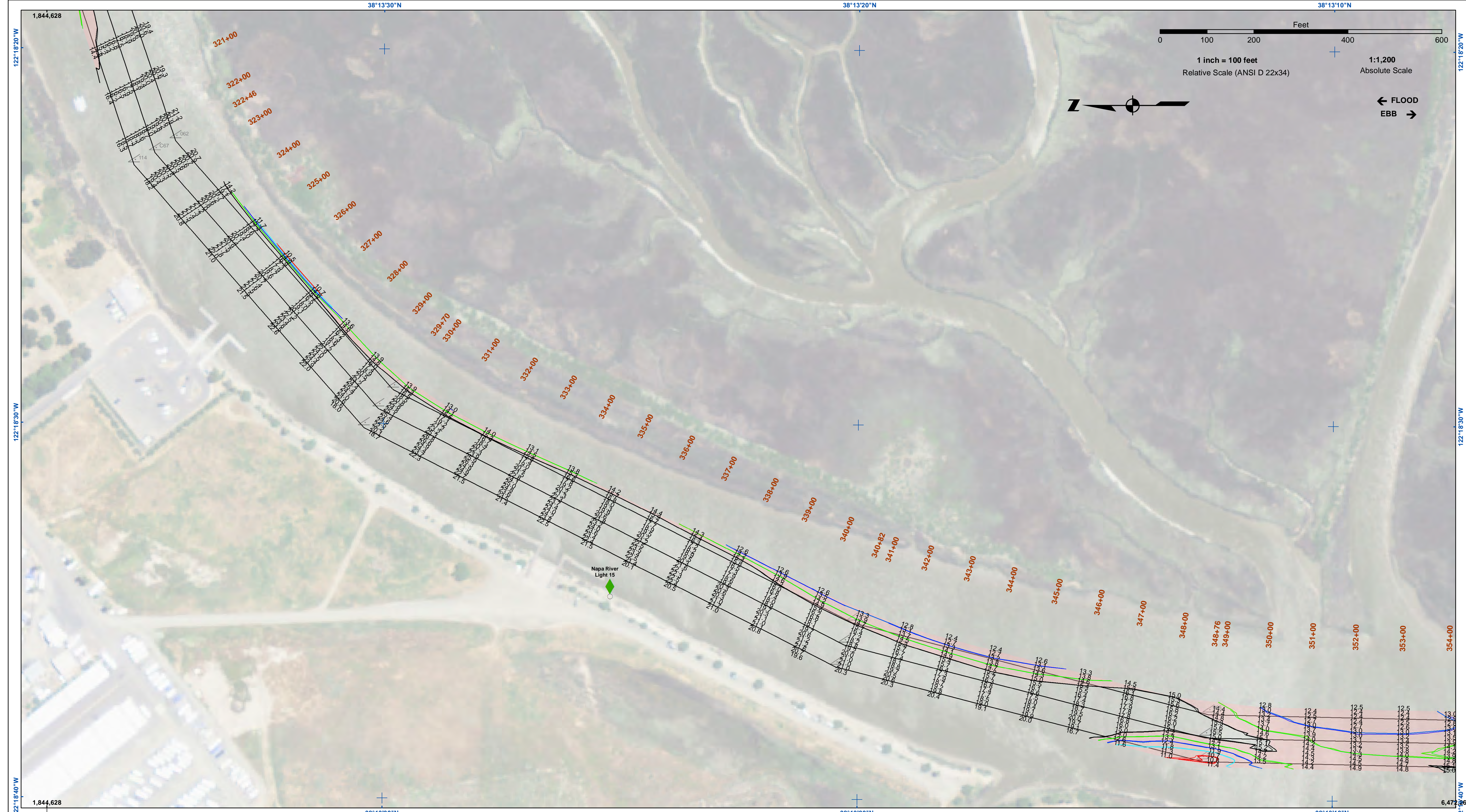
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CALIFORNIA  
 NAPA COUNTY  
 NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021

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 Reference  
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**11 of 25**





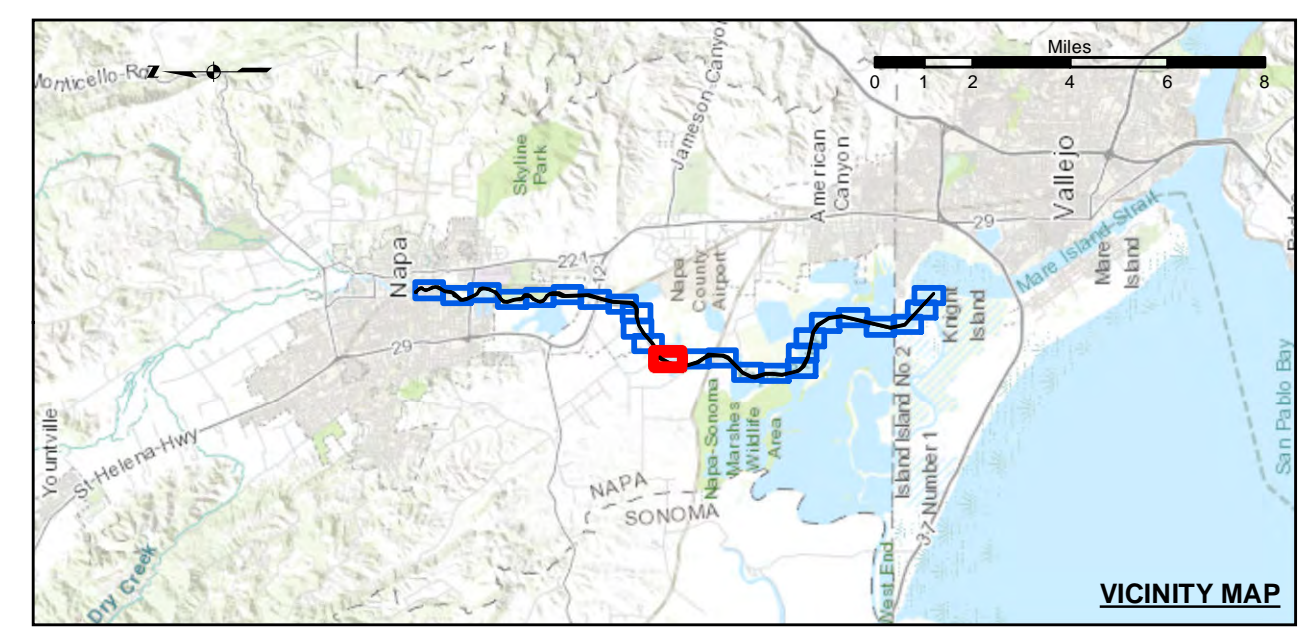
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Prepared Under the Direction of	Chart Date
LT COLONEL C.E. DISTRICT ENGINEER	Mar 19, 2021
Subject	Designed by:
Hydro Survey Team Leader	PDT
Recommended	Checked by:
Chief, Hydro Survey Section	PDT
Approved	Drawn by:
Chief, Construction Branch	PDT

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

**Sheet  
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 Number  
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Federal Navigation Channel	Contours
Shoaling Area	-15
Placement Area	-14
Anchorage Area	-13
Wreck Area	-12
Submerged Wreck	-11
Angle Point	
Beacon, General	
Obstruction Point	
Navigation Buoy	
Navigation Buoy	
Shoalest Sounding*	

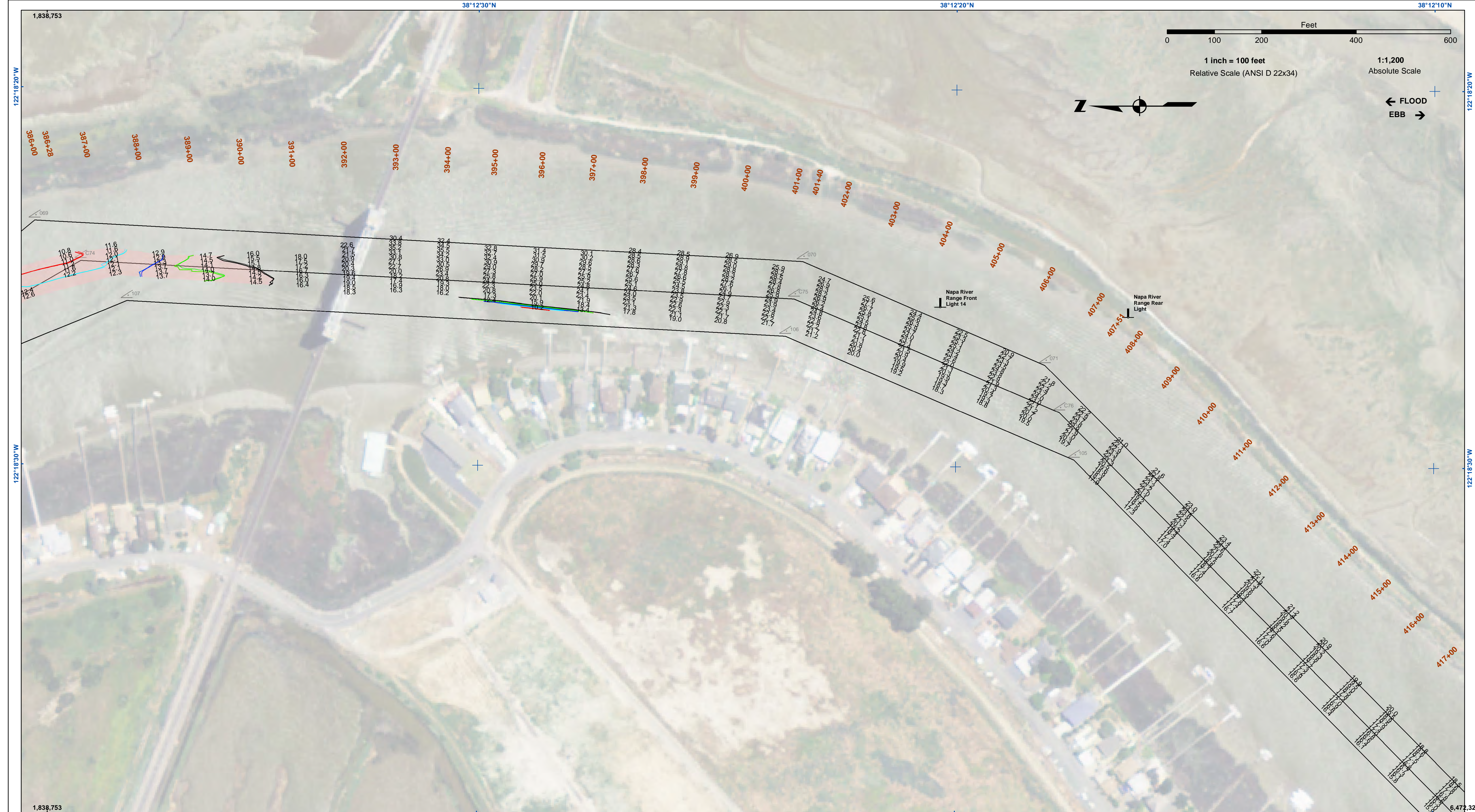
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 225+00 TO 640+00 - NARFP2 - 3.653m MLLW - 28.241m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. CALCULATED BY INTERPOLATING ELEVATIONS BETWEEN NOAA TIDE STATIONS 941 5623 AND 941 5218 PID PENDING.  
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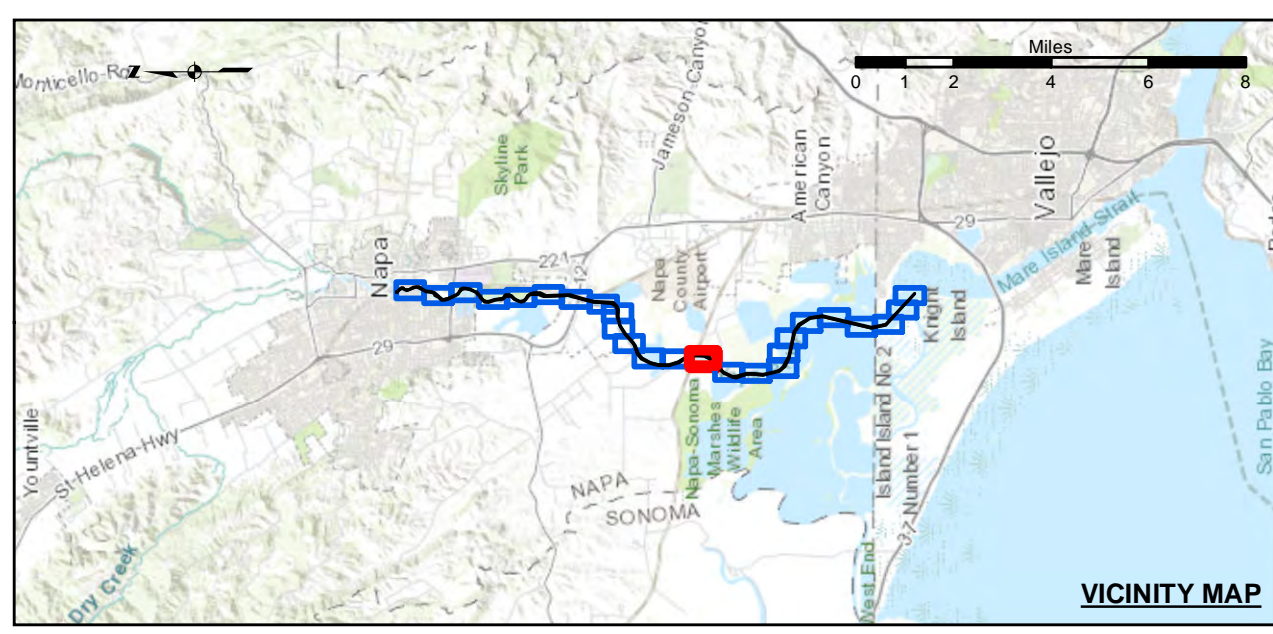
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Prepared Under the Direction of	Chart Date
JOHN D. CUNNINGHAM	Mar 19, 2021
LT Colonel, C.E., District Engineer	Designed by:
Subject: Hydro Survey Team Leader	PDT
Recommended: Chief, Hydro Survey Section	Checked by:
Approved: Chief, Construction Branch	PDT
Surveyed By:	Drawn by:
	PDT

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

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Federal Navigation Channel	Shoaling Area	Beacon, General	Contours
Placement Area	Obstruction Point	Navigation Buoy	-14
Anchorage Area	Navigation Buoy	-13	-12
Wreck Area	Shoalest Sounding*	-11	
Submerged Wreck			
Angle Point			

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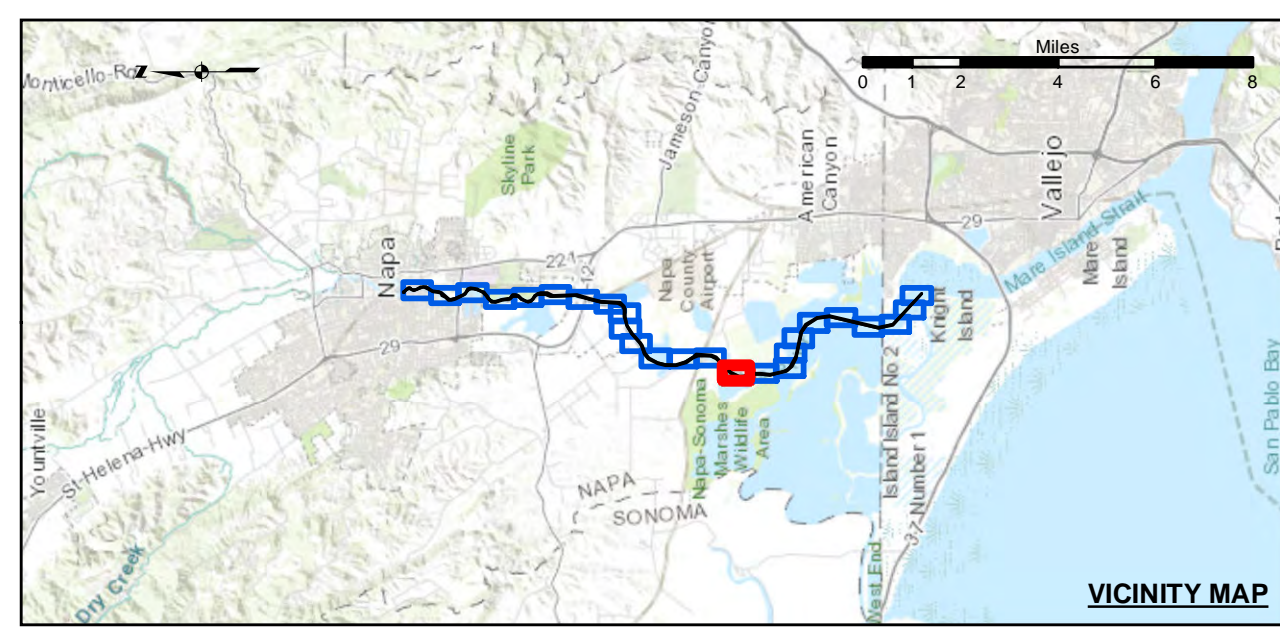




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Prepared Under the Direction of:	Chart Date:
JOHN D. CUNNINGHAM	Mar 19, 2021
LT Colonel, C.E., District Engineer	Designed by:
Hydro Survey Team Leader	PDT
Chief, Hydro Survey Section	Checked by:
Chief, Construction Branch	PDT
Surveyed by:	Drawn by:
PDT	PDT



Federal Navigation Channel	Beacon, General	-15
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
Anchorage Area	Navigation Buoy	-12
Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
Angle Point		

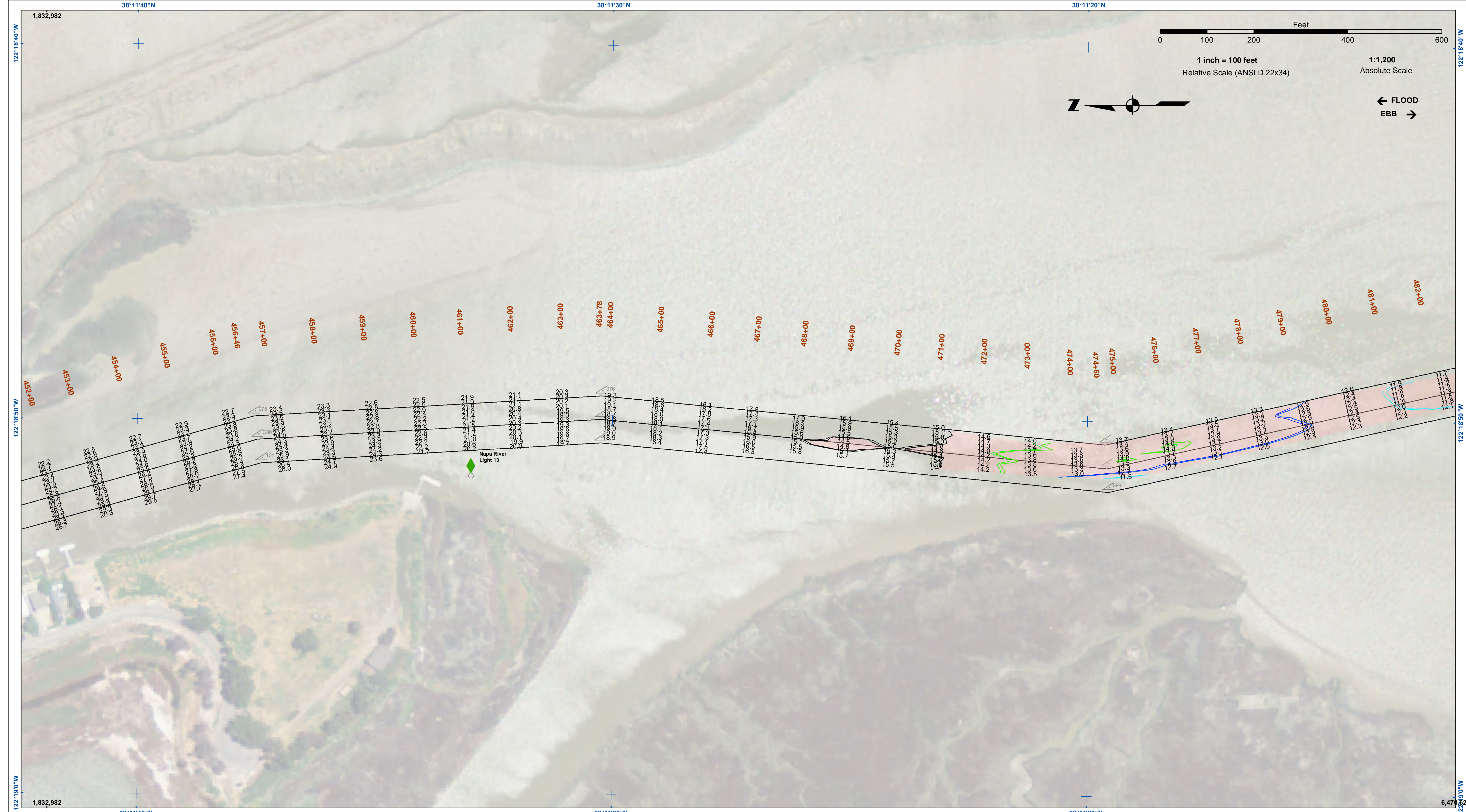
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CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

**Sheet  
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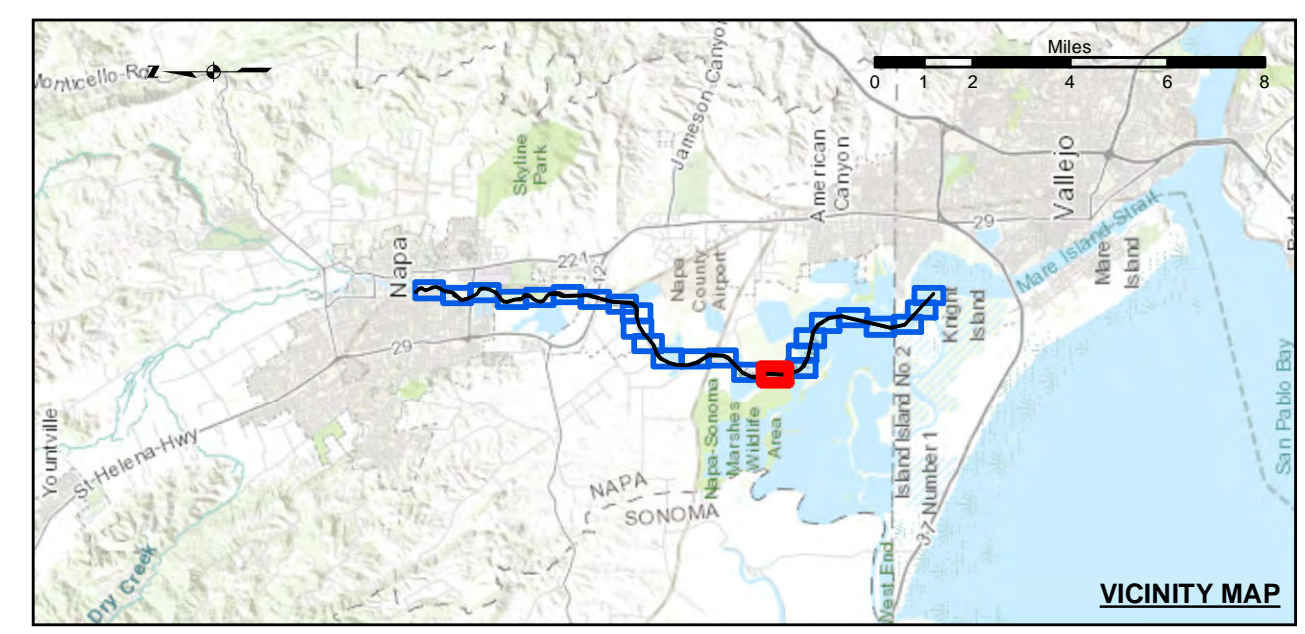
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Prepared Under the Direction of <b>JOHN D. CUNNINGHAM</b> LT Colonel, C.E., District Engineer	Chart Date: Mar 19, 2021
Subject: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Plotted by: PDT
Approved by: Chief, Construction Branch	Checked by: PDT
	Drawn by: PDT

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
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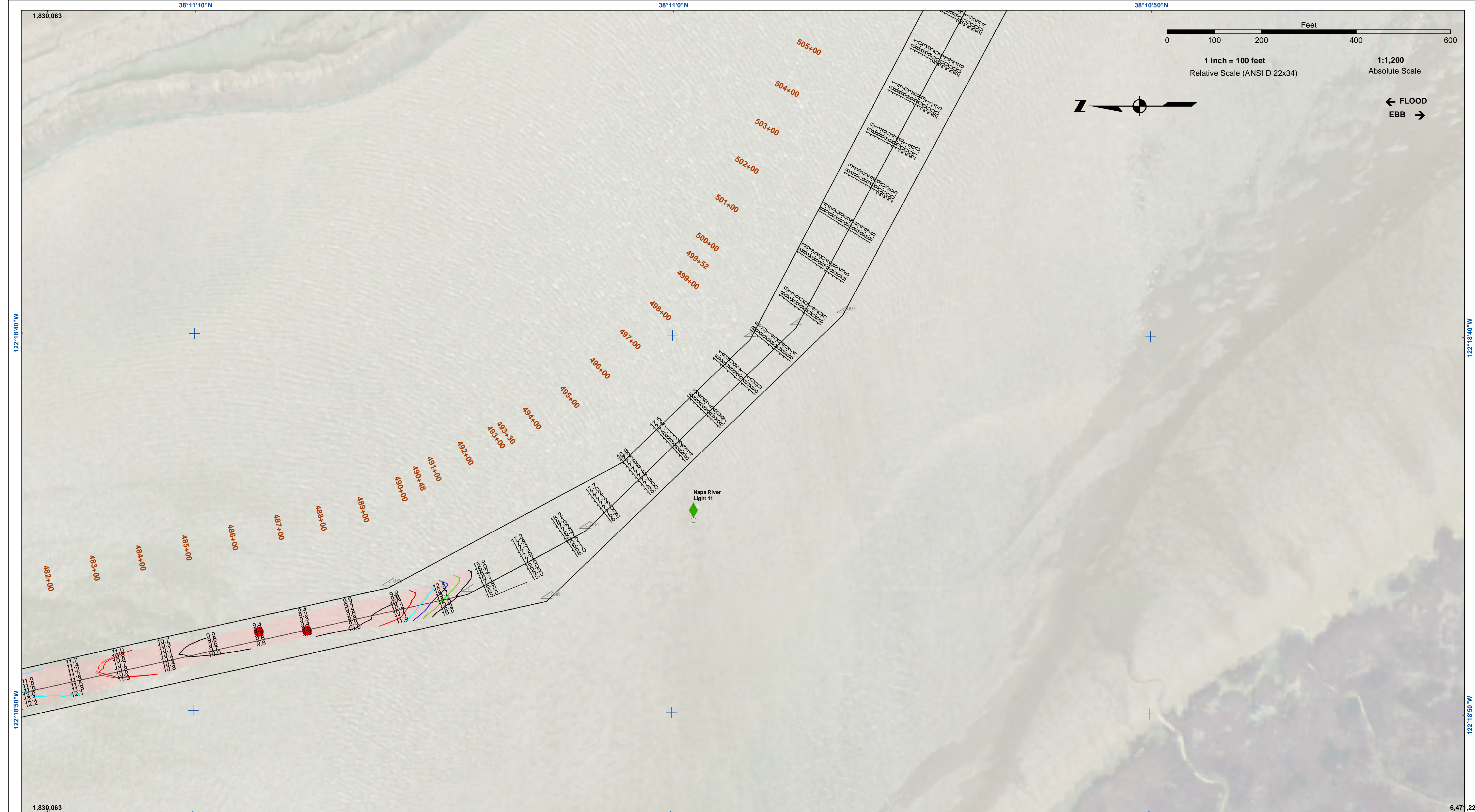


Federal Navigation Channel	Shoaling Area	Beacon, General	-15
Placement Area	Navigation Buoy	Obstruction Point	-14
Anchorage Area	Navigation Buoy	Shoalest Sounding*	-13
Wreck Area	Navigation Buoy		-12
Submerged Wreck	Shoalest Sounding*		-11
Angle Point			

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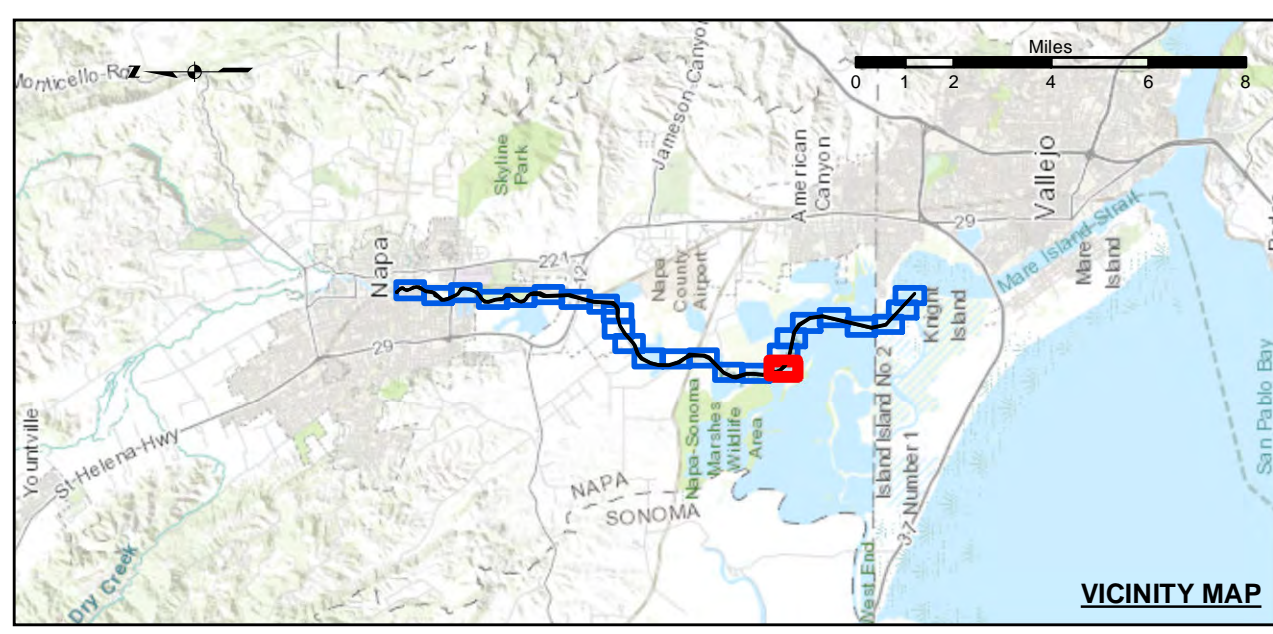
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Prepared Under the Direction of <b>JOHN D. CUNNINGHAM</b> LT Colonel, C.E., District Engineer	Chart Date: Mar 19, 2021
Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	PDT

CALIFORNIA  
**NAPA RIVER**  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021

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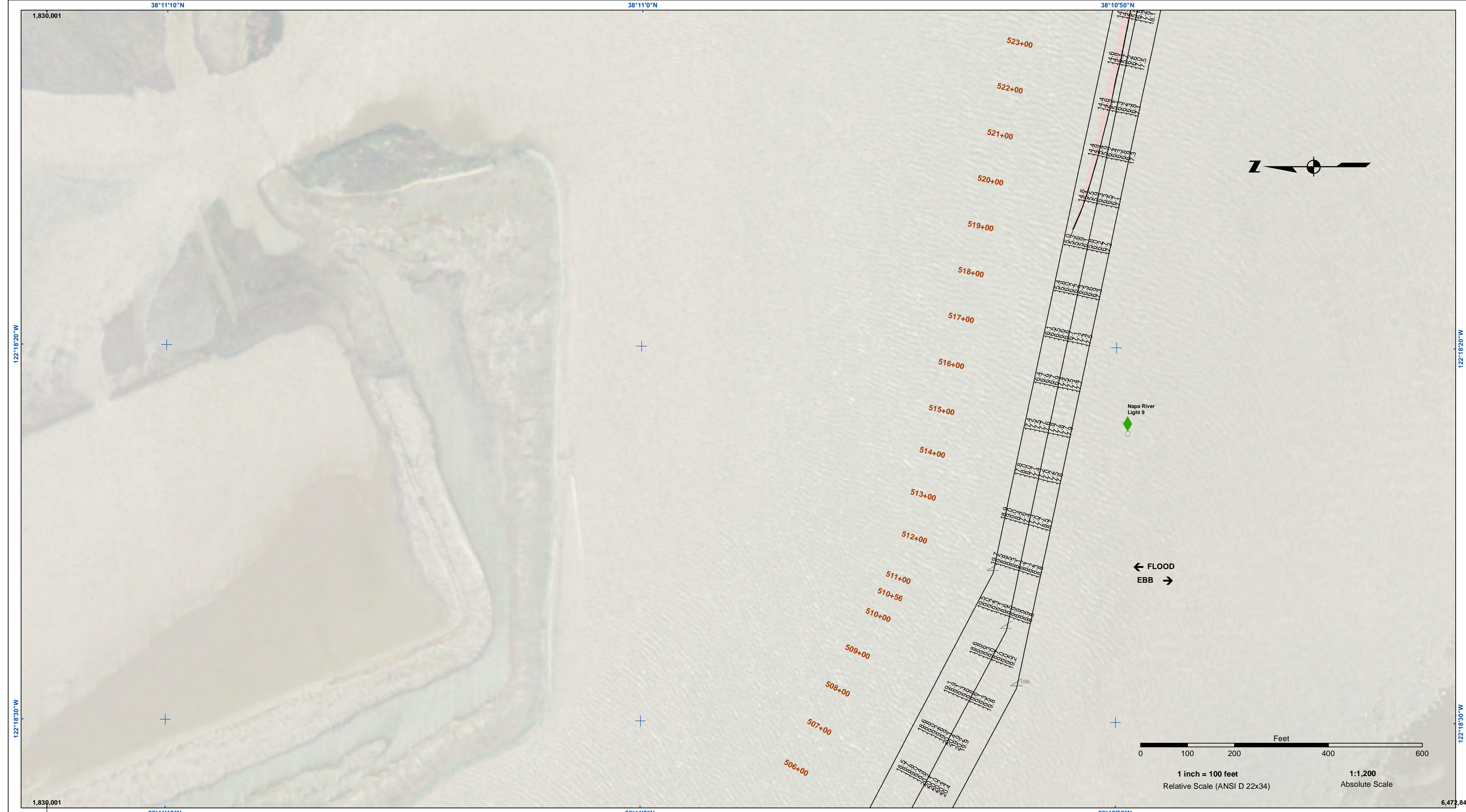


Federal Navigation Channel	Shoaling Area	Beacon, General	-15
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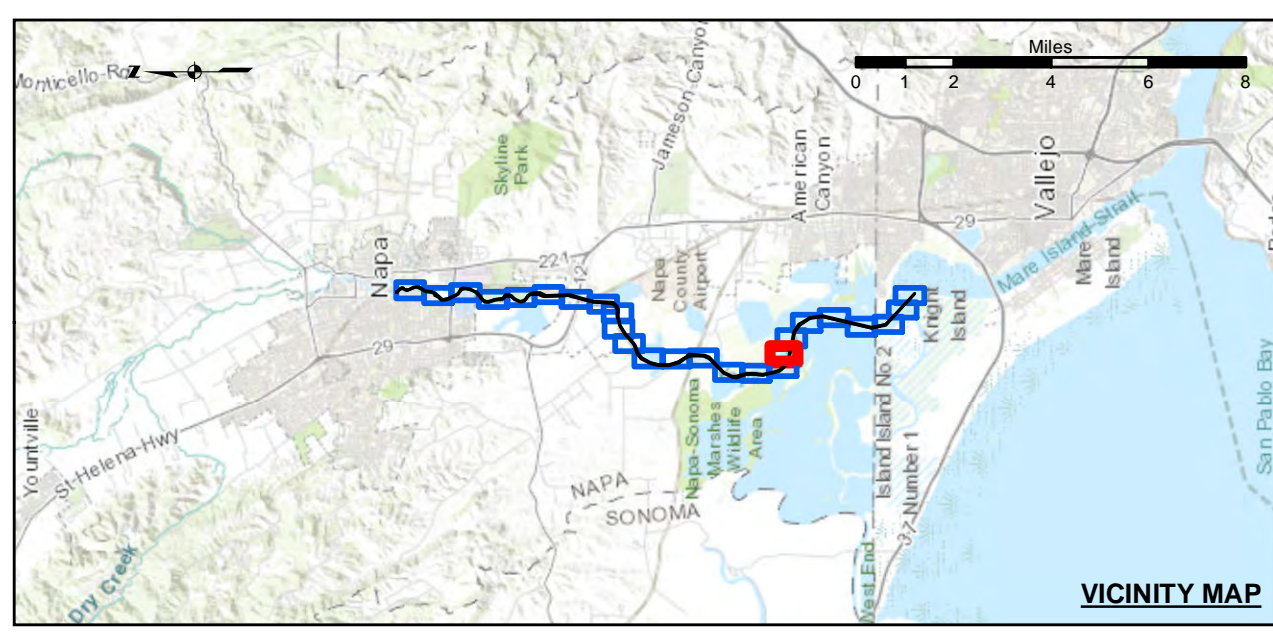


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Prepared Under the Direction of <b>JOHN D. CUNNINGHAM</b> LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 23, 2021
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA  
**NAPA RIVER**  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021



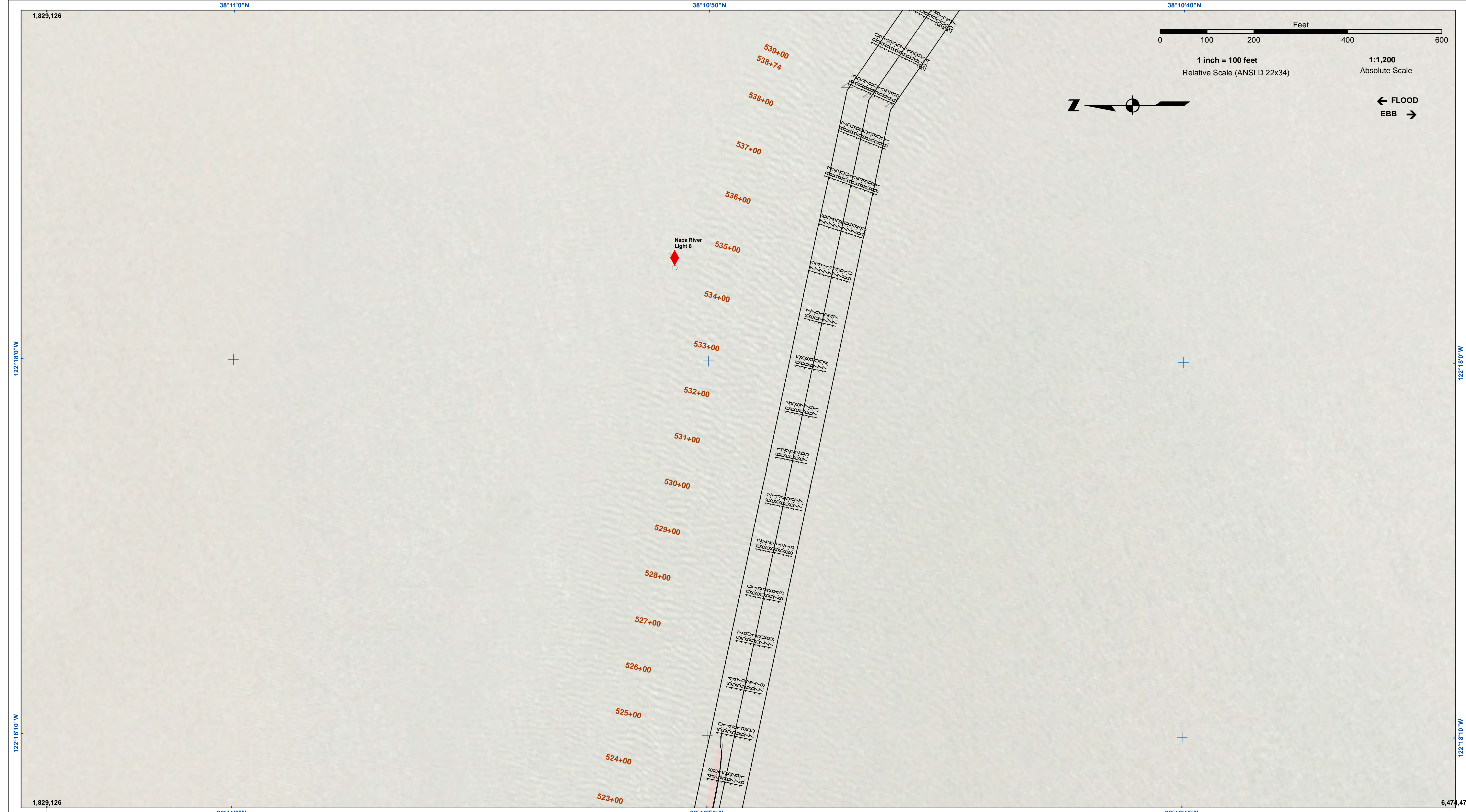
Federal Navigation Channel	Beacon, General	-15
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
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Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
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**Sheet Number**  
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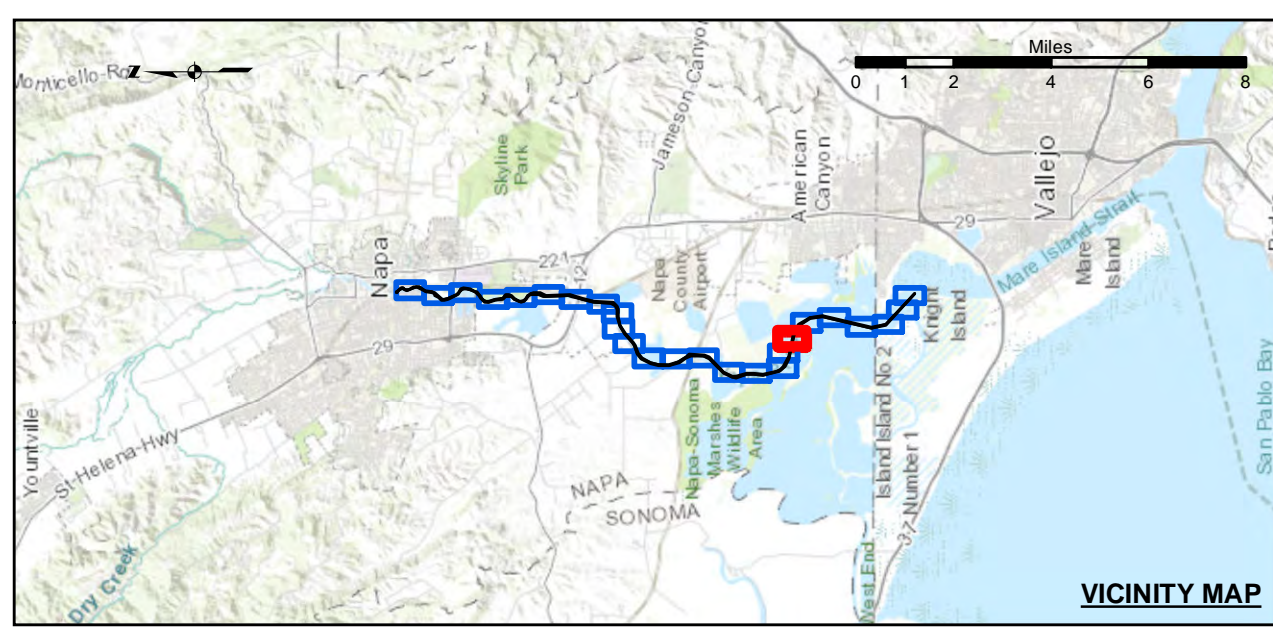
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Prepared Under the Direction of	Chart Date
JOHN D. CUNNINGHAM	Mar 19, 2021
Subject	Plotted By
Hydro Survey Team Leader	PDT
Recommended By	Checked By
Chief, Hydro Survey Section	PDT
Approved By	Drawn By
Chief, Construction Branch	PDT

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

**Sheet  
 Reference  
 Number  
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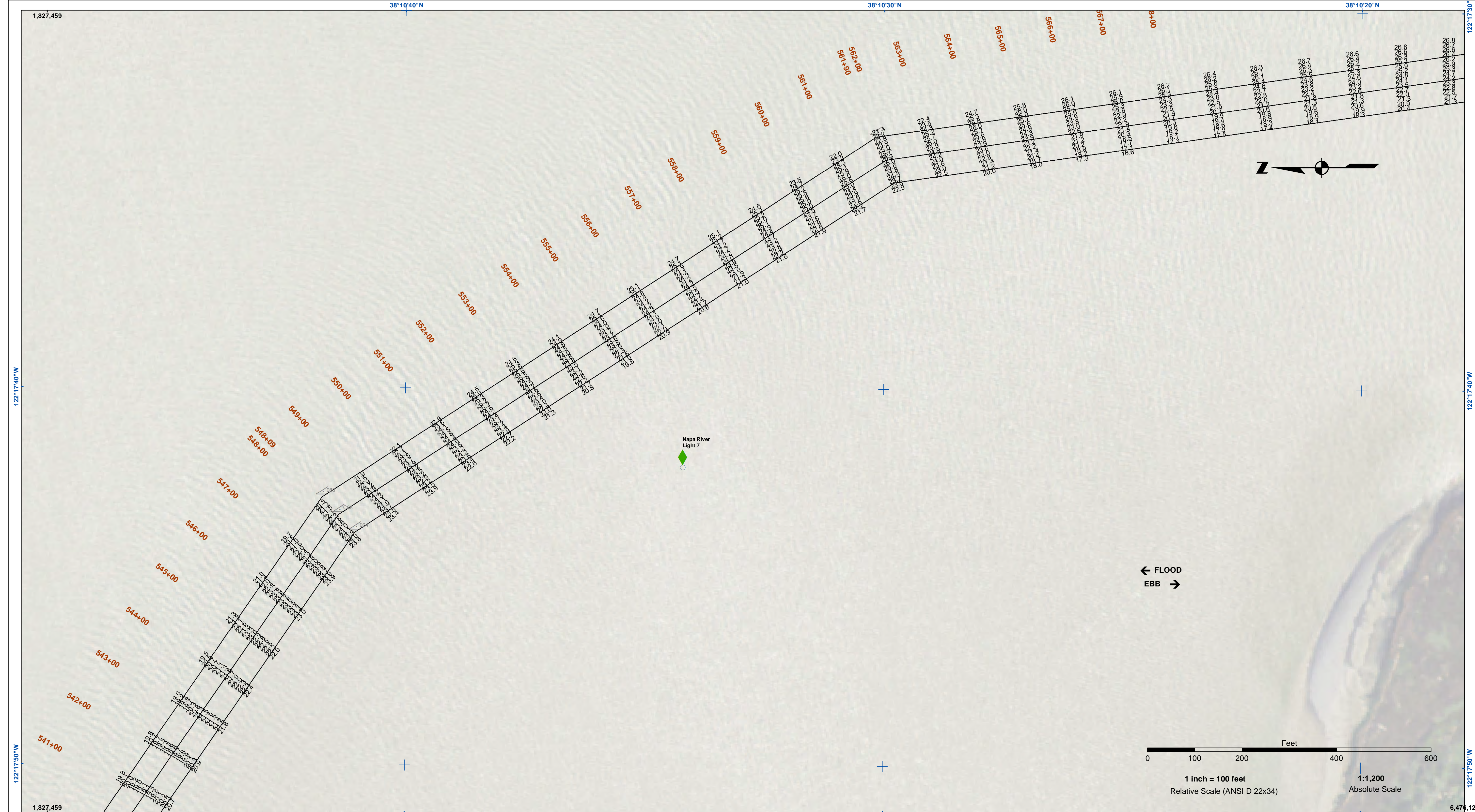


Federal Navigation Channel	Beacon, General	-15
Shoaling Area	Obstruction Point	-14
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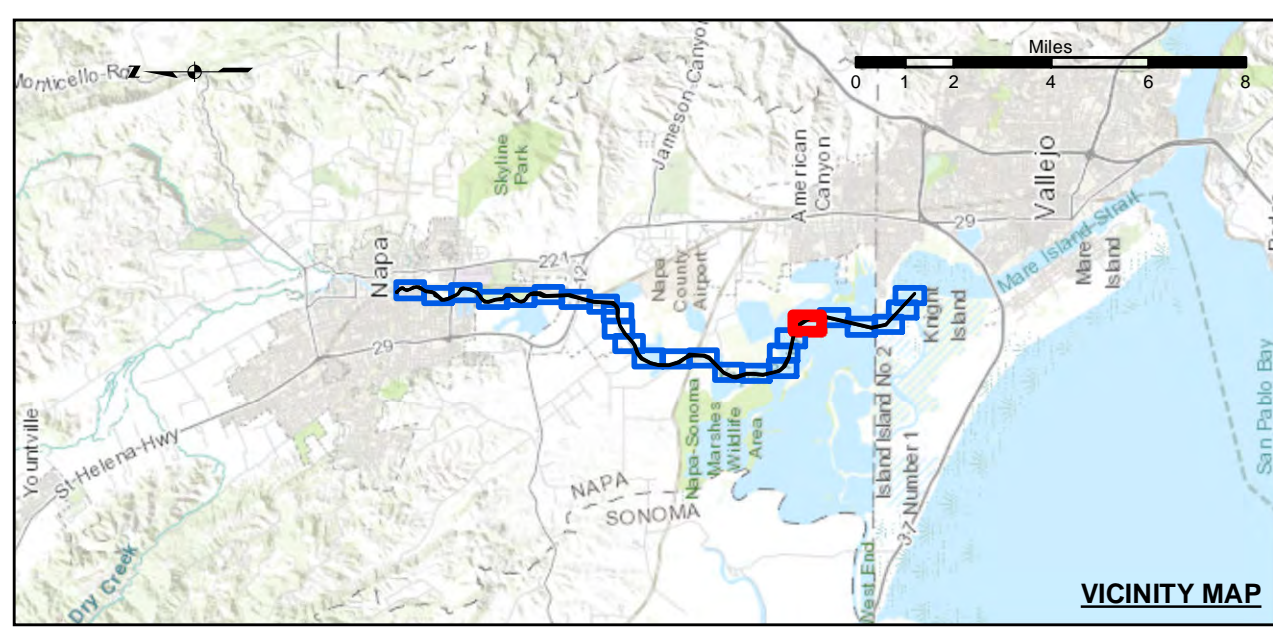
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Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA  
**NAPA RIVER**  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021

**Sheet Reference Number**  
 20 of 25



- Federal Navigation Channel
  - Shoaling Area
  - Placement Area
  - Anchorage Area
  - Wreck Area
  - Submerged Wreck
  - Angle Point
  - Beacon, General
  - Obstruction Point
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- Contours**
- 15
  - 14
  - 13
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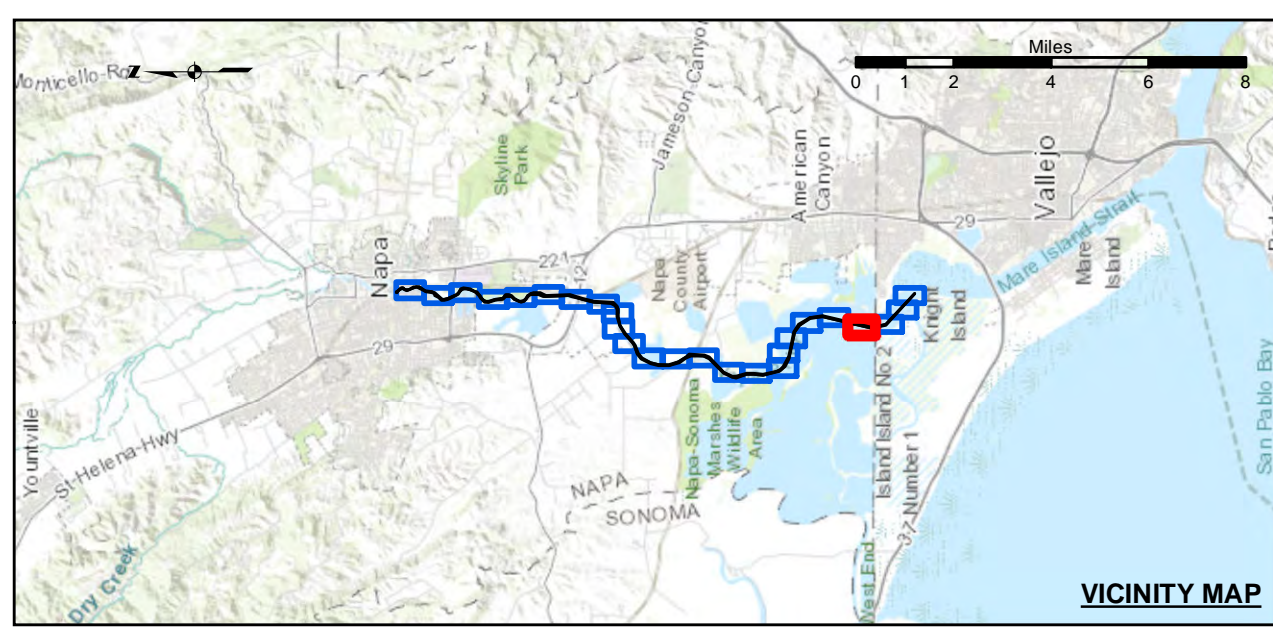
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Subject: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

**Sheet  
 Reference  
 Number  
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Federal Navigation Channel	Beacon, General	<b>Contours</b>
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	
Anchorage Area	Navigation Buoy	
Wreck Area	Shoalest Sounding*	
Submerged Wreck		-15
Angle Point		-14
		-13
		-12
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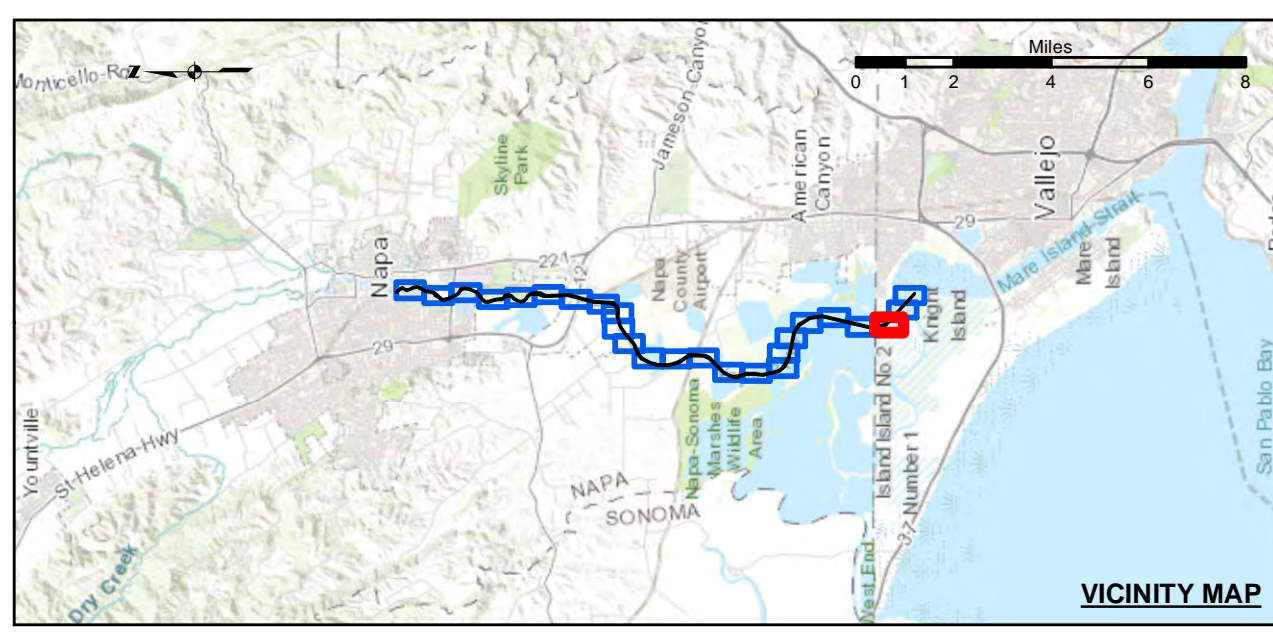
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CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY**  
 12-15 MARCH 2021

**Sheet  
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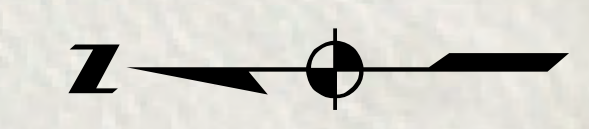
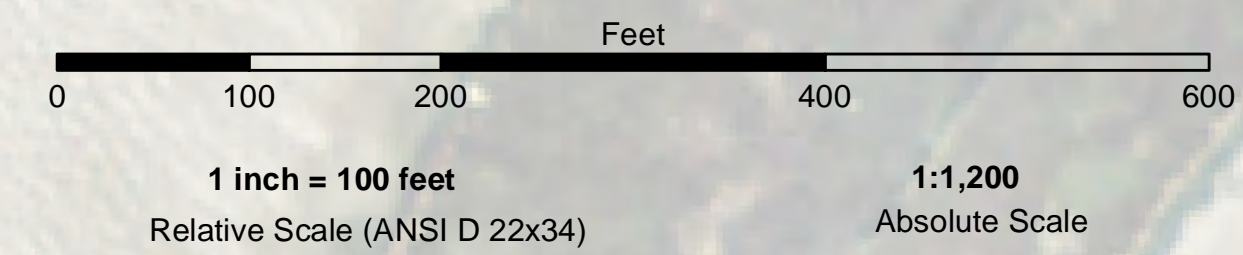
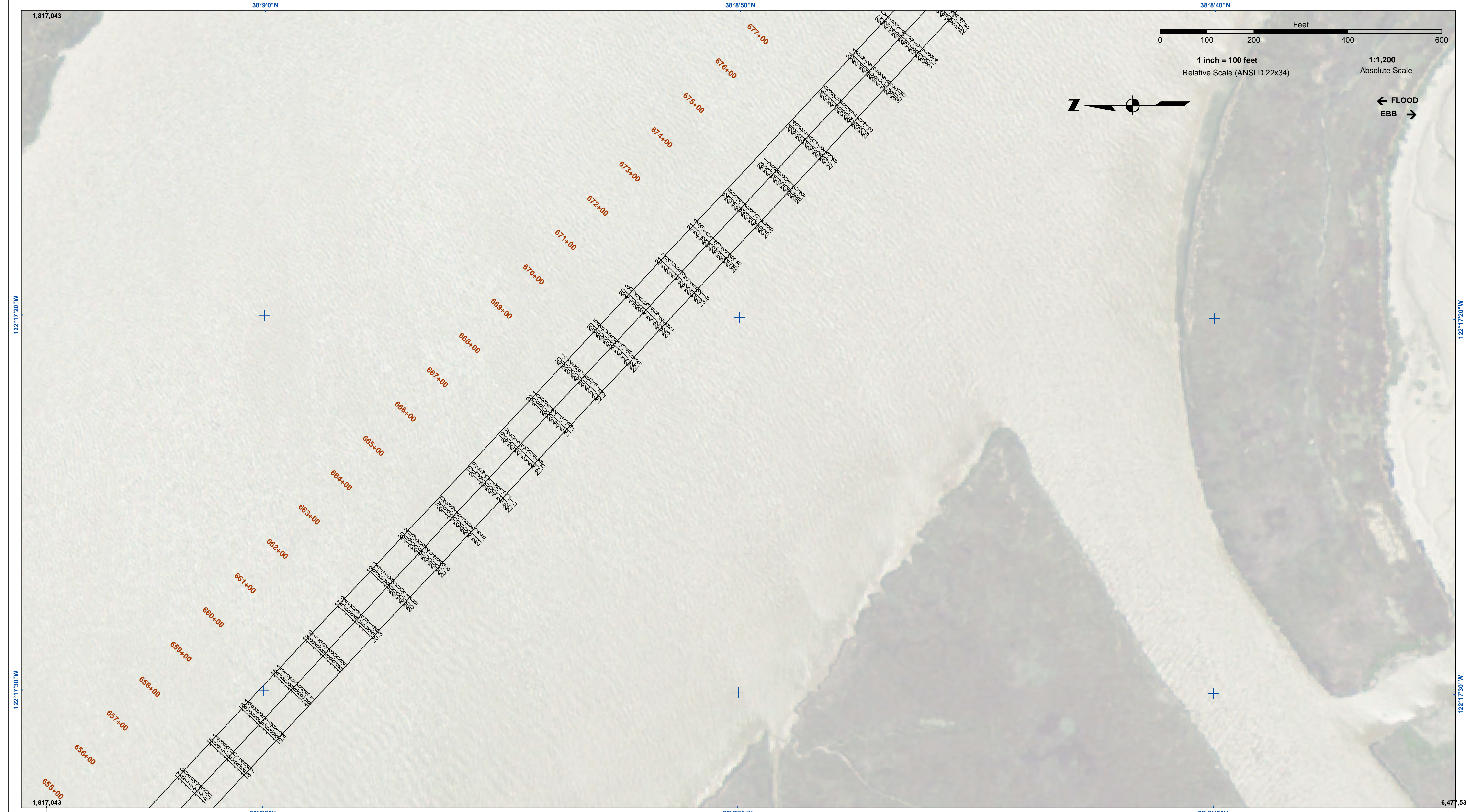


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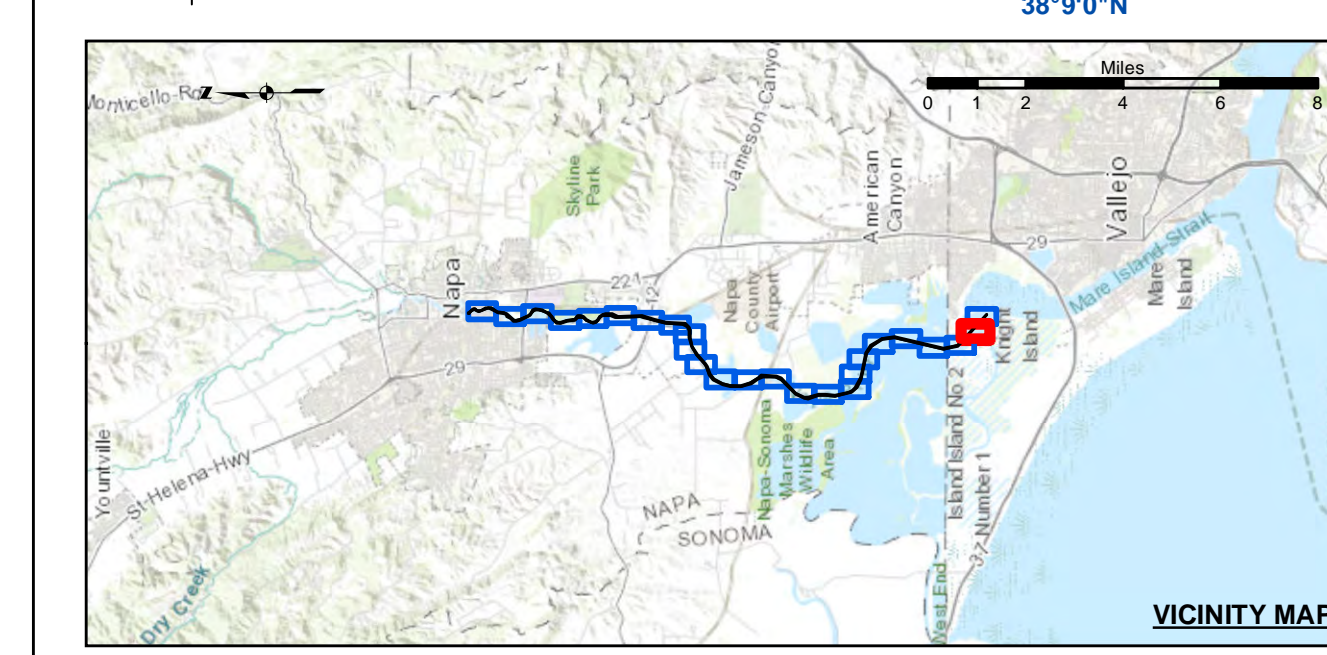
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 641+00 TO 692+00 - NAPA03 - 3.553m MLLW - 28.416m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. TRANSFERRED FROM BM 5218 J 1976 VIA RTK ON 4/10/2012 PID PENDING.





← FLOOD  
EBB →



Federal Navigation Channel	Beacon, General	-15
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
Anchorage Area	Navigation Buoy	-12
Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
Angle Point		

**NOTES:**  
 HORIZONTAL COORDINATE SYSTEM:  
 NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CALIFORNIA ZONE II. DISTANCE UNITS IN U.S. SURVEY FEET.  
 VERTICAL DATUM:  
 SOUNDINGS ARE SHOWN IN FEET AND INDICATE DEPTHS BELOW MEAN LOWER LOW WATER.  
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 PLANE GRID, BEARING AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT CONFORMAL PROJECTION, ZONE II NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY. BASE MAPS ARE USDA NAIP 2010.  
 \*SHOALEST SOUNDING PER QUARTER PER REACH

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 THE PROJECT DEPTH IS 15 FROM ENTRANCE AT THE MARE ISLAND CAUSEWAY TO ASYLUM SLOUGH, THENCE 10 FEET TO HEAD OF NAVIGATION.  
 VERTICAL CONTROLS:  
 0+00 TO 175+00 - NRFP4 - 30.54ft - USACE - RTK BASE STATION TRANSECT 11 - 6.593m MLLW - USACE - MLLW LEVELED FROM 20 AND TIDAL 5 FROM TIDE STATION 941 5623 ON 3/29/2012.  
 176+00 TO 224+00 - NAPAR01 - 2.652m MLLW - 29.11m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. CALCULATED FROM TRANSECT 11 AND NRFP4 USING RTK OBSERVATIONS PID PENDING.  
 225+00 TO 640+00 - NAPAR02 - 3.653m MLLW - 28.241m WGS-84 - USACE - RTK BASE STATION WGS-84 ELEVATION FROM OPUS SOLUTION MLLW ELEV. CALCULATED BY INTERPOLATING ELEVATIONS BETWEEN NOAA TIDE STATIONS 941 5623 AND 941 5218 PID PENDING.  
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**US Army Corps of Engineers**  
 San Francisco District  
 450 Market Street  
 San Francisco, CA 94102

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Prepared Under the Direction of <b>JOHN D. CUNNINGHAM</b> LT Colonel, C.E. District Engineer	Surveyed By:	Chart Date:
Submitted: Hydro Survey Team Leader	Plotted By: PDT	Mar 19, 2021
Recommended: Chief, Hydro Survey Section	Checked By: PDT	Designed by:
Approved: Chief, Construction Branch	Drawn by: PDT	

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

**Sheet  
 Reference  
 Number  
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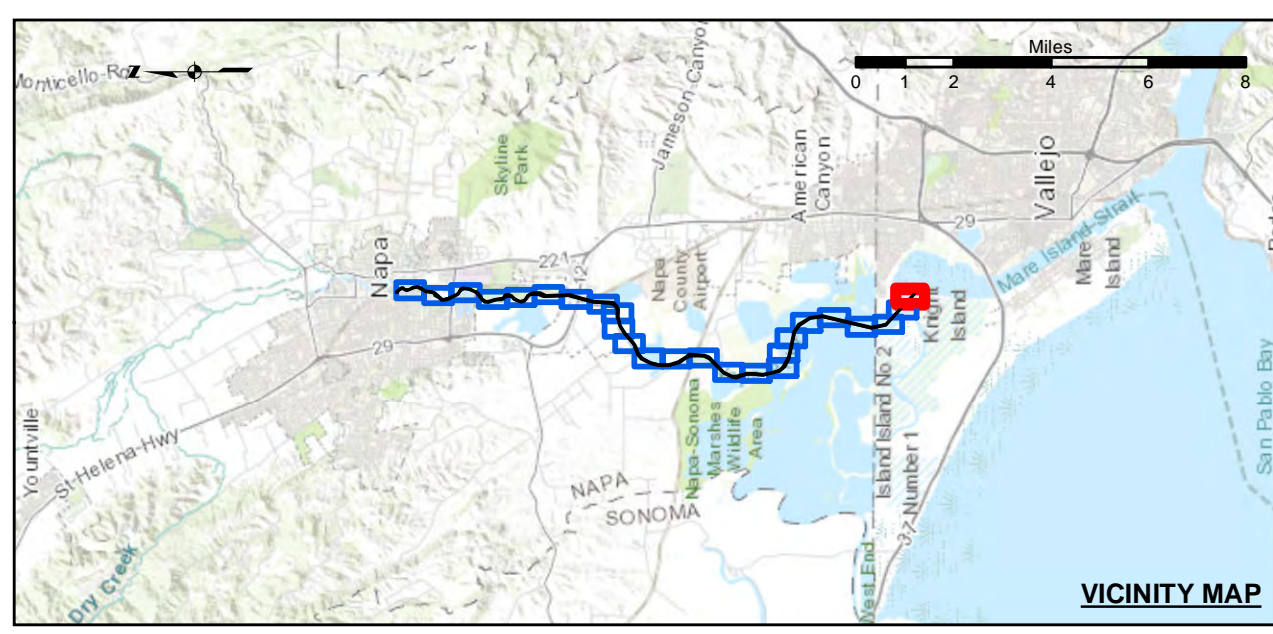
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Prepared Under the Direction of <b>JOHN D. CUNNINGHAM</b> LT Colonel, C.E., District Engineer	Chart Date: Mar 19, 2021
Subject: Hydro Survey Team Leader	Designed by: PDT
Recommendation: Chief, Hydro Survey Section	Plotted by: PDT
Approved: Chief, Construction Branch	Checked by: PDT
	Drawn by: PDT

CALIFORNIA  
 NAPA COUNTY  
**NAPA RIVER  
 LOWER NAPA  
 CONDITION SURVEY  
 12-15 MARCH 2021**

**Sheet  
 Reference  
 Number  
 25 of 25**



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-14
Placement Area	Navigation Buoy	-13
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Wreck Area	Shoalest Sounding*	-11
Submerged Wreck		
Angle Point		

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 SOUNDINGS FOR THE OUTSIDE CHANNEL (10 FT. WIDE) TAKEN BY FATHOMETER. THE INSIDE CHANNEL (60 FT. WIDE) TAKEN BY LEADLINE, AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT. SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.  
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