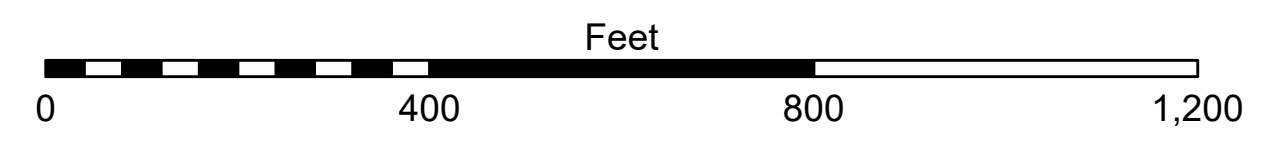
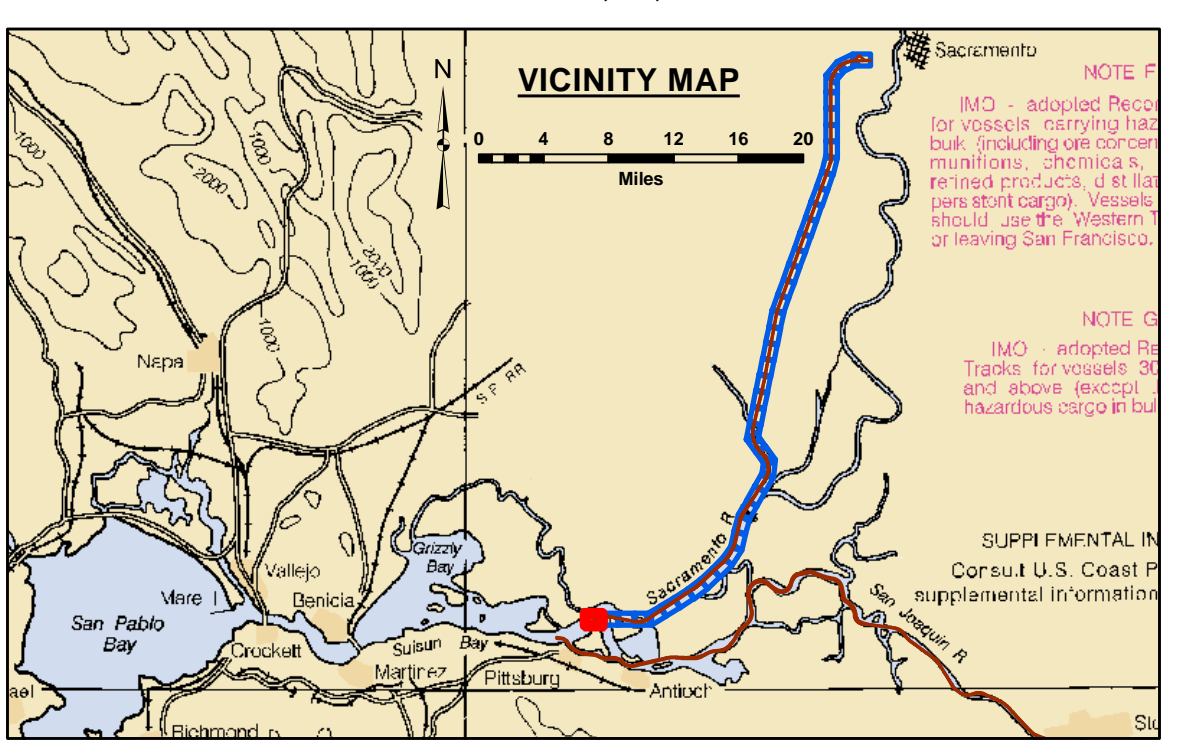


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Standard: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet
Reference
Number
1 of 45



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
..... Cable Submarine	▨ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	✦ Wrecks-Submerged	— -26	
	● Shoaling Area		
	● Shoalest Sounding**		
	⊥ Beacon, General		
	◆ Red Navigation Buoy		
	◆ Green Navigation Buoy		

NOTES:
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PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

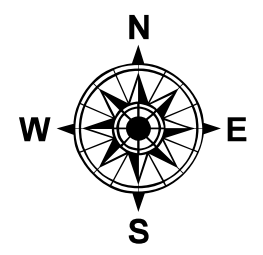
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

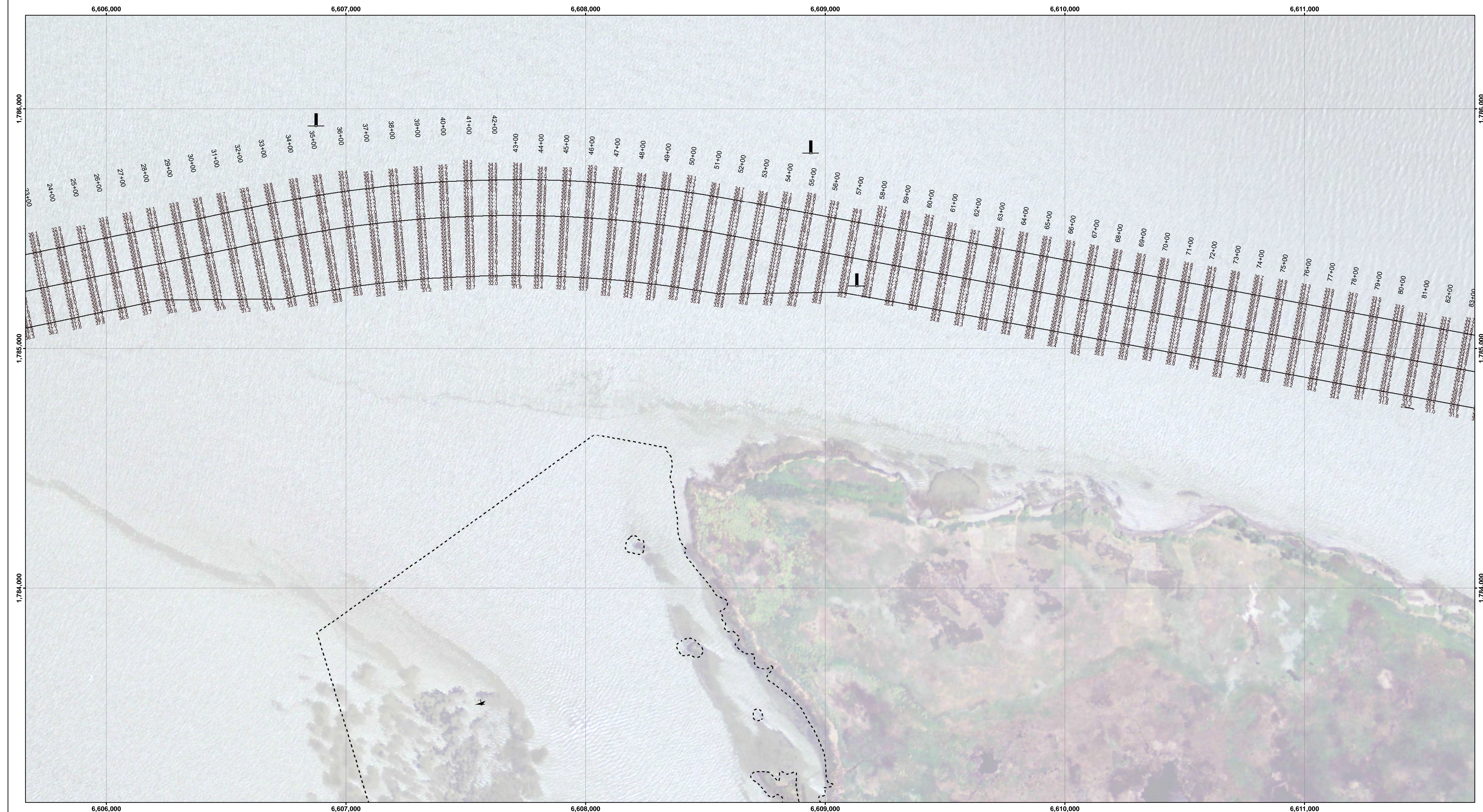
THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.

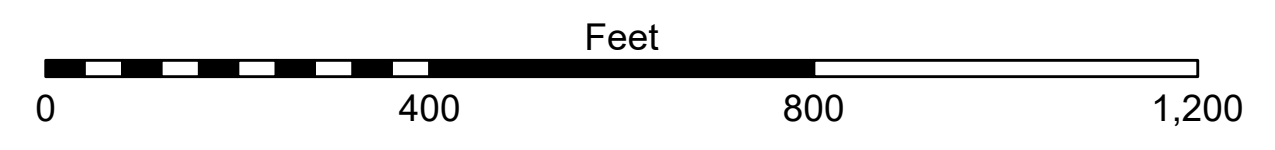
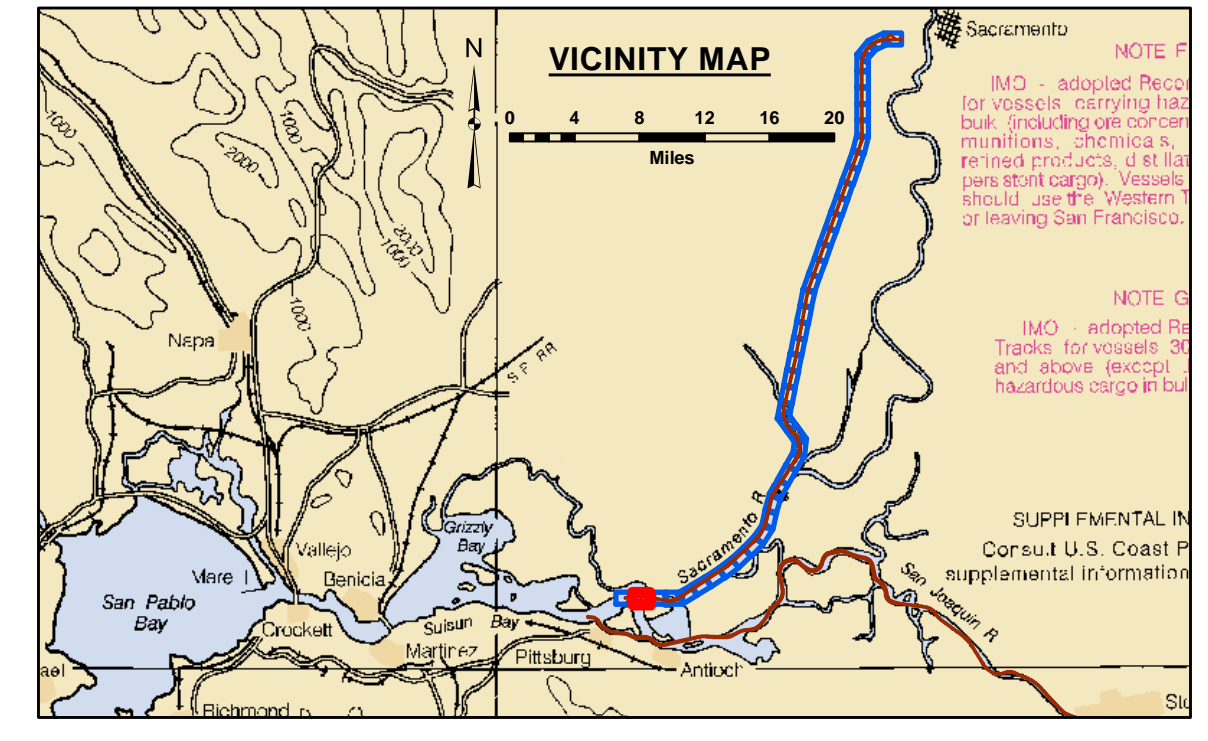




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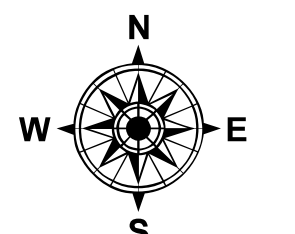
Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Standard: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

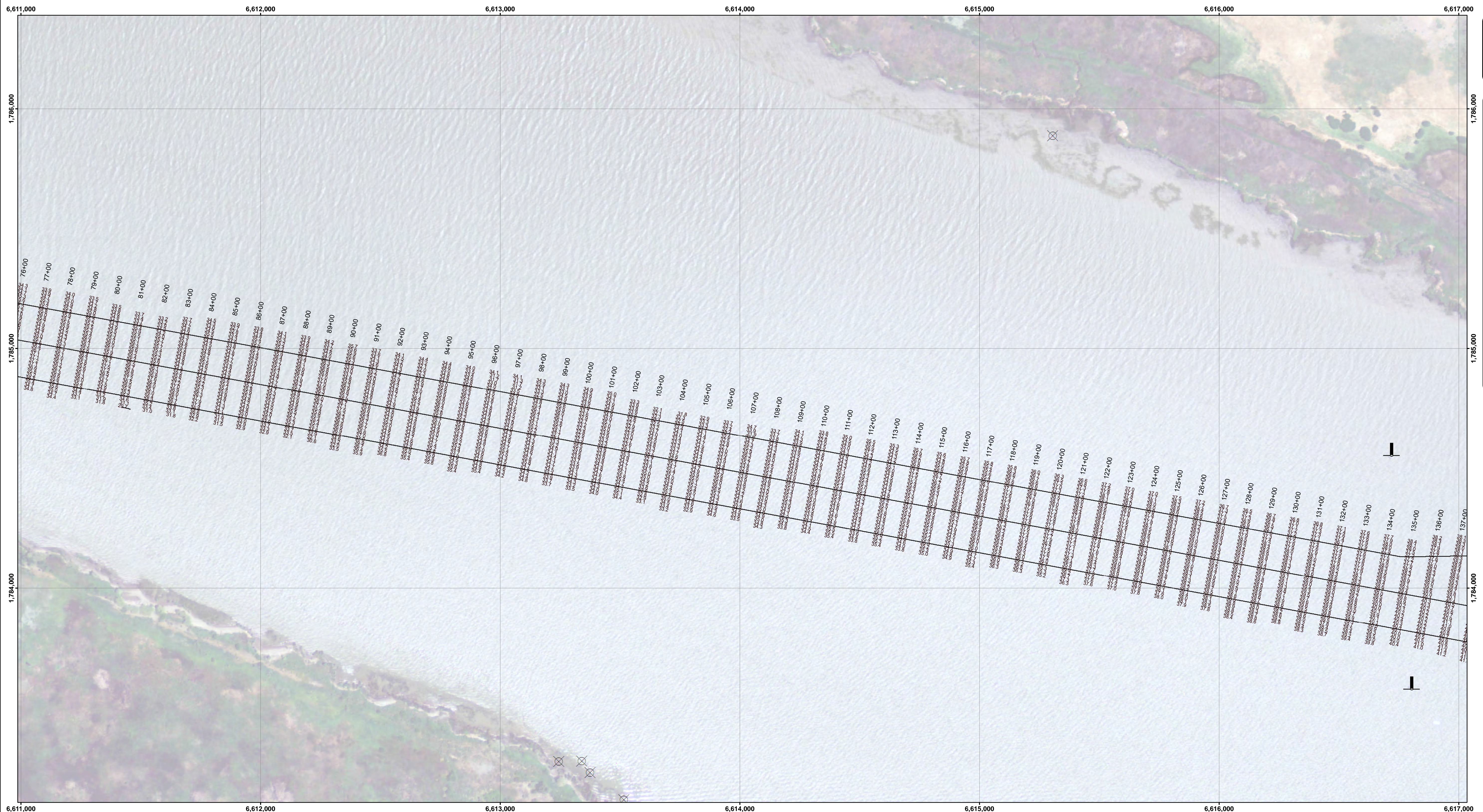


LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
⋯ Cable Submarine	⊞ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	✦ Wrecks-Submerged	— -26	
	⊥ Beacon, General		
	◆ Red Navigation Buoy		
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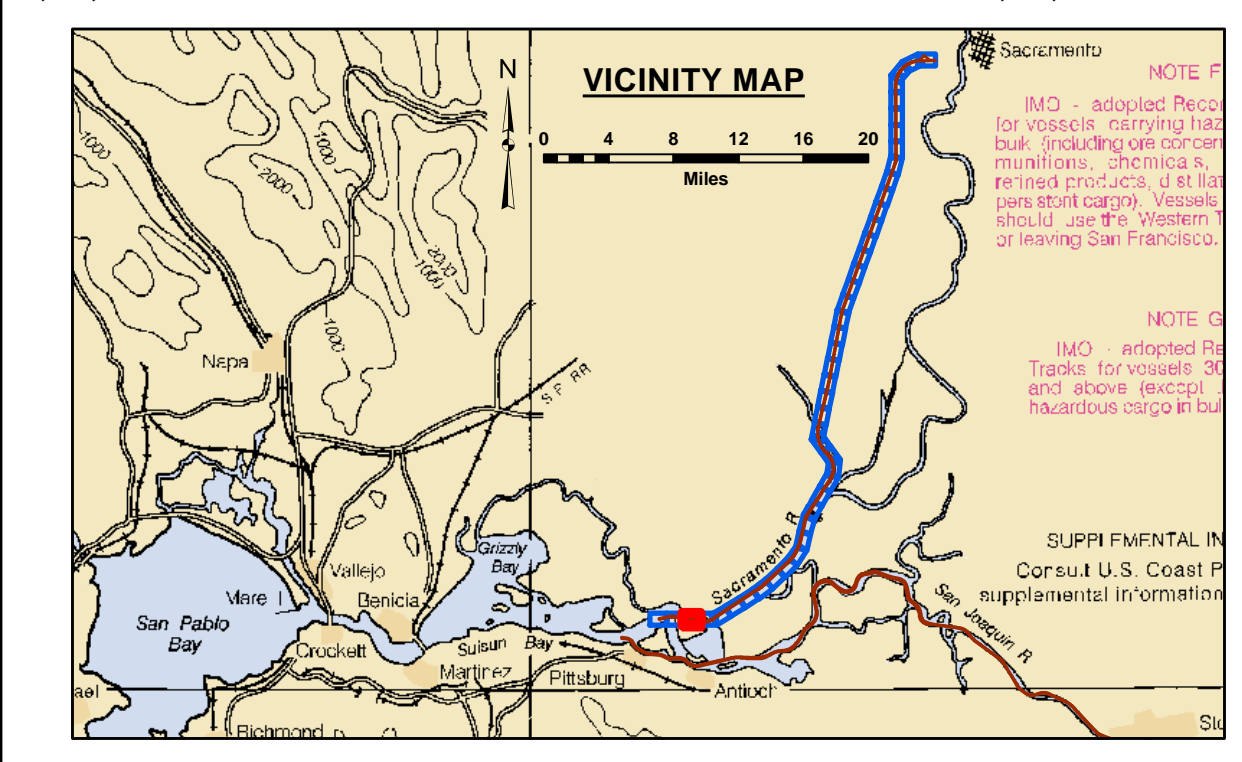
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Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Surveyed By: Hydro Survey Team Leader	Designed by: PDT
Plotted By: PDT	Drawn by: PDT
Checked By: Chief, Hydro Survey Section	
Approved: Chief, Construction Branch	



LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	▭ Anchorage Area	⊥ Beacon, General
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy

Contours

- -30
- -29
- -28
- -27
- -26

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PROJECT DEPTH: -30'

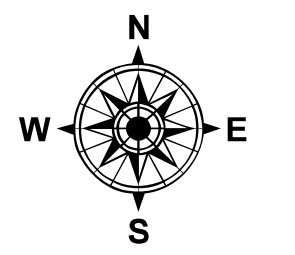
VERTICAL DATUM: MLLW

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CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

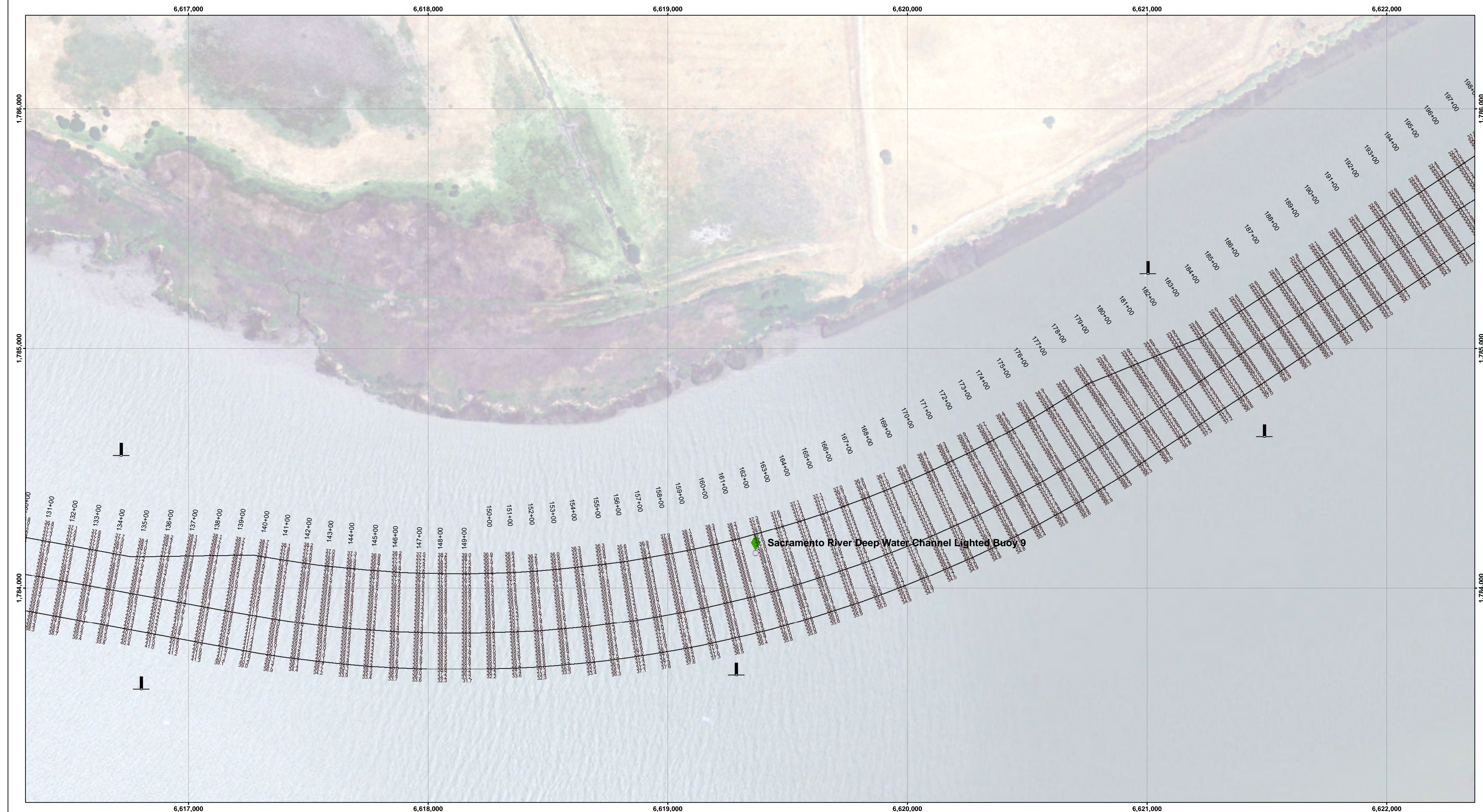
LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
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CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
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21, 25, 27-28 FEBRUARY 2018

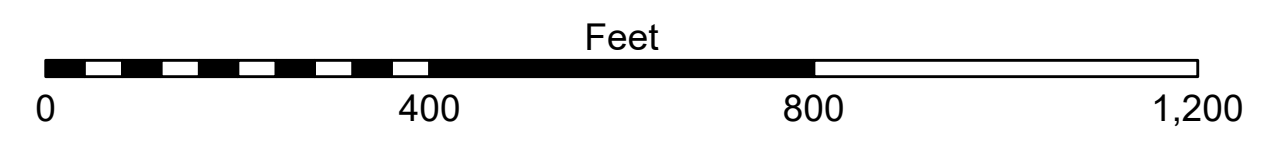
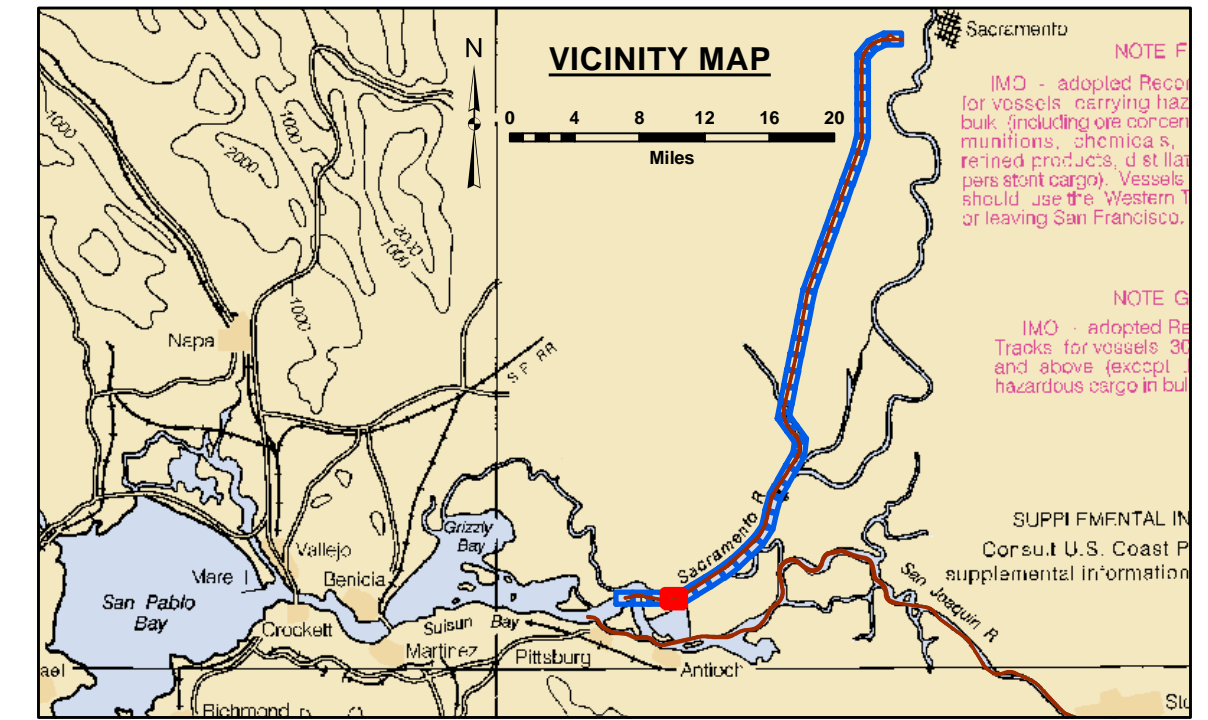
Sheet Reference Number
3 of 45



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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	TRAVIS J. RAYFIELD
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

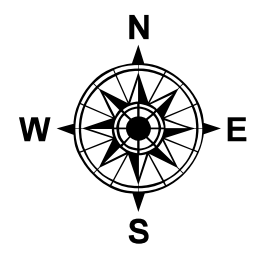
CALIFORNIA
 SAN JOAQUIN COUNTY
SACRAMENTO RIVER
 CONDITION SURVEY
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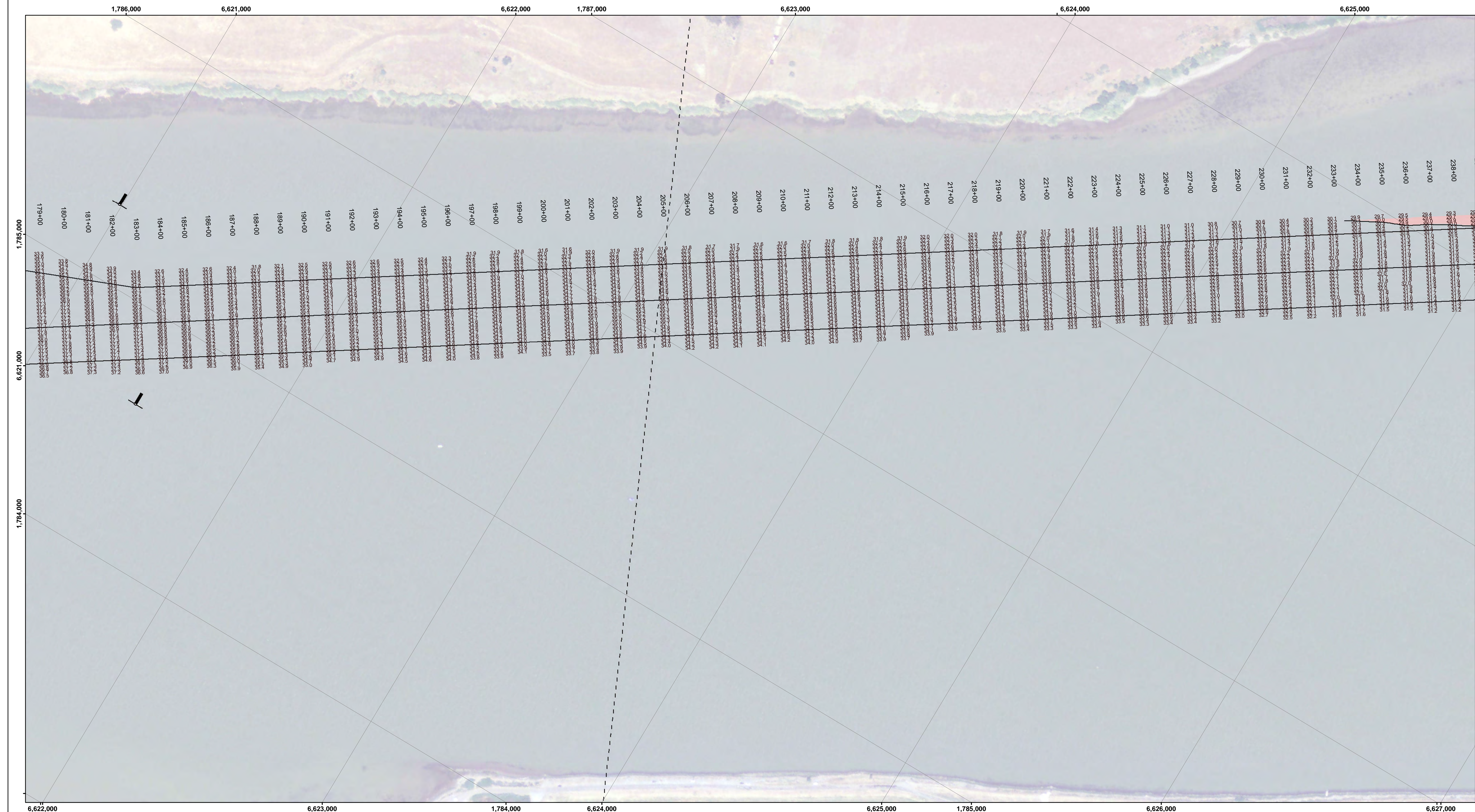


LEGEND			
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
..... Cable Submarine	▤ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
			— -26

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 ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235,
 PUBLISHED BY THE NATIONAL OCEAN SURVEY.
 PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW
 THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014
 LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
 METADATA: NAIL SET BY USACE 8 APRIL, 2014
 ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE
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 REFERENCE STATIONS IN THE AREA.

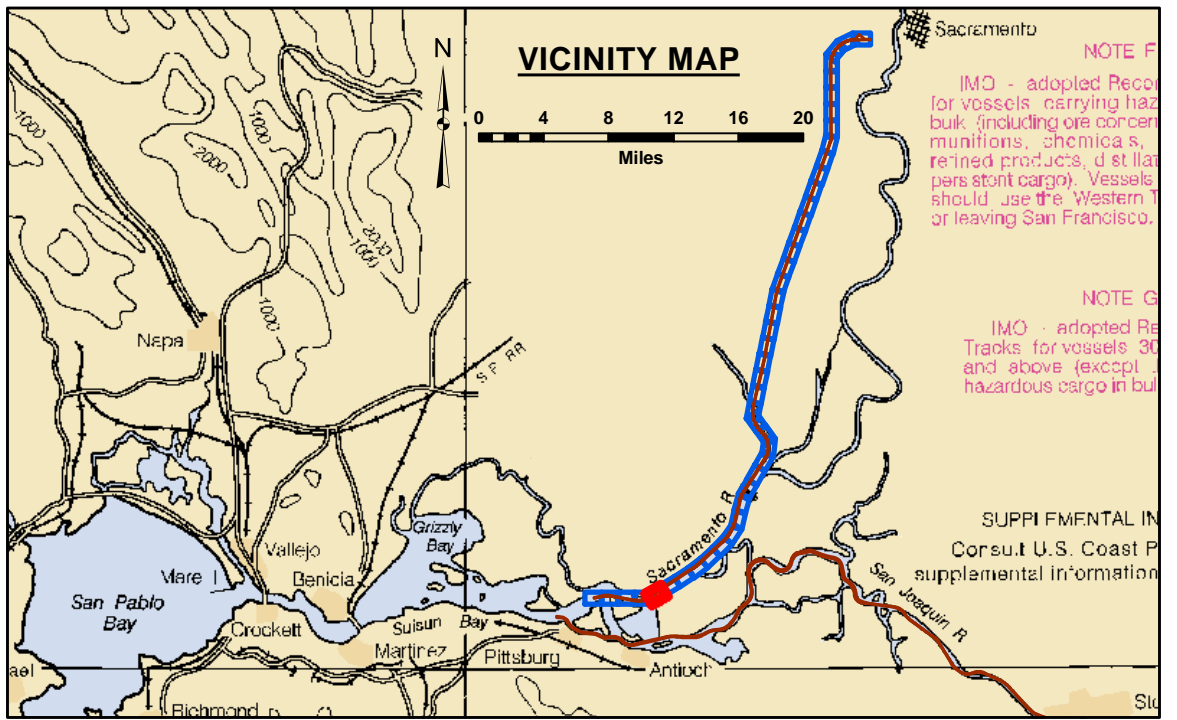




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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	LT COLONEL J. RAYFIELD
Plotted By:	Hydro Survey Team Leader
Checked By:	Chief Hydro Survey Section
Approved:	Chief Construction Branch

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018



LEGEND

--- Federal Navigation Channel	Cable Area	Shoaling Area	Contours -30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	Contours -29
..... Cable Submarine	Anchorage Area	Beacon, General	Contours -28
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy	Contours -27
— Contour Line	Wrecks-Submerged	Green Navigation Buoy	Contours -26

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PROJECT DEPTH: -30'

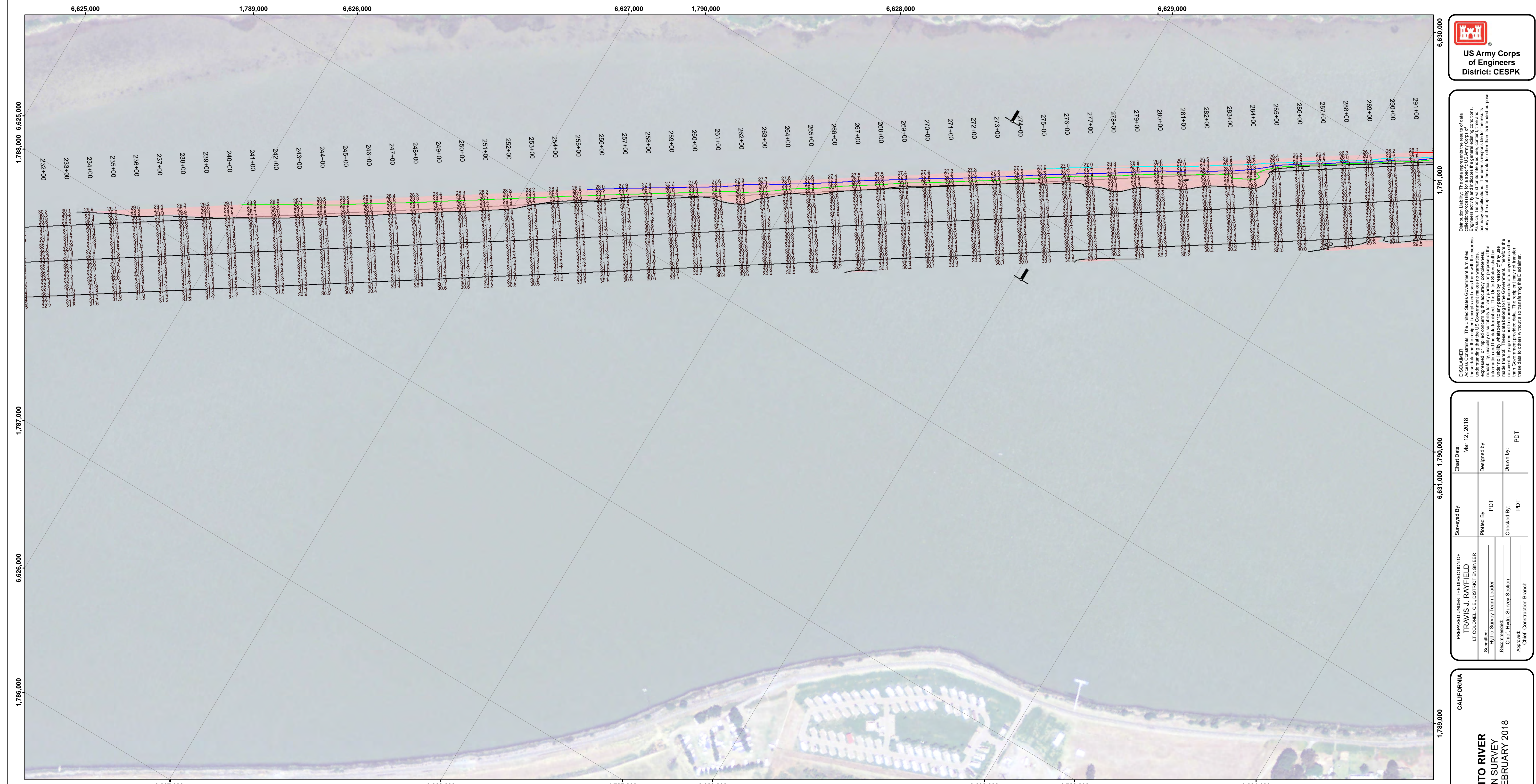
VERTICAL DATUM: MLLW

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LOCATION: PORT OF WEST SACRAMENTO
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 BENCHMARK: POWS1 (NO PID)
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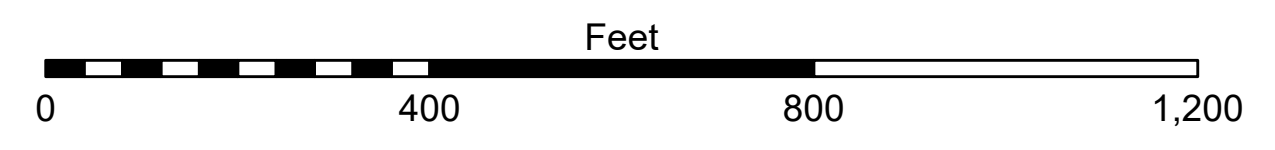
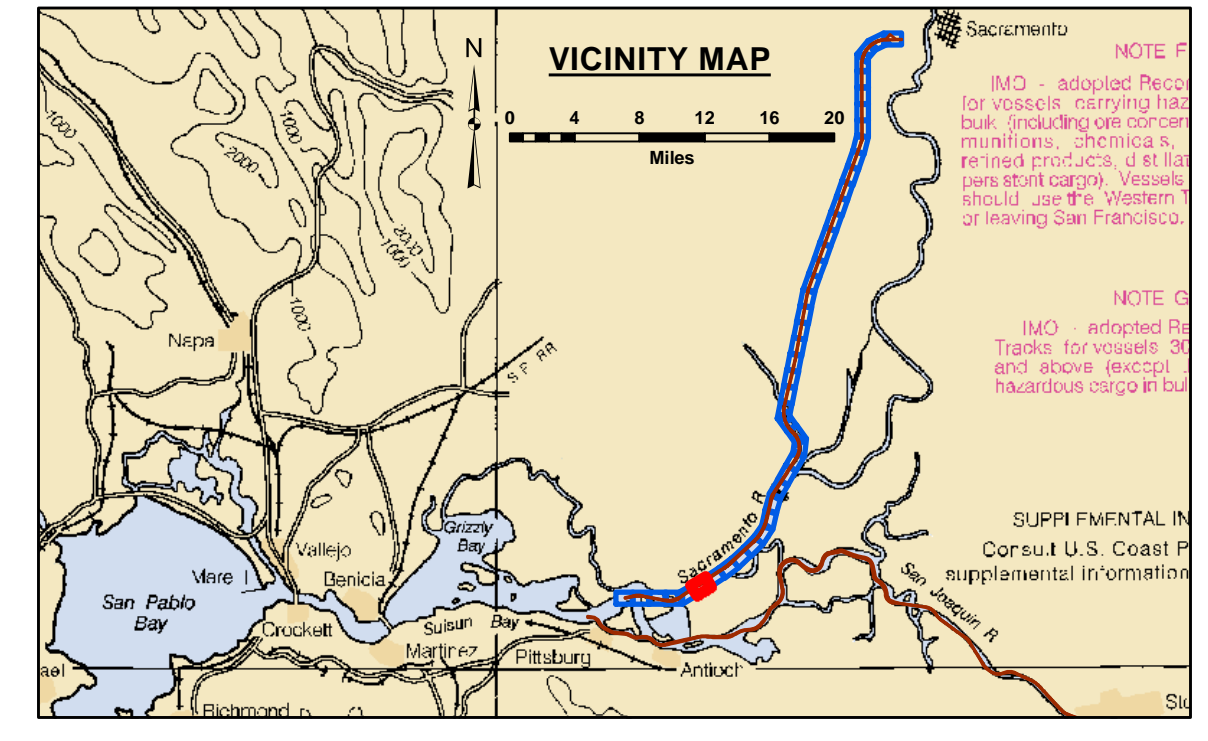
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Drawn by:	PDT
Surveyed By:	PDT
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Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

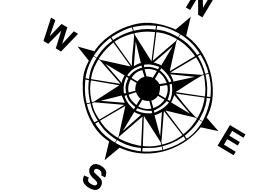
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



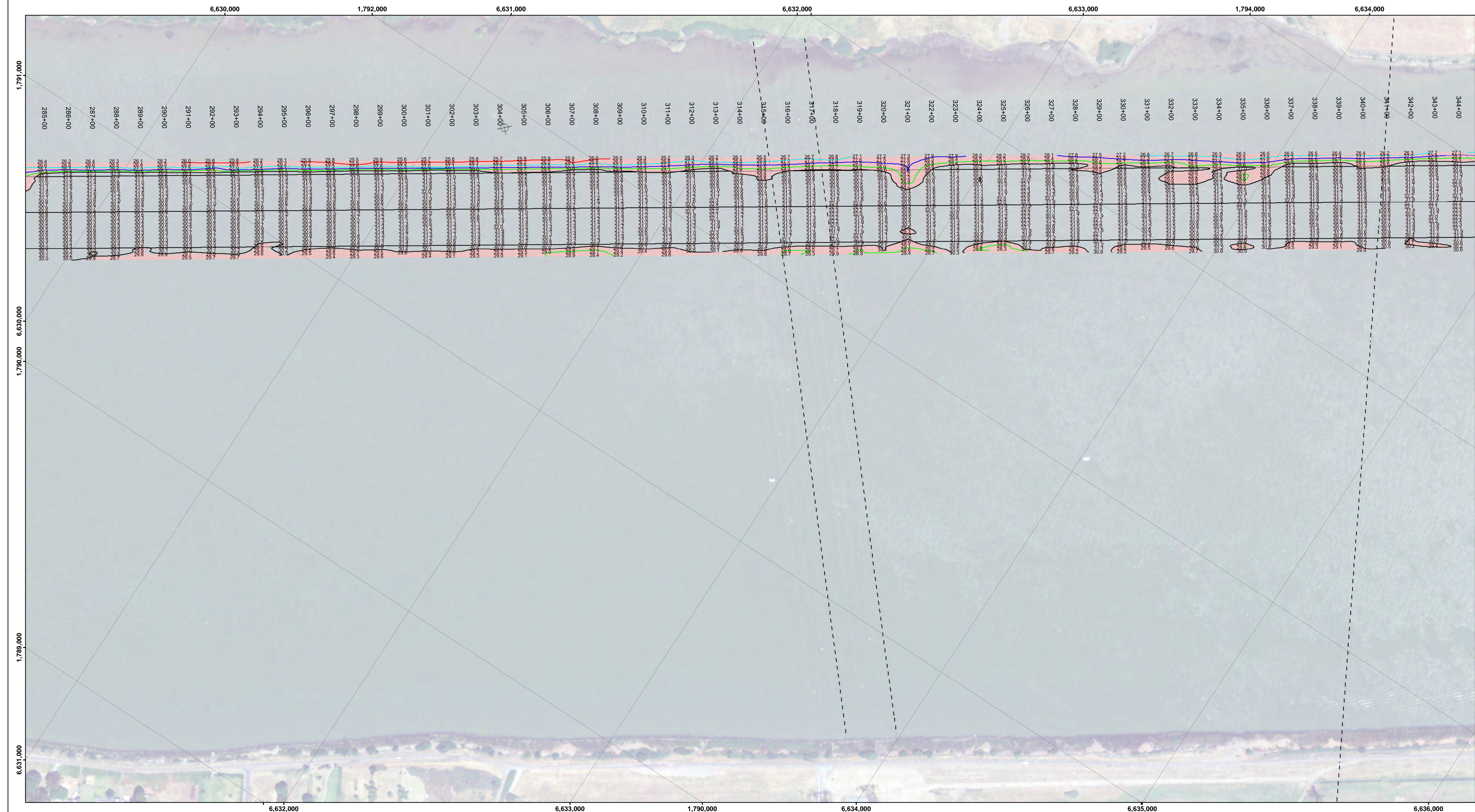
LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
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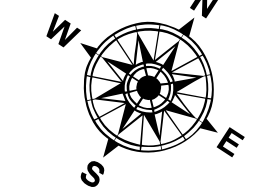
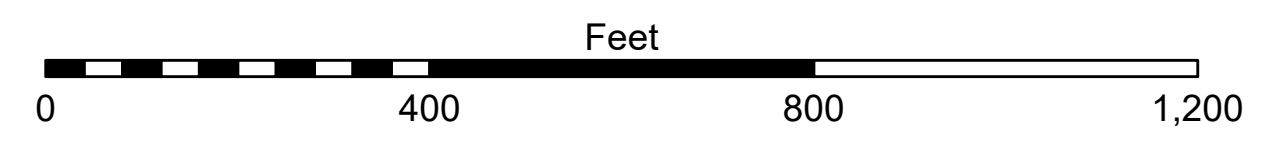
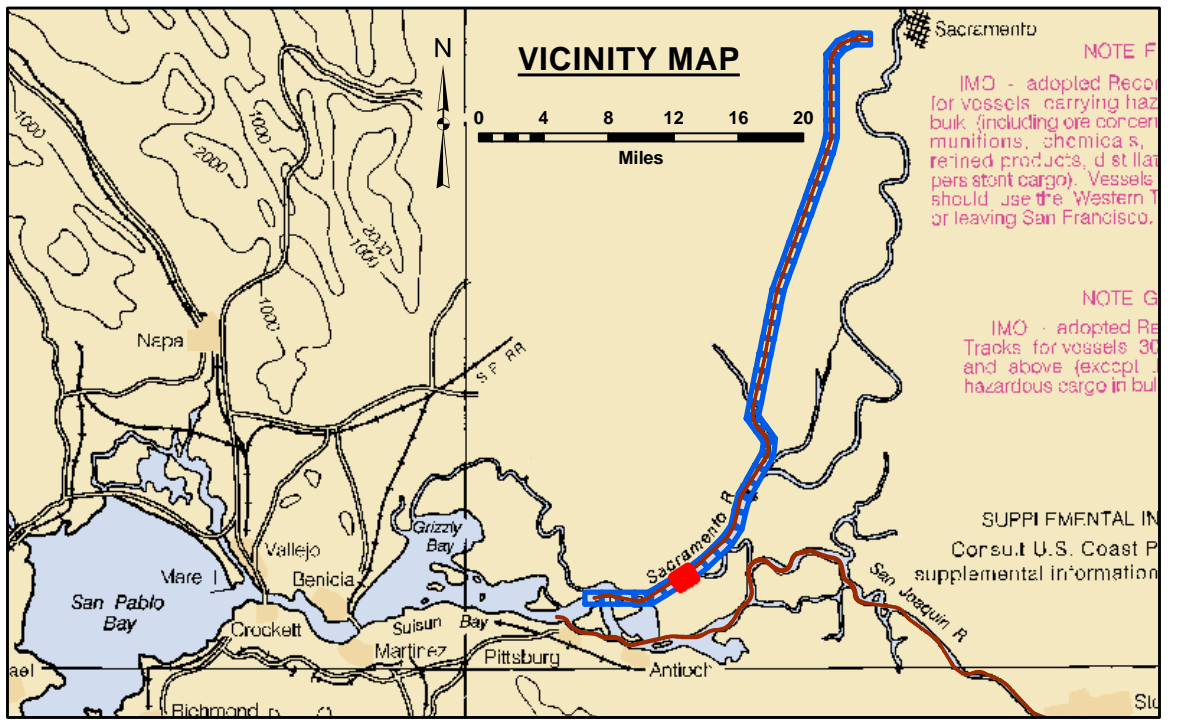


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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER
Plotted By:	Chief, Hydro Survey Section
Checked By:	Chief, Construction Branch

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND			
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— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
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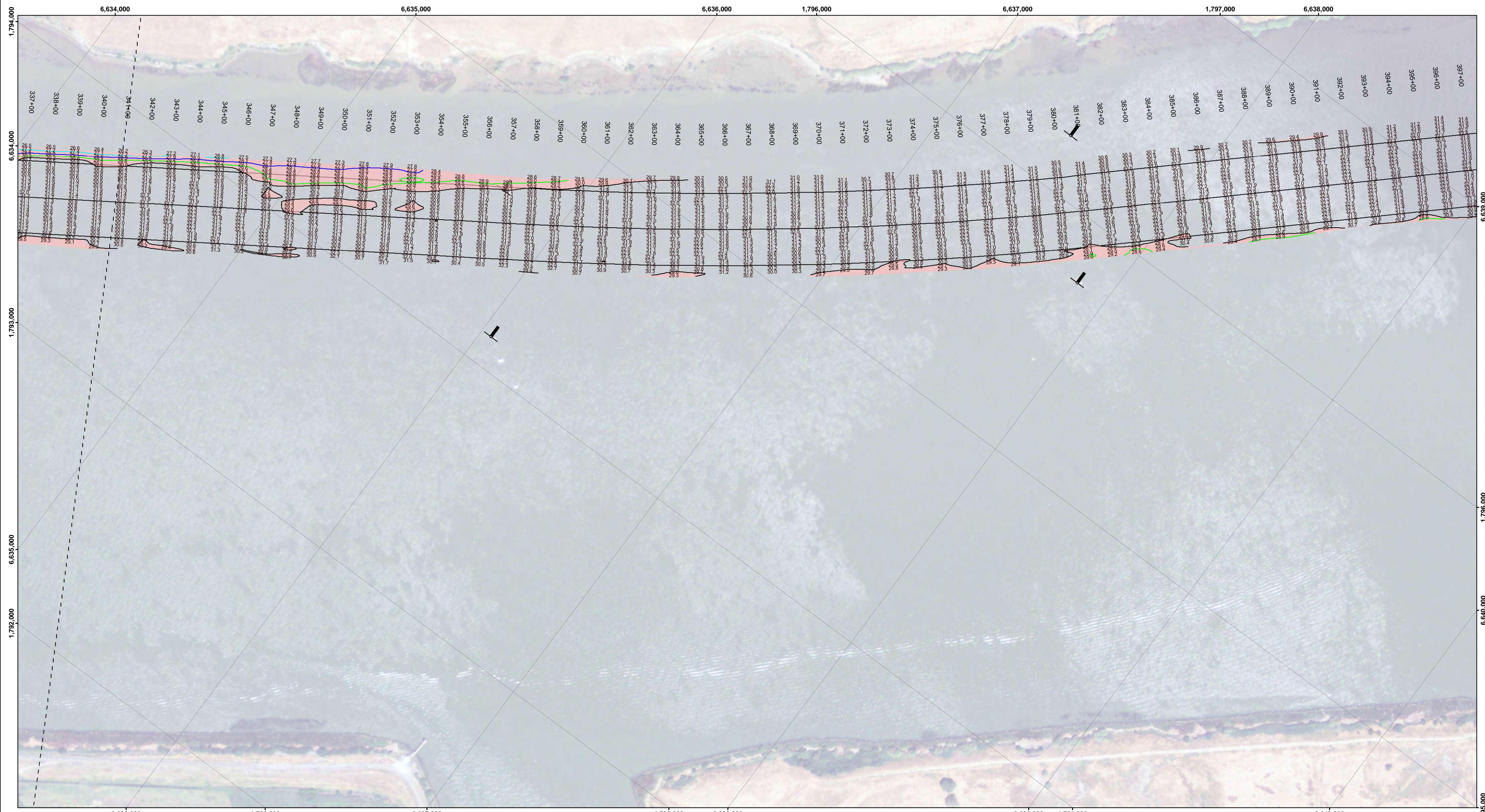
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LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.

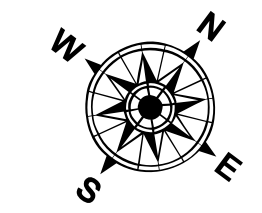
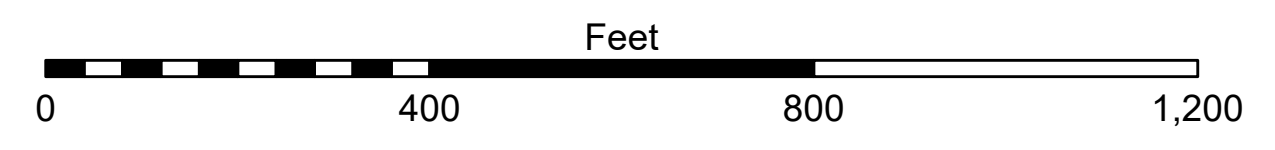
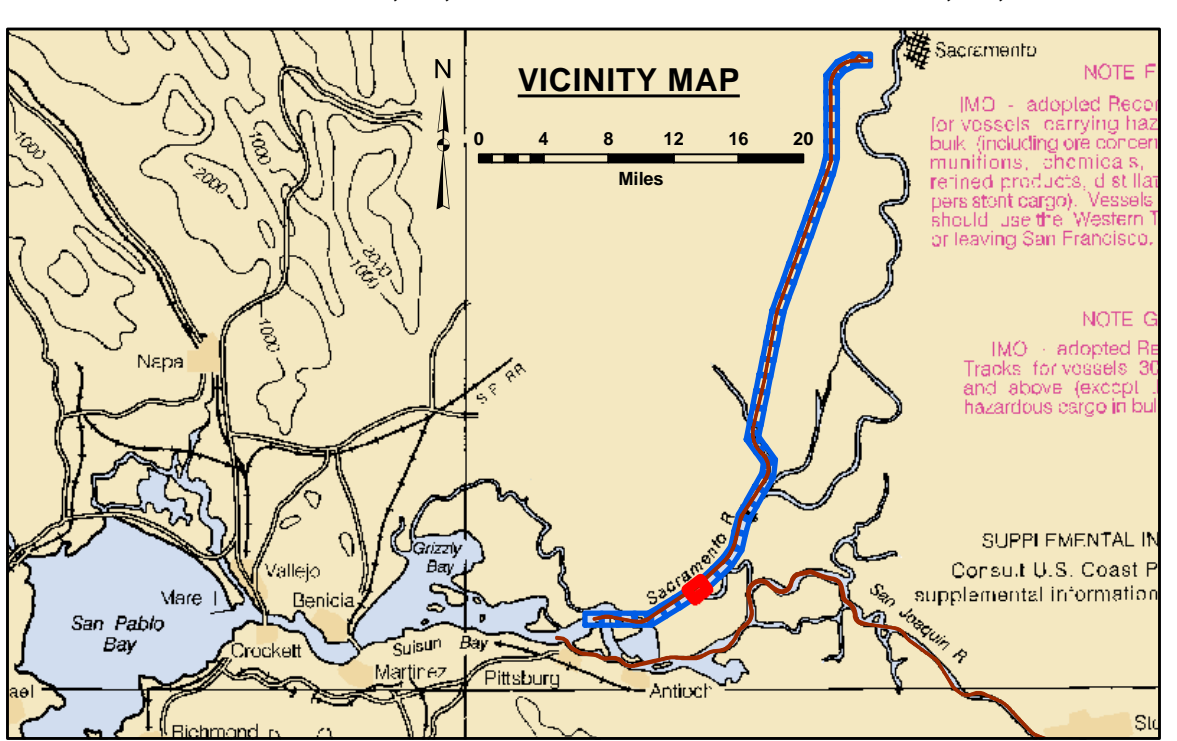


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Chart Date:	Mar 12, 2018
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
..... Cable Submarine	▨ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	⚓ Wrecks-Submerged	— -26	
	● Shoalest Sounding**		
	⚓ Beacon, General		
	◆ Red Navigation Buoy		
	◆ Green Navigation Buoy		

NOTES:
DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY.
THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD.
BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.

SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CA ZONE II (0402), DISTANCE UNITS IN U.S. SURVEY FEET.

PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

PROJECT DEPTH: -30'

VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

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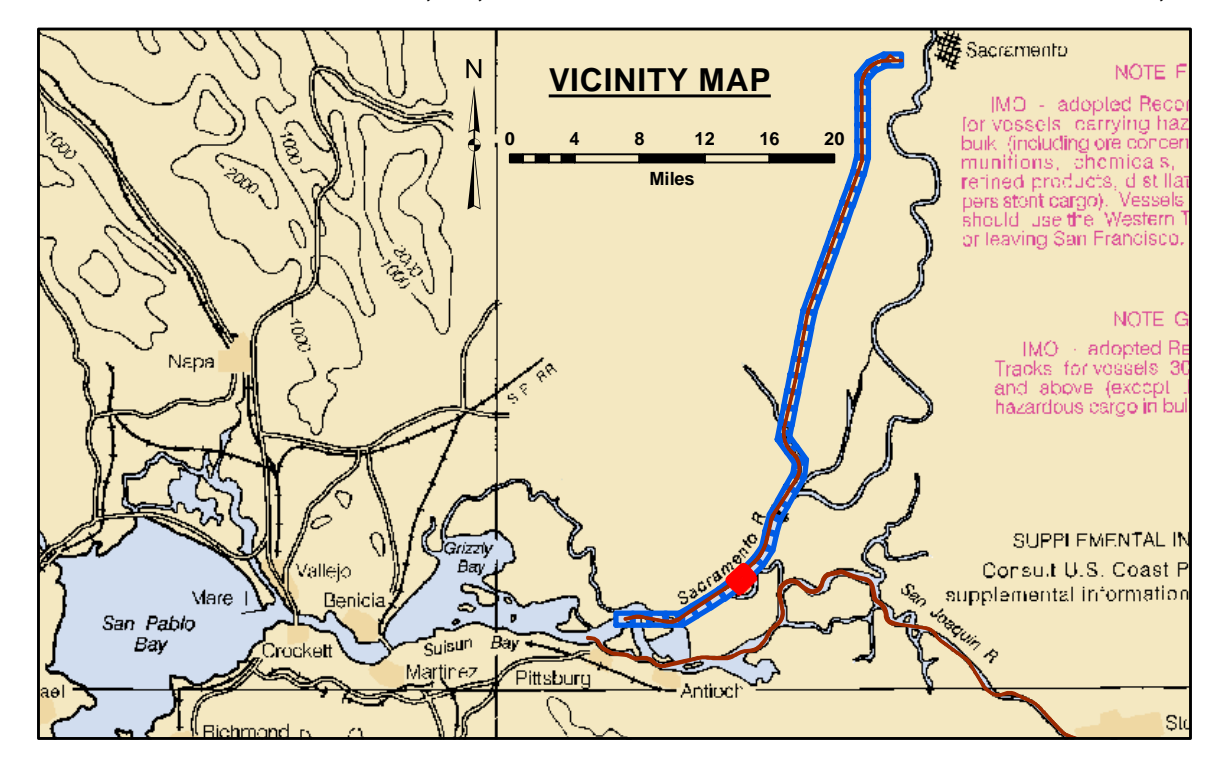


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 Distribution Liability: The user represents the results of data collection/processing/analysis for a specific project. The user is responsible for the results of any application of the data for other than its intended purpose.
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Chart Date:	Mar 12, 2018
Designed by:	
Drawn by:	PDT
Surveyed By:	
Plotted By:	PDT
Checked By:	PDT
Approved:	
Chief, Construction Branch	

CALIFORNIA
 SAN JOAQUIN COUNTY
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
9 of 45

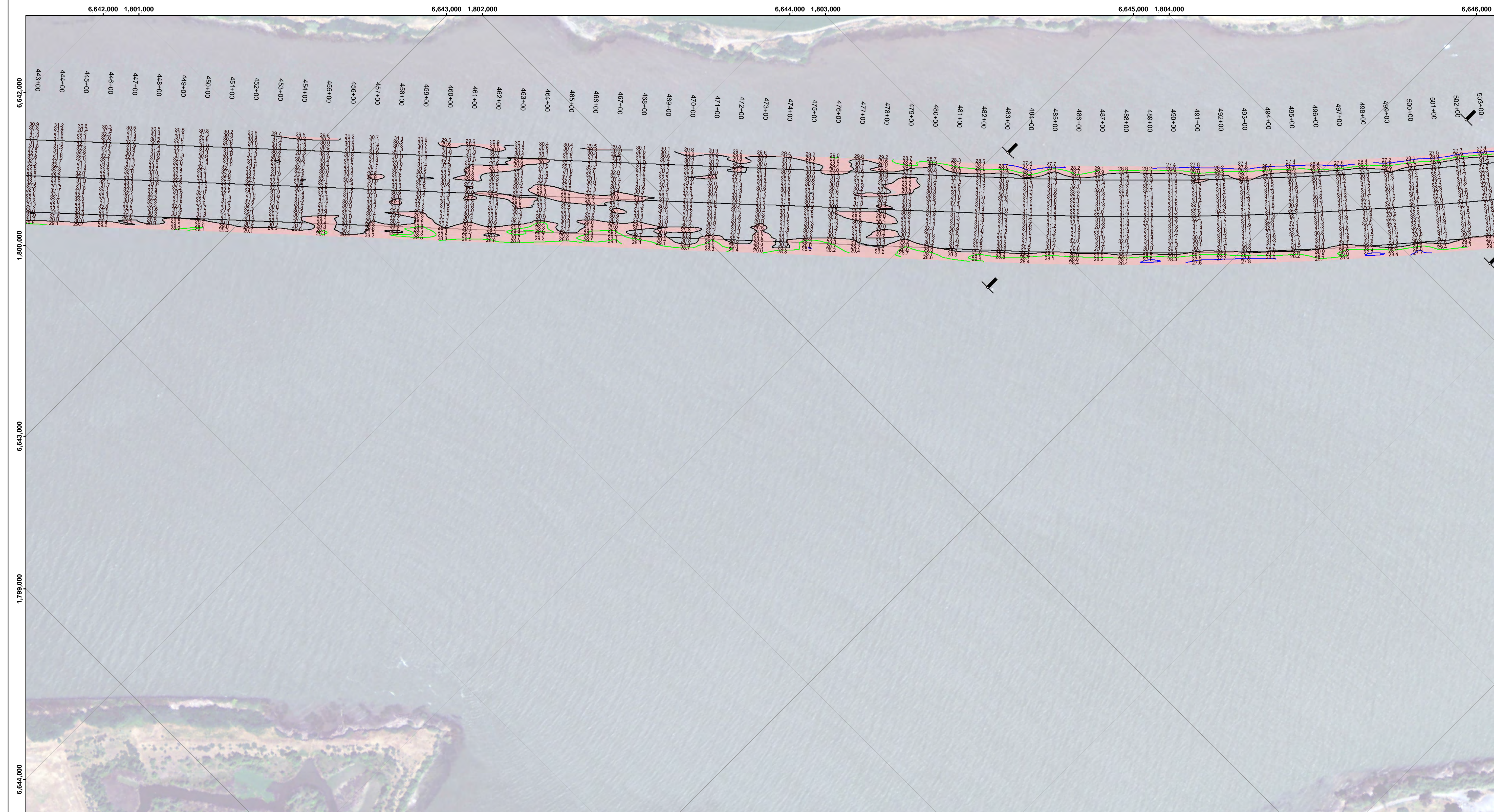


LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
..... Cable Submarine	▭ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✈ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
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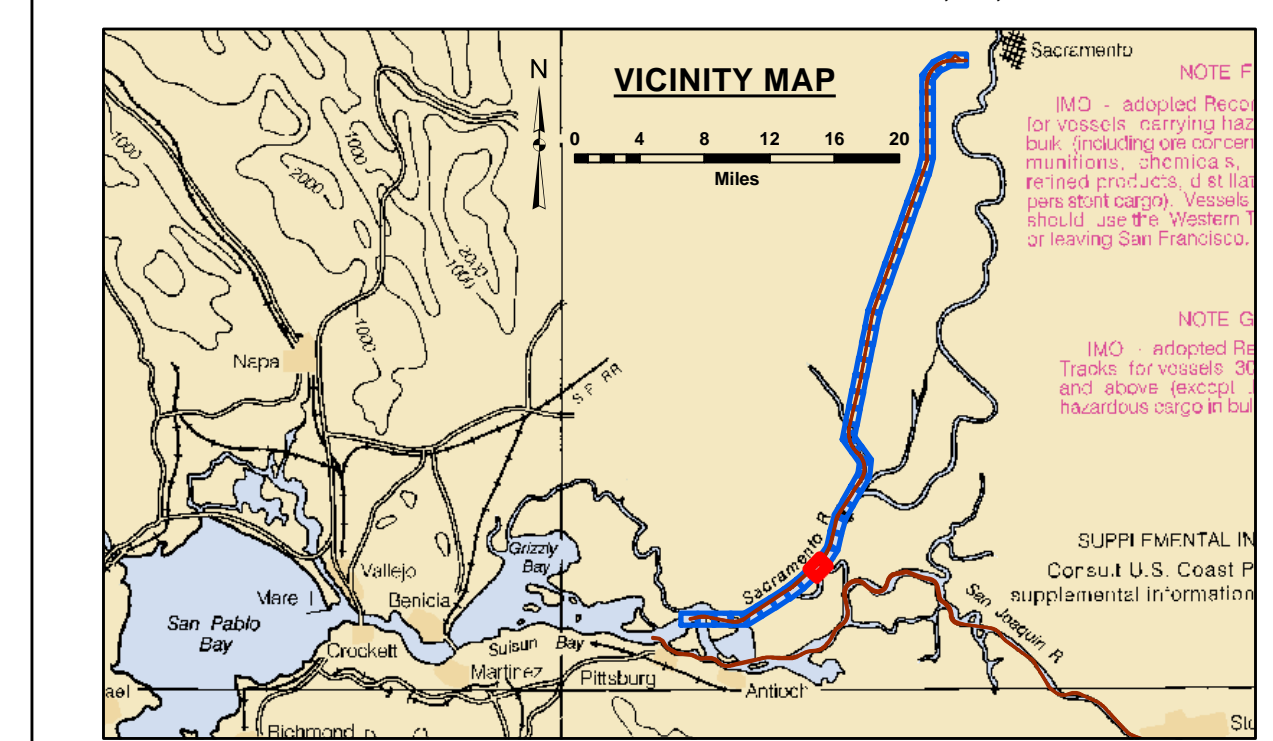
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Chart Date:	Mar 12, 2018
Surveyed By:	_____
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

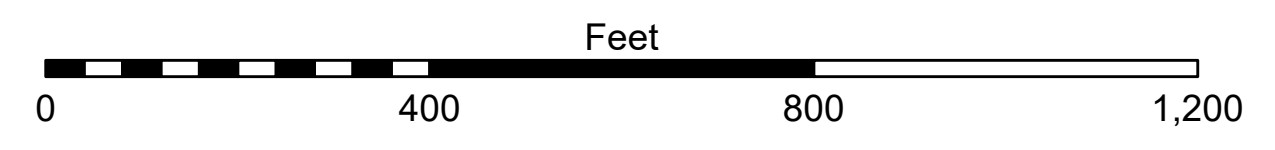
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
10 of 45



LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
⋯ Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General	— -29
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— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
			— -26



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PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

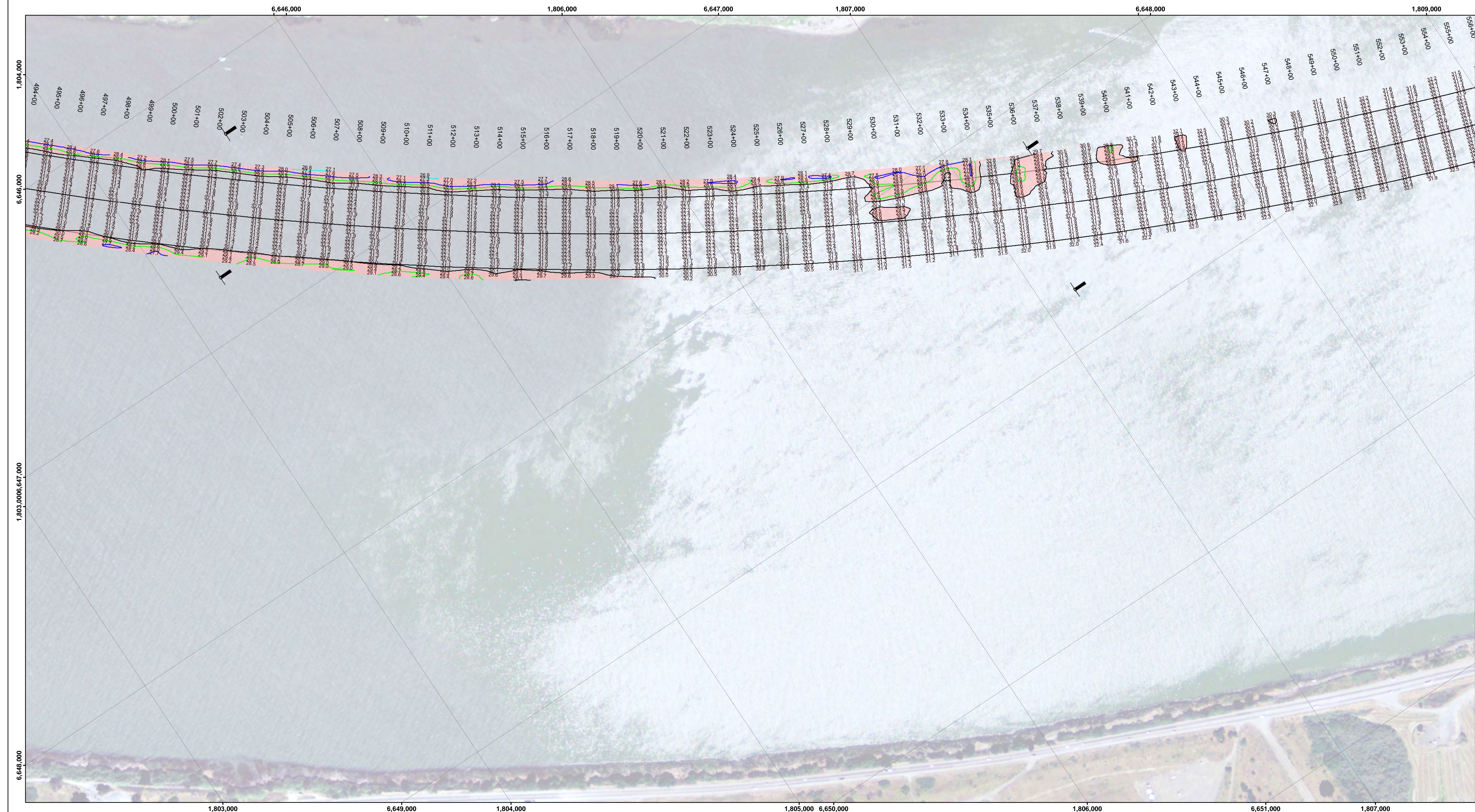
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NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
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LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

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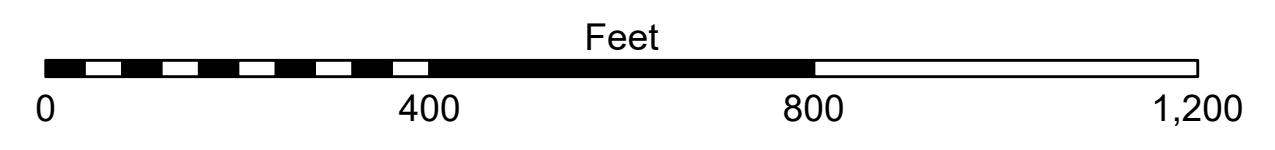
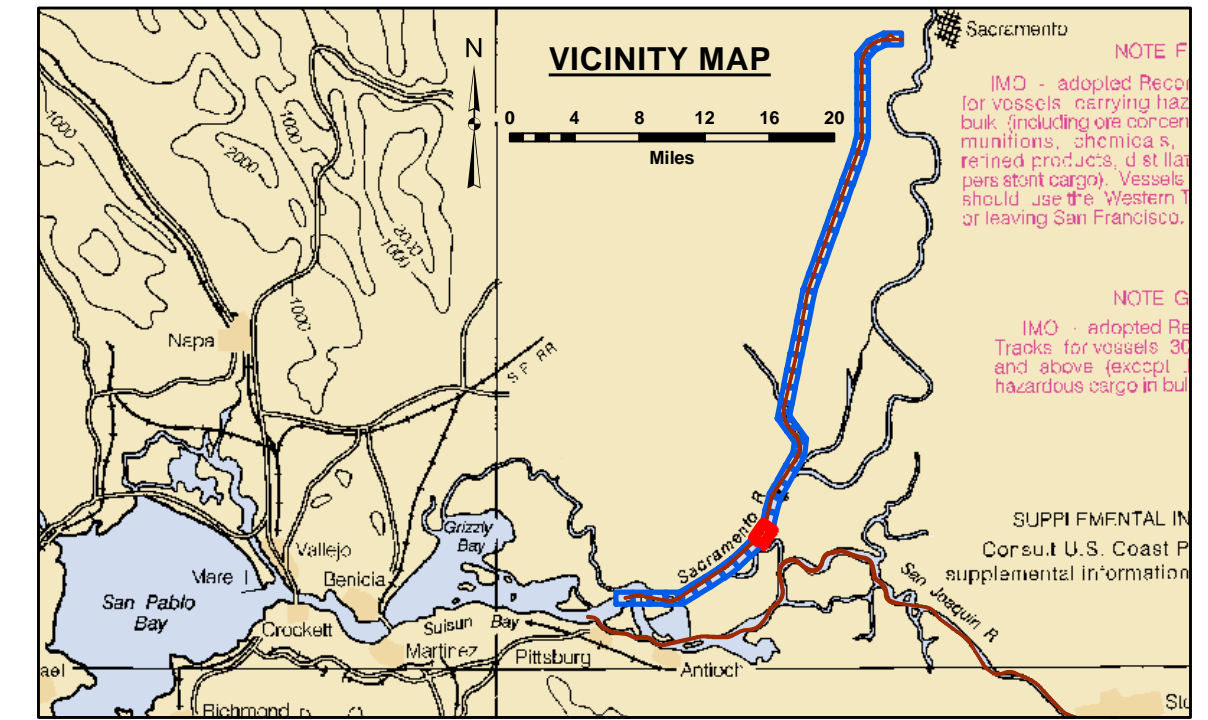
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PREPARED UNDER THE DIRECTION OF TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER Standard: Hydro Survey Team Leader Recommended: Chief, Hydro Survey Section Approved: Chief, Construction Branch	Surveyed By:	Chart Date:
	Plotted By:	Mar 12, 2018
	Checked By:	Designed by:
	PDT	PDT

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

SAN JOAQUIN COUNTY
Sheet Reference Number
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LEGEND			
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
⋯ Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General	— -29
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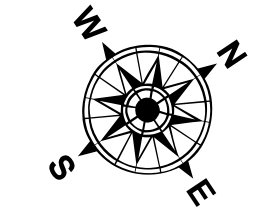
PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW

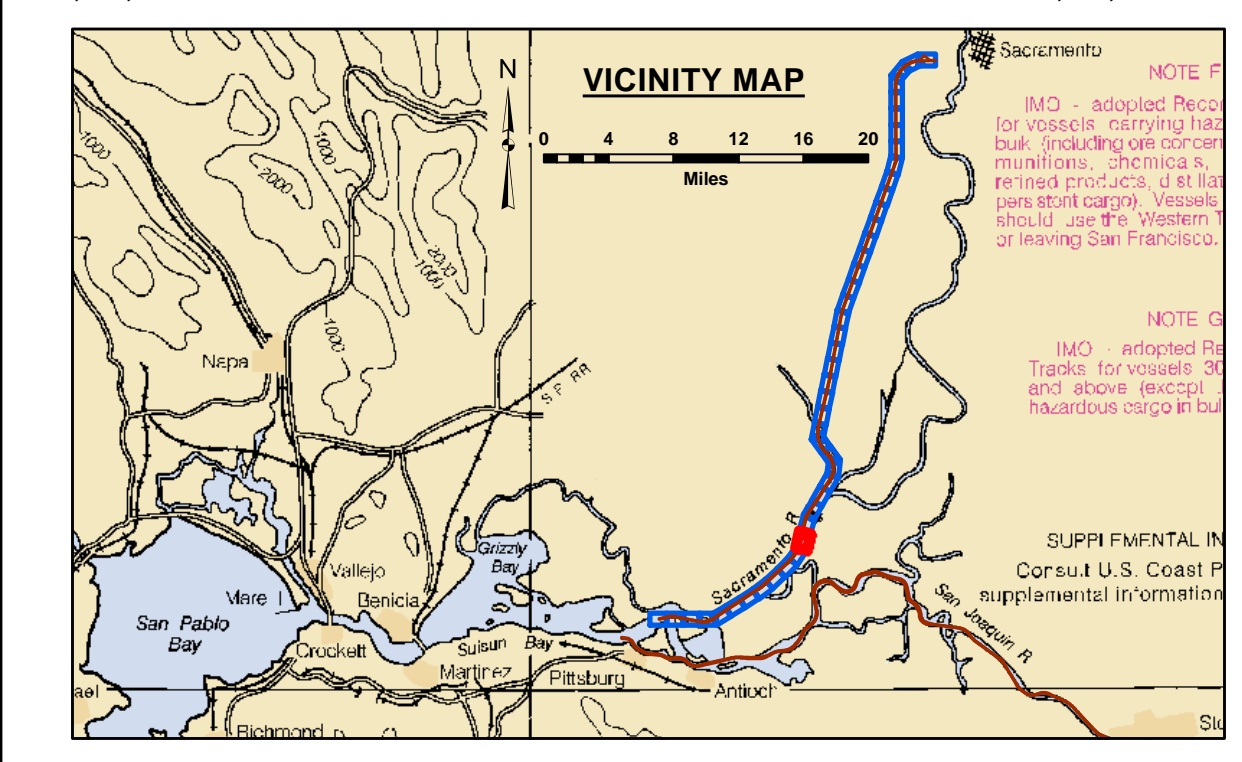
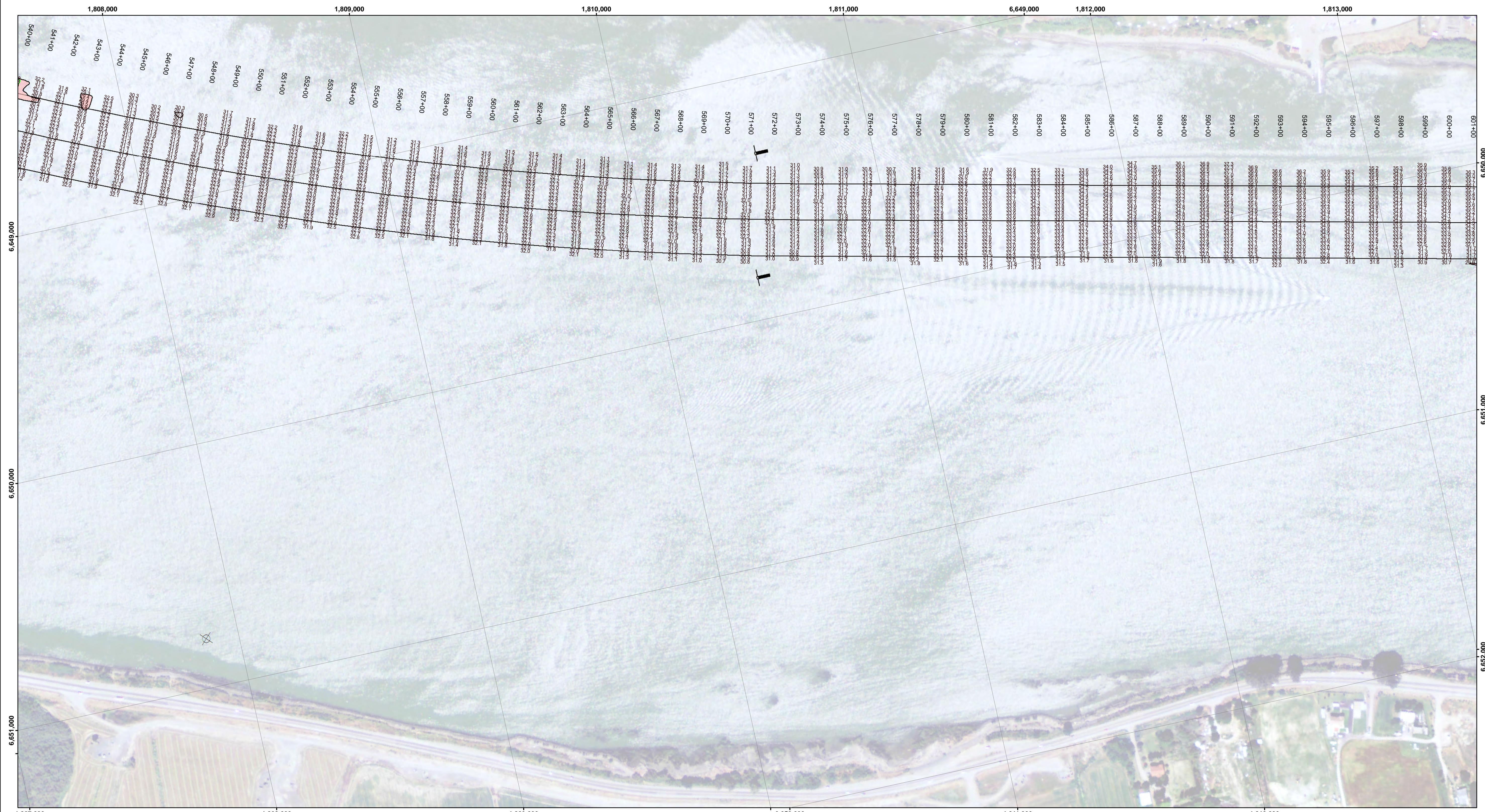
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CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
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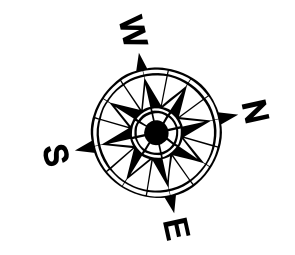
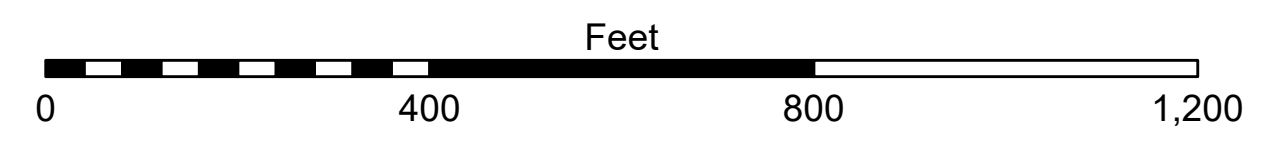
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LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
⋯ Cable Submarine	▭ Anchorage Area	⊥ Beacon, General	— -29
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			— -26



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PROJECT DEPTH: -30'
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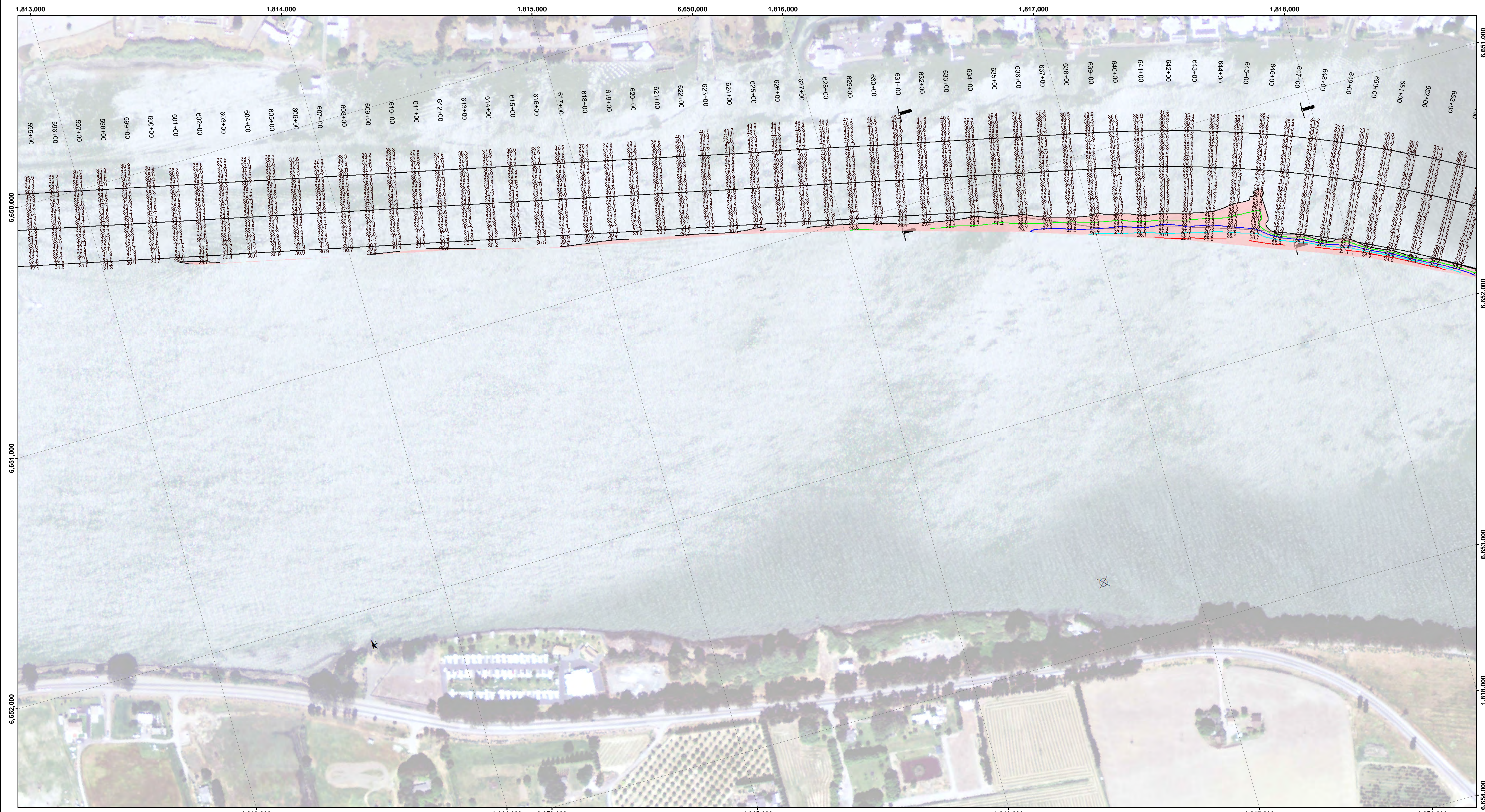


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Survised By: Hydro Survey Team Leader	Designed by: PDT
Plotted By: PDT	Drawn by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet
 Reference
 Number
12 of 45

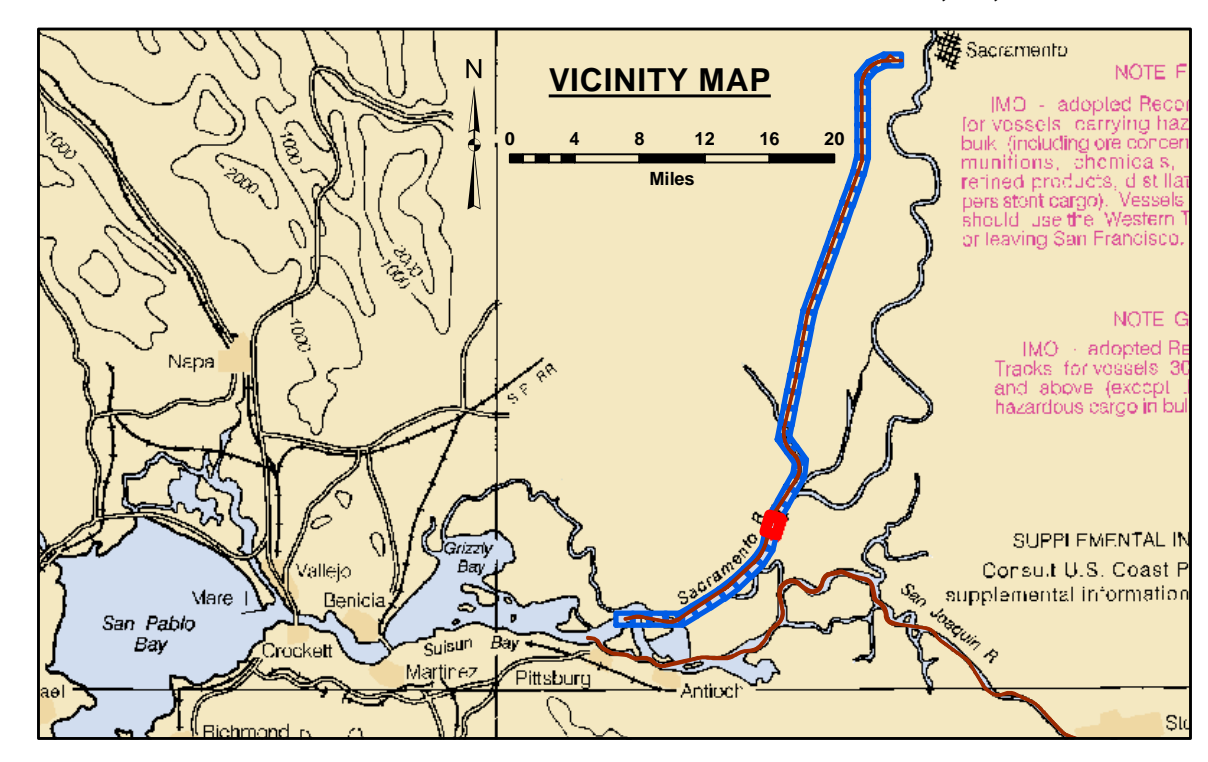


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

SAN JOAQUIN COUNTY
Sheet Reference Number
13 of 45



Feet
0 400 800 1,200

--- Federal Navigation Channel	Cable Area	Shoaling Area	-30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	-29
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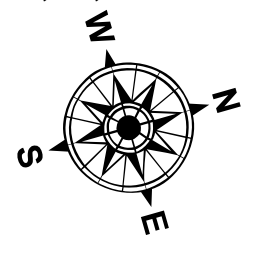
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

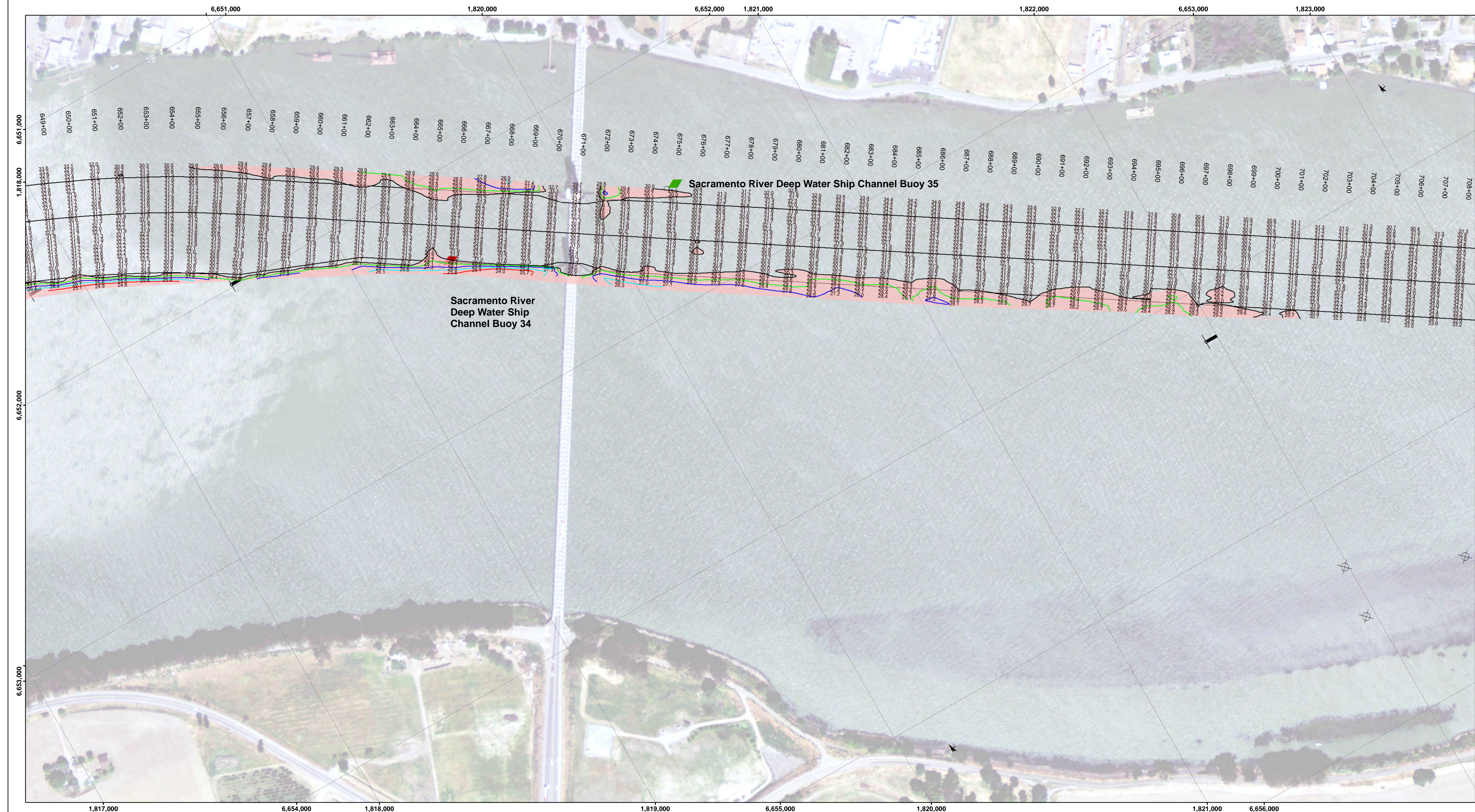
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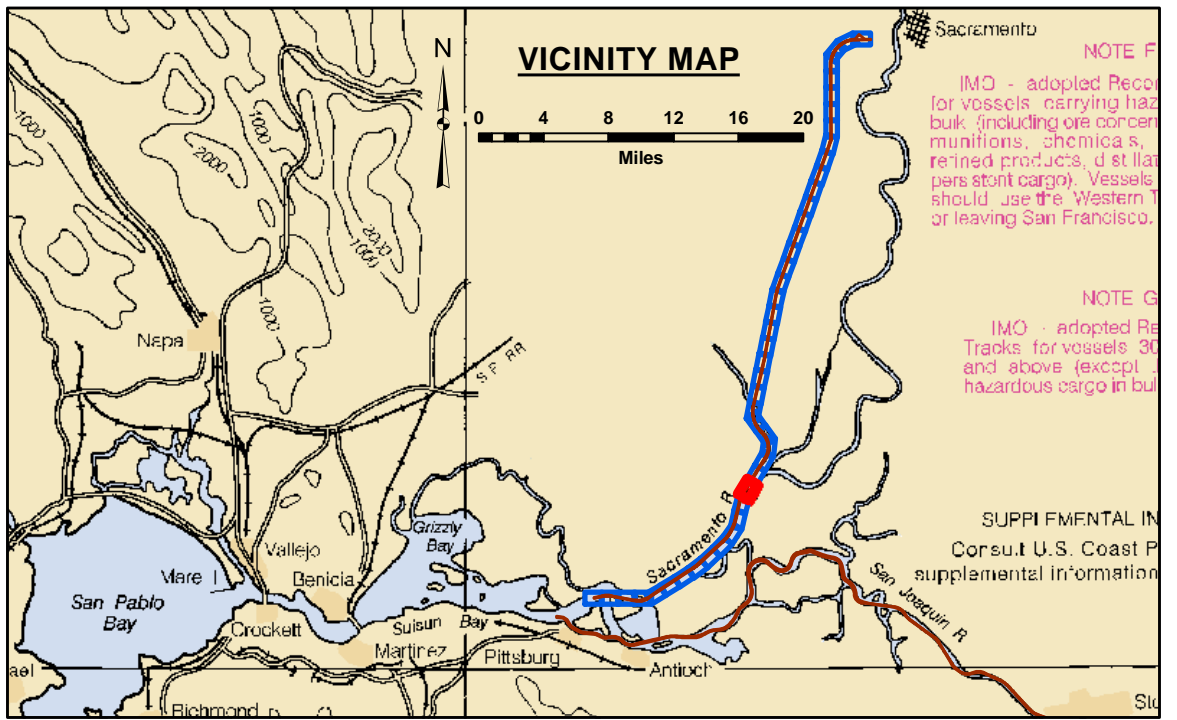


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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA
 SAN JOAQUIN COUNTY
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018



Feet
0 400 800 1,200

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
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PROJECT DEPTH: -30'
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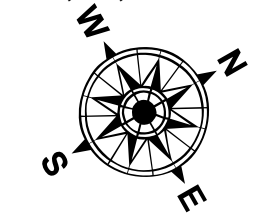
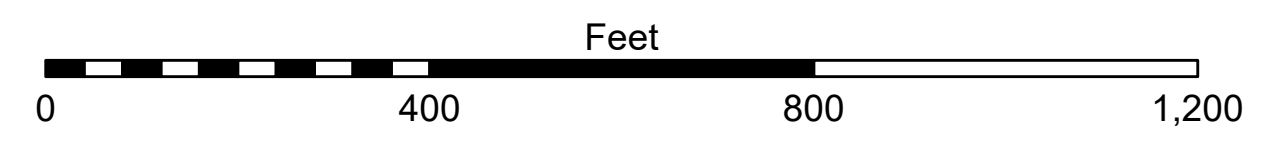
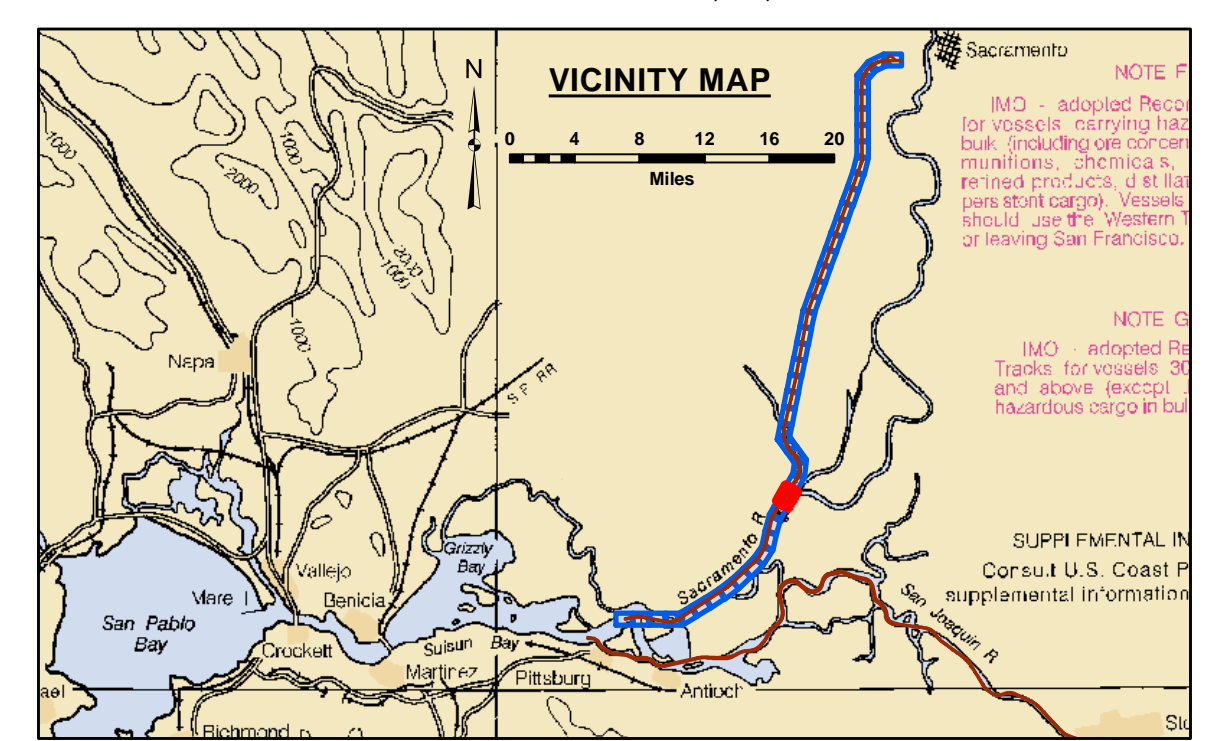


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Chart Date:	Mar 12, 2018
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	PDT
Checked By:	PDT
Designed By:	PDT
Drawn By:	PDT

SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
15 of 45



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
⋯ Cable Submarine	⊠ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	✦ Wrecks-Submerged	— -26	
	● Shoaling Area		
	⬇ Beacon, General		
	◆ Red Navigation Buoy		
	◆ Green Navigation Buoy		

NOTES:
DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY.
THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD.
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SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CA ZONE II (0402). DISTANCE UNITS IN U.S. SURVEY FEET.

PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

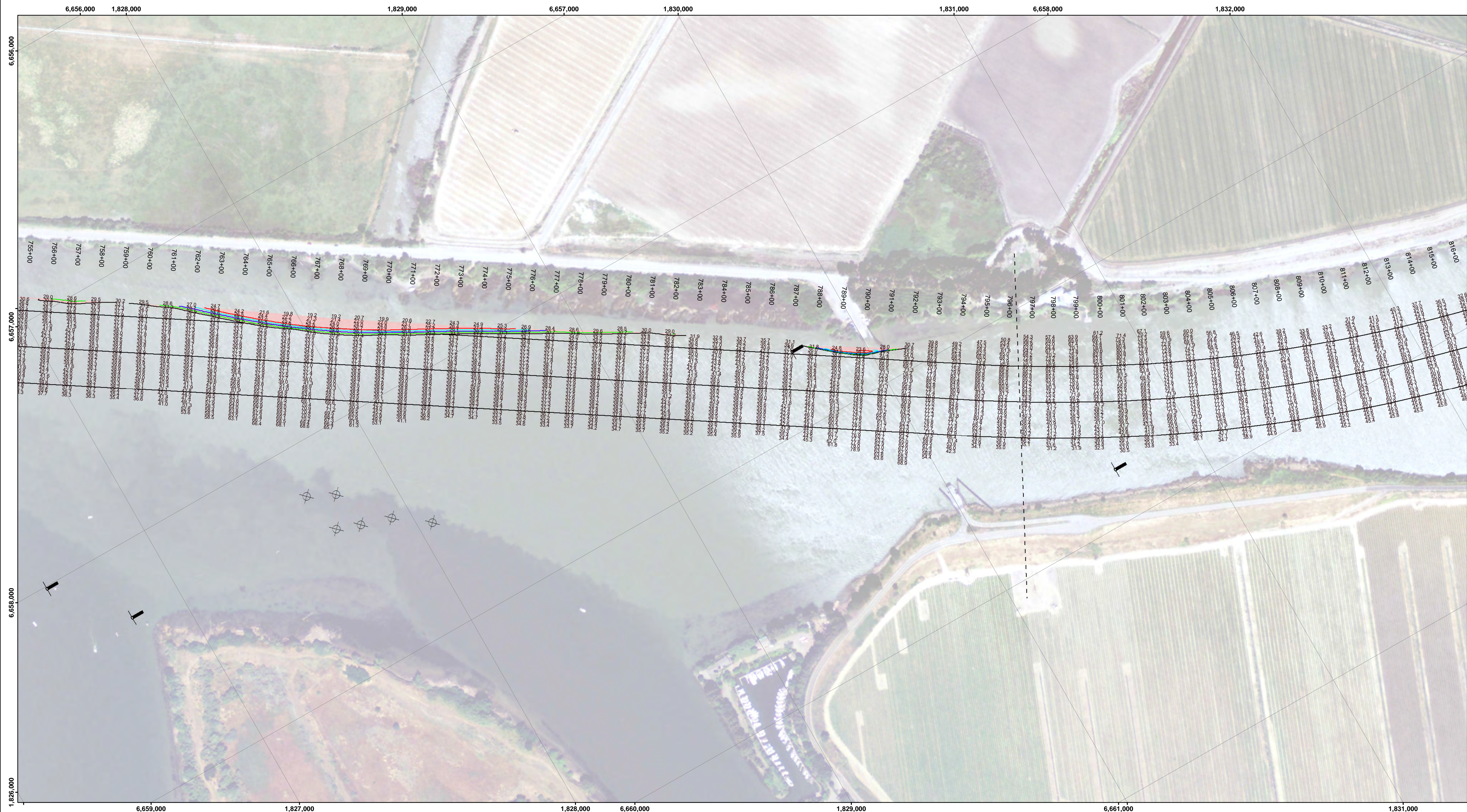
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

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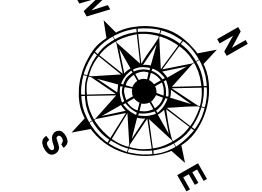
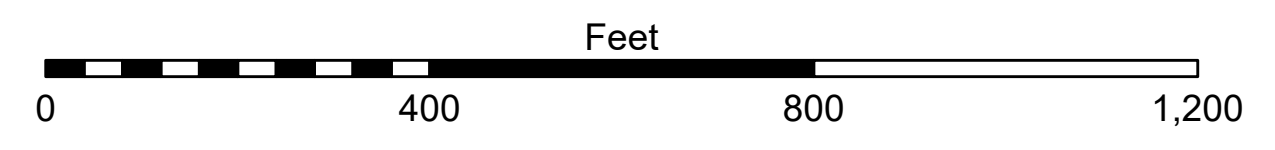
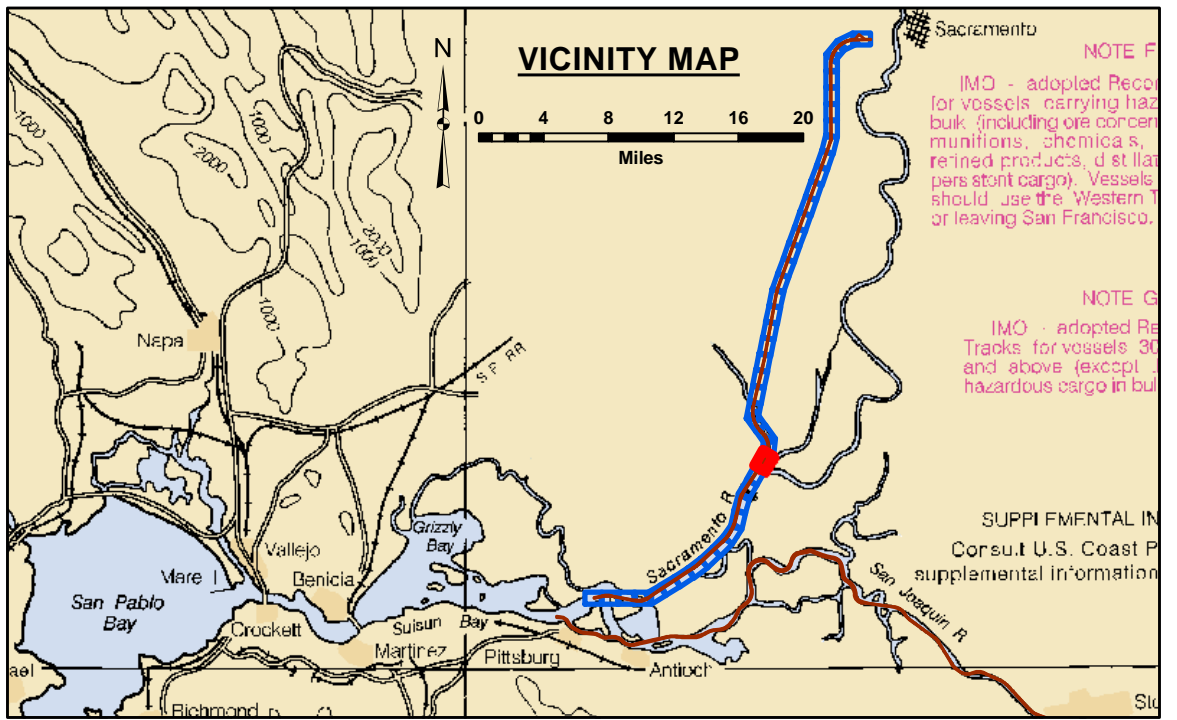


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Standard: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
⋯ Cable Submarine	⊠ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	⚓ Wrecks-Submerged	— -26	
		● Shoalest Sounding**	
		⚓ Beacon, General	
		♦ Red Navigation Buoy	
		♦ Green Navigation Buoy	

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PROJECT DEPTH: -30'

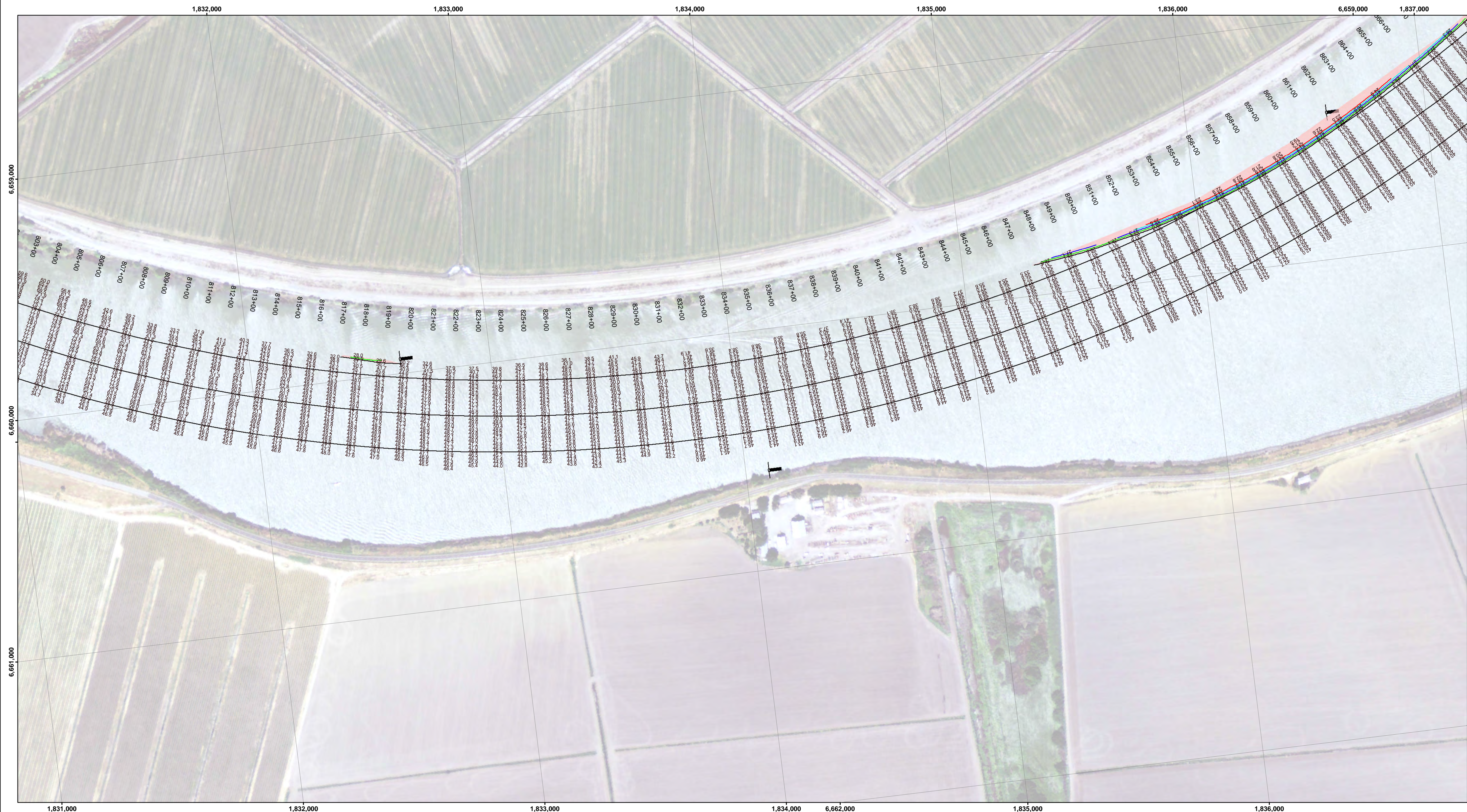
VERTICAL DATUM: MLLW

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CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
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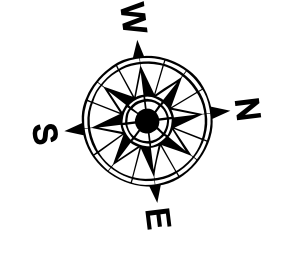
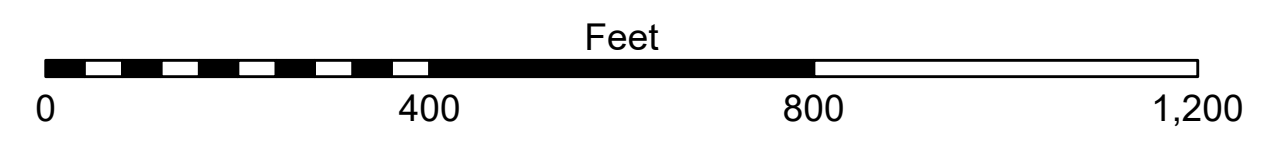
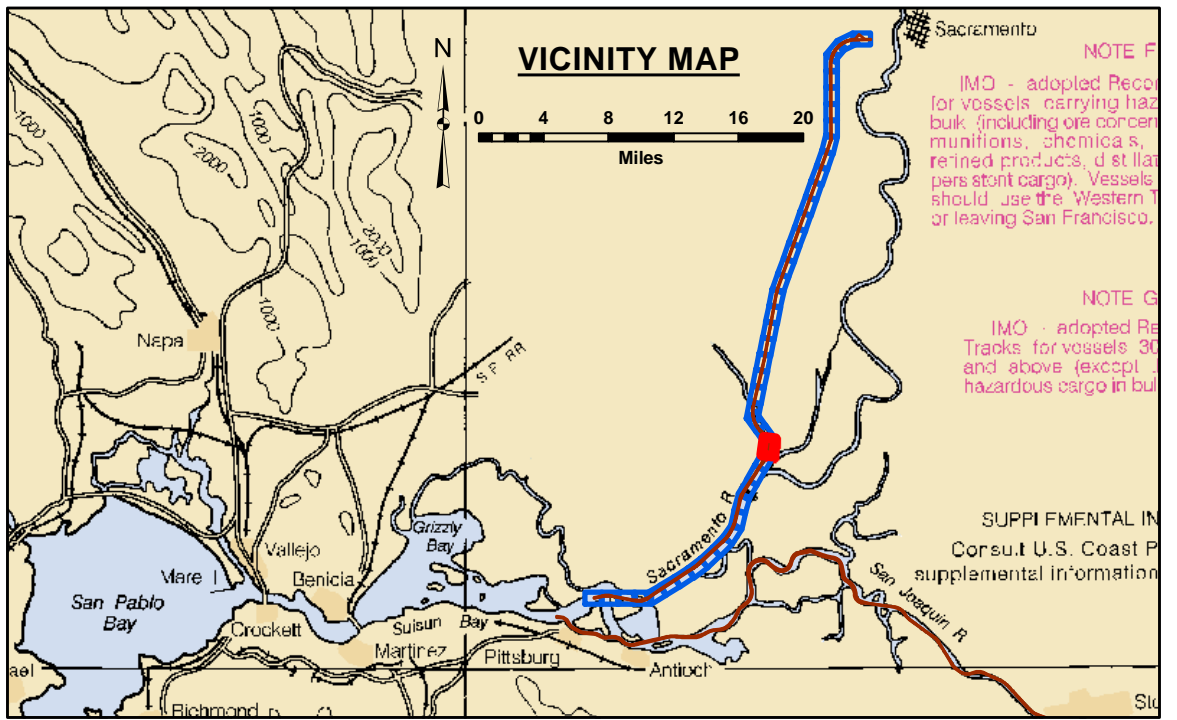


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Surveyed By: Hydro Survey Team Leader	Designed by: PDT
Plotted By: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND			
--- Federal Navigation Channel	[Hatched Box] Cable Area	[Pink Box] Shoaling Area	[Black Line] Contours -30
— Federal Navigation Center Line	[White Box] Placement Area	[Yellow Dot] Shoalest Sounding**	[Green Line] Contours -29
..... Cable Submarine	[Dashed Box] Anchorage Area	[Tall Black Post] Beacon, General	[Blue Line] Contours -28
- - - Cable Overhead	[X in Box] Obstruction Point	[Red Diamond] Red Navigation Buoy	[Cyan Line] Contours -27
— Contour Line	[Star in Box] Wrecks-Submerged	[Green Diamond] Green Navigation Buoy	[Red Line] Contours -26

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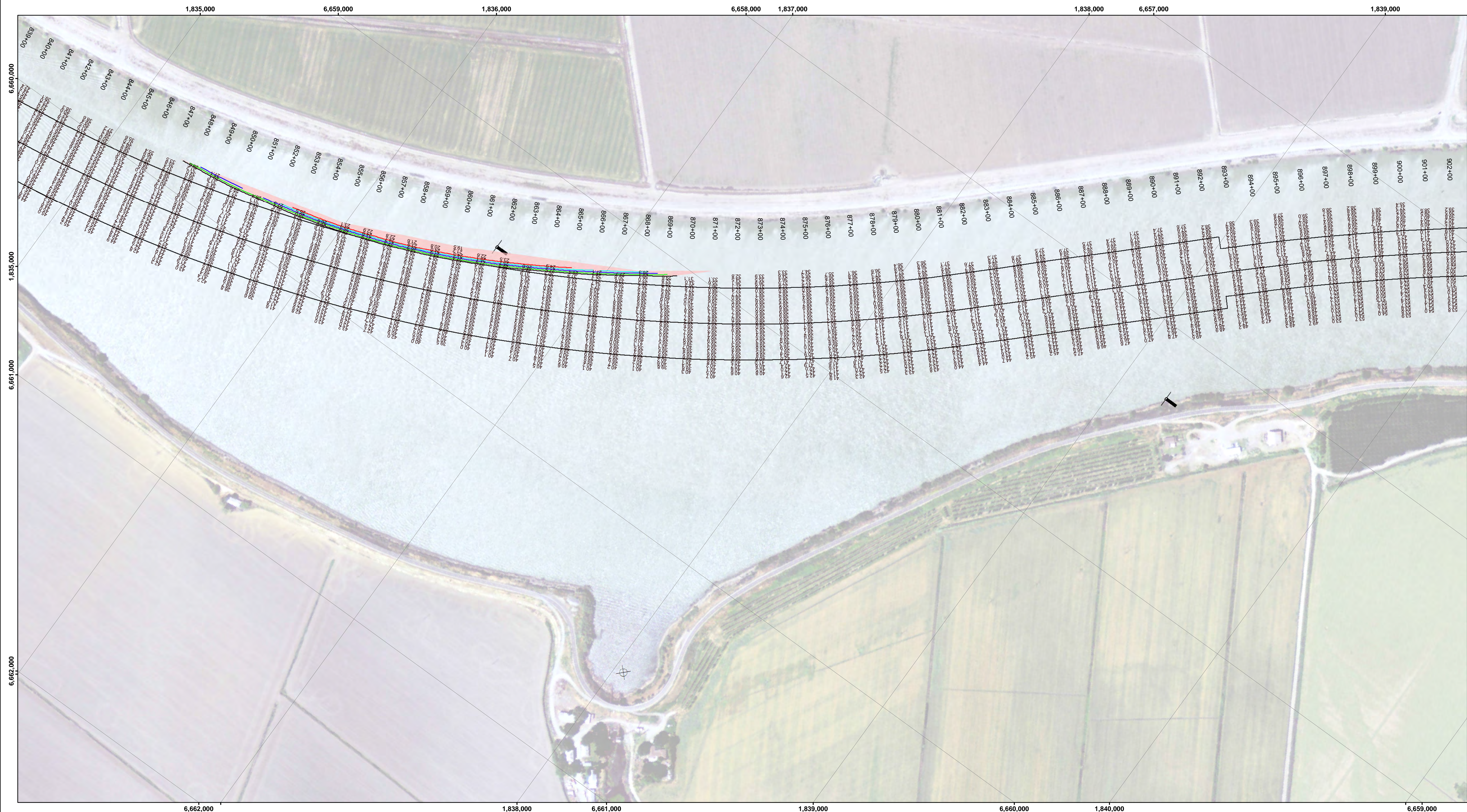
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
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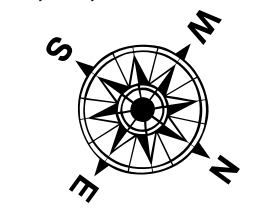
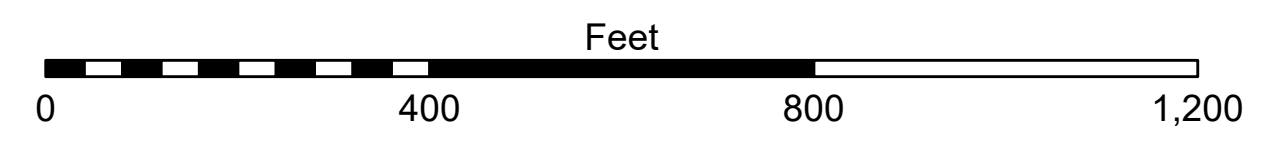
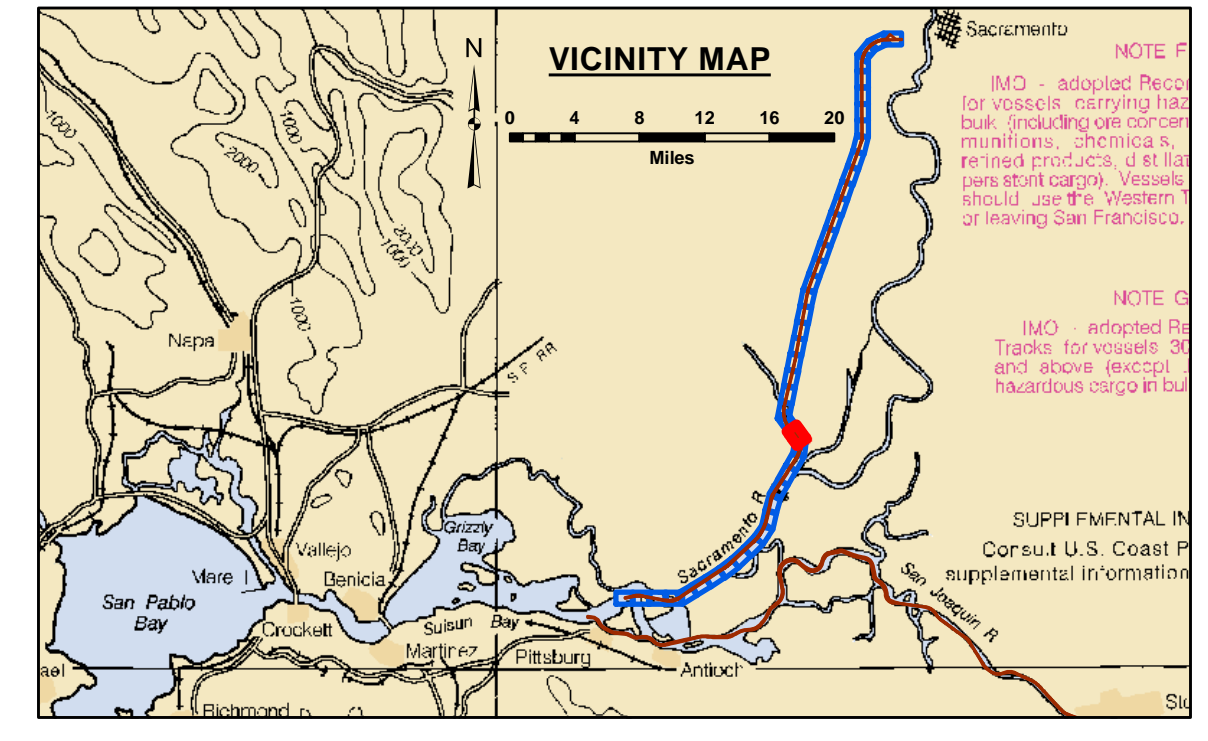
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Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet
Reference
Number
18 of 45



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
..... Cable Submarine	⊠ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
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PROJECT DEPTH: -30'

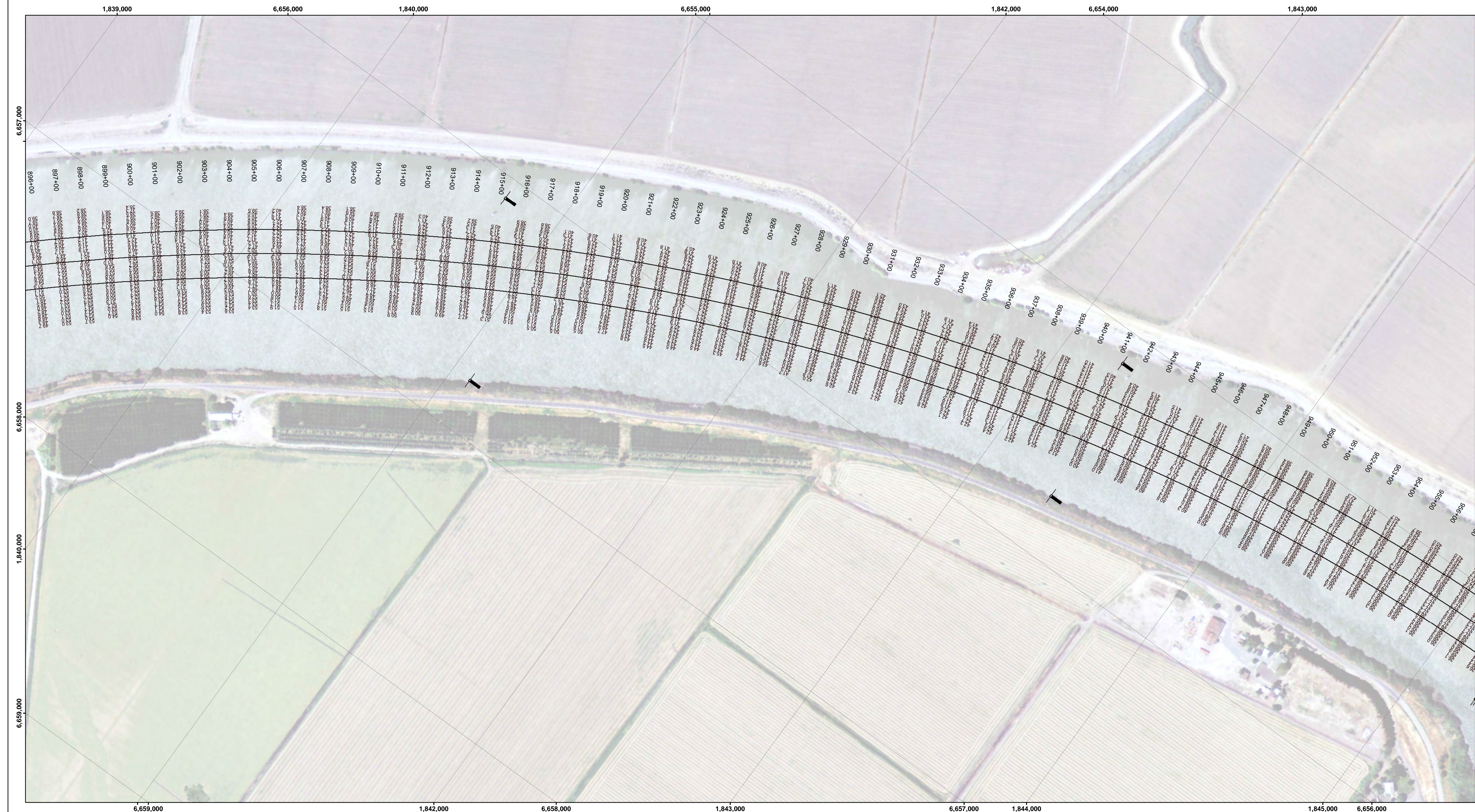
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CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

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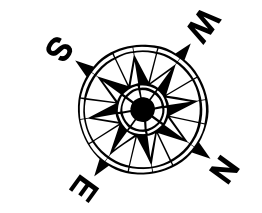
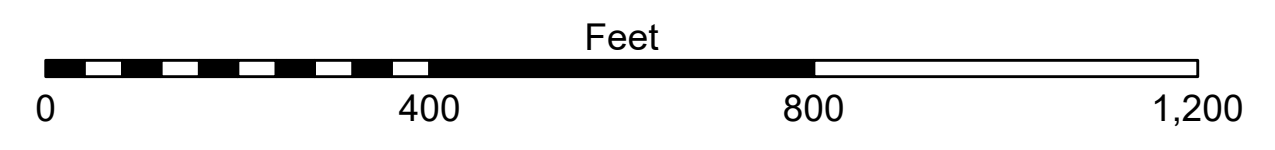
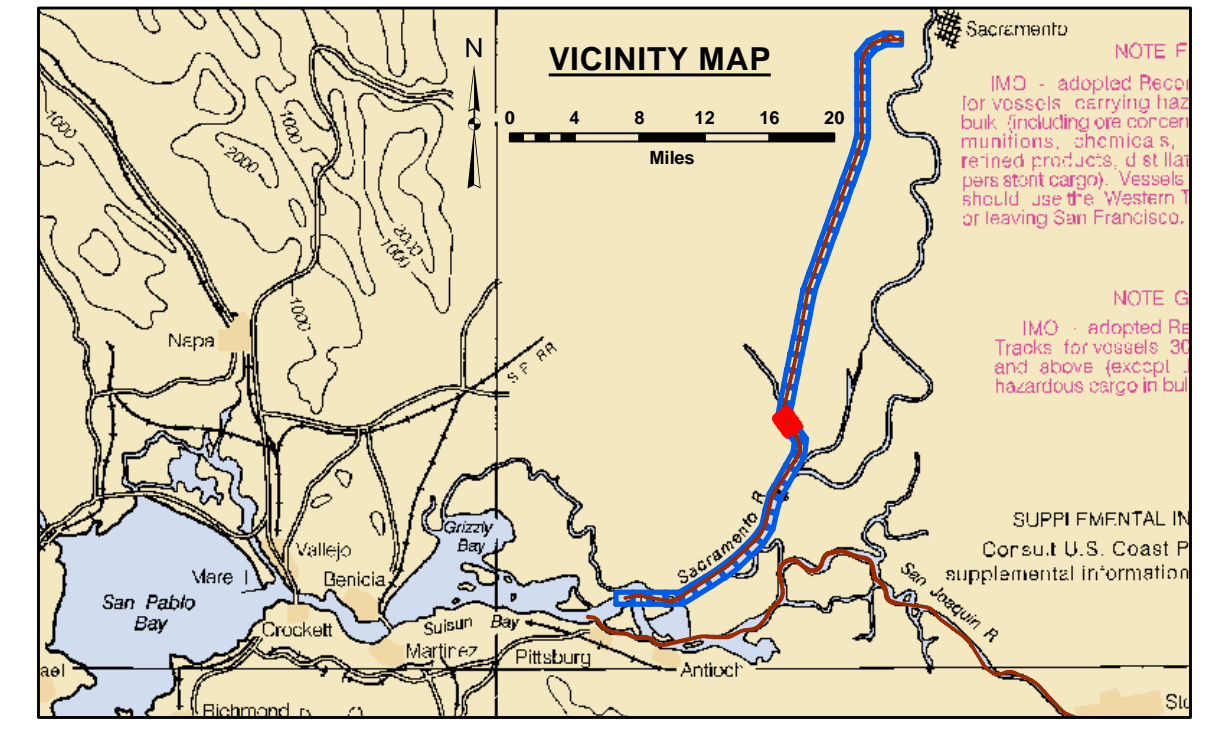
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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

PREPARED UNDER THE DIRECTION OF
TRAVIS J. RAYFIELD
LT COLONEL, C.E., DISTRICT ENGINEER

San Joaquin County
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
..... Cable Submarine	▭ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
			— -26

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PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

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CONTROLS:
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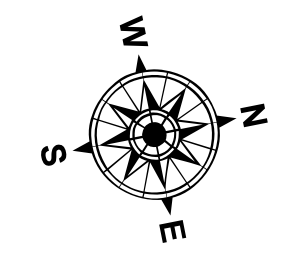
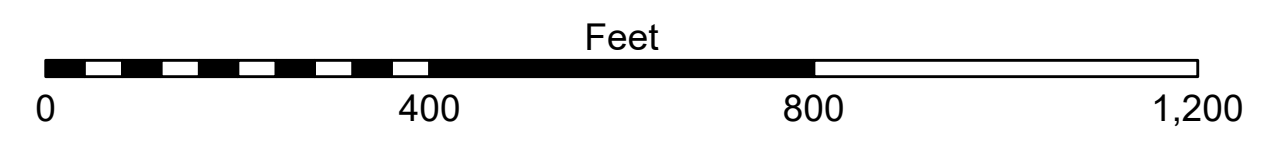
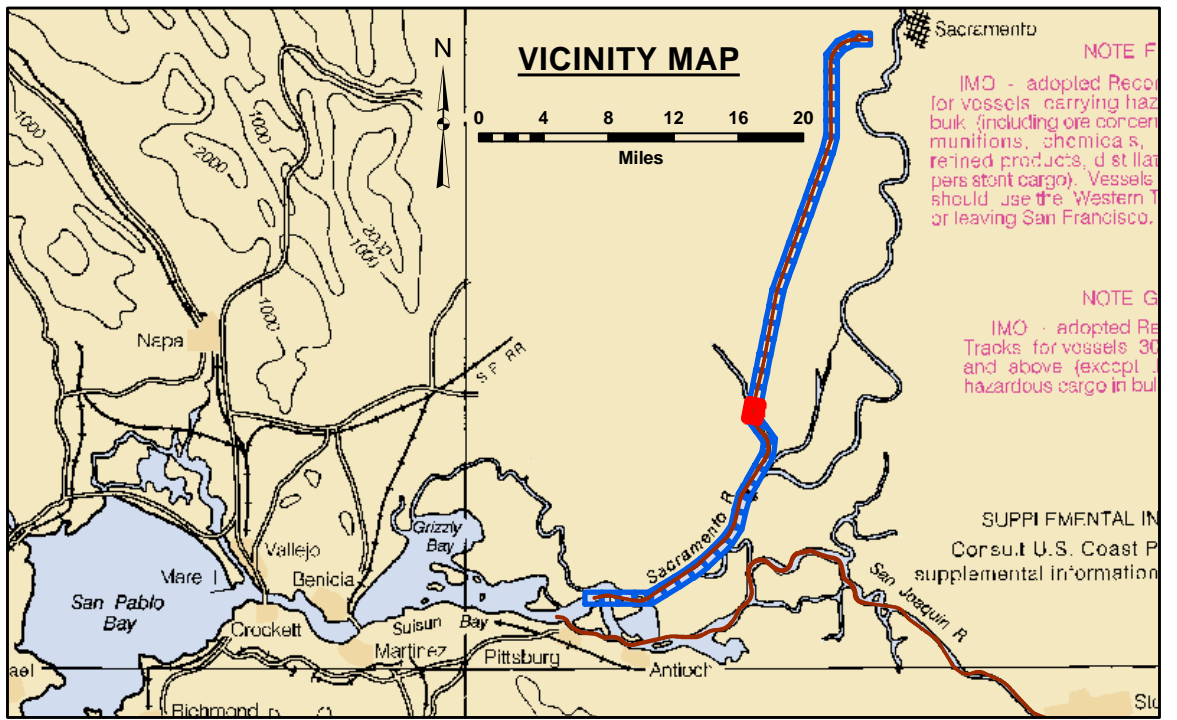
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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
..... Cable Submarine	▨ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
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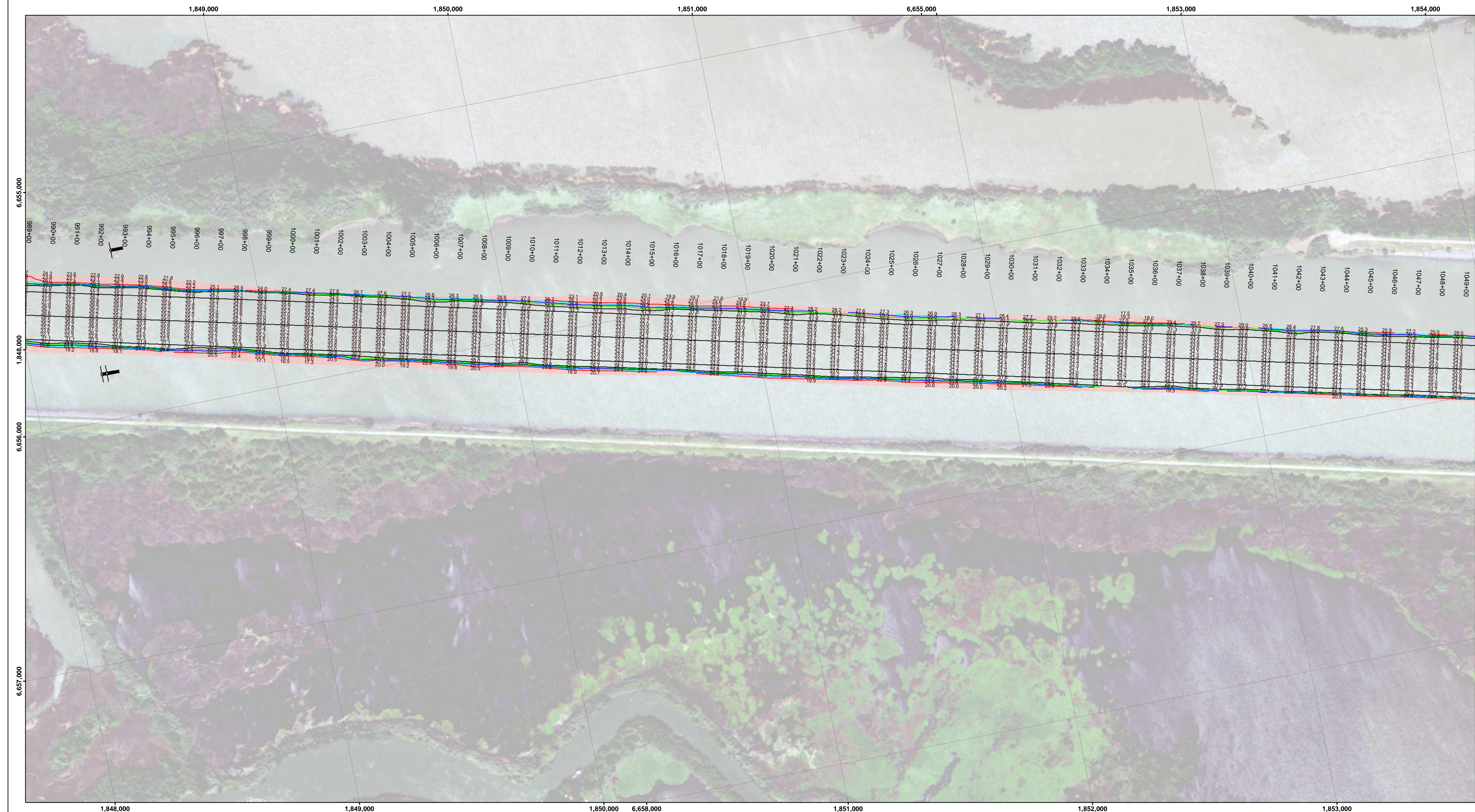
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CONTROLS:
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NOAA STATION: 9415316
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TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
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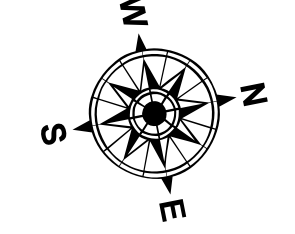
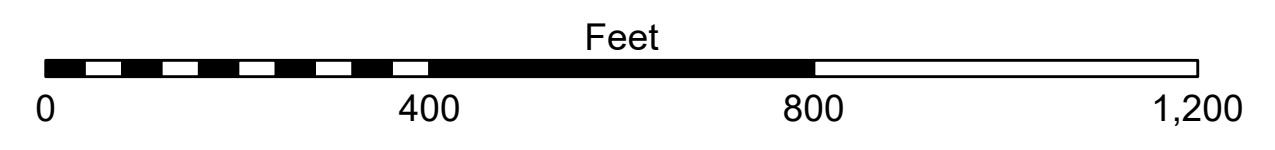
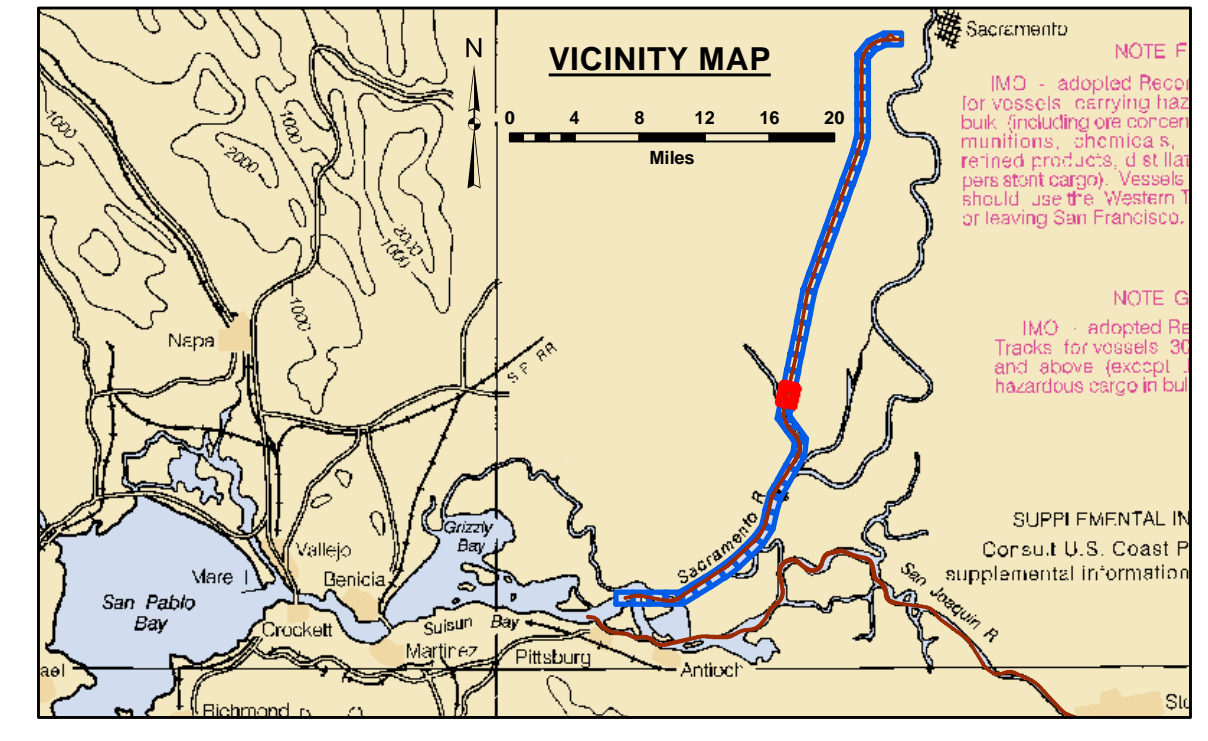


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet
Reference
Number
21 of 45



LEGEND			
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours -30
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— Contours -29
..... Cable Submarine	▨ Anchorage Area	⊥ Beacon, General	— Contours -28
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NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), ZONE II (0402), DISTANCE UNITS IN U.S. SURVEY FEET.

PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 8 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.

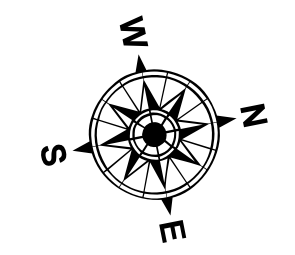
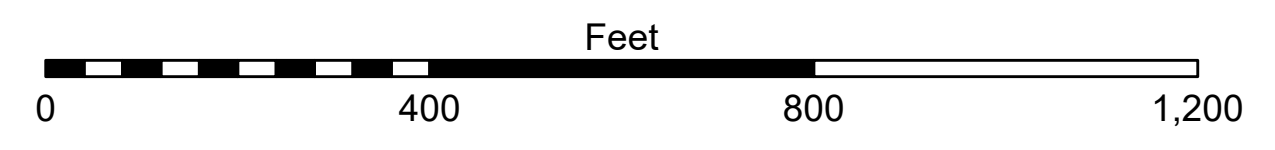
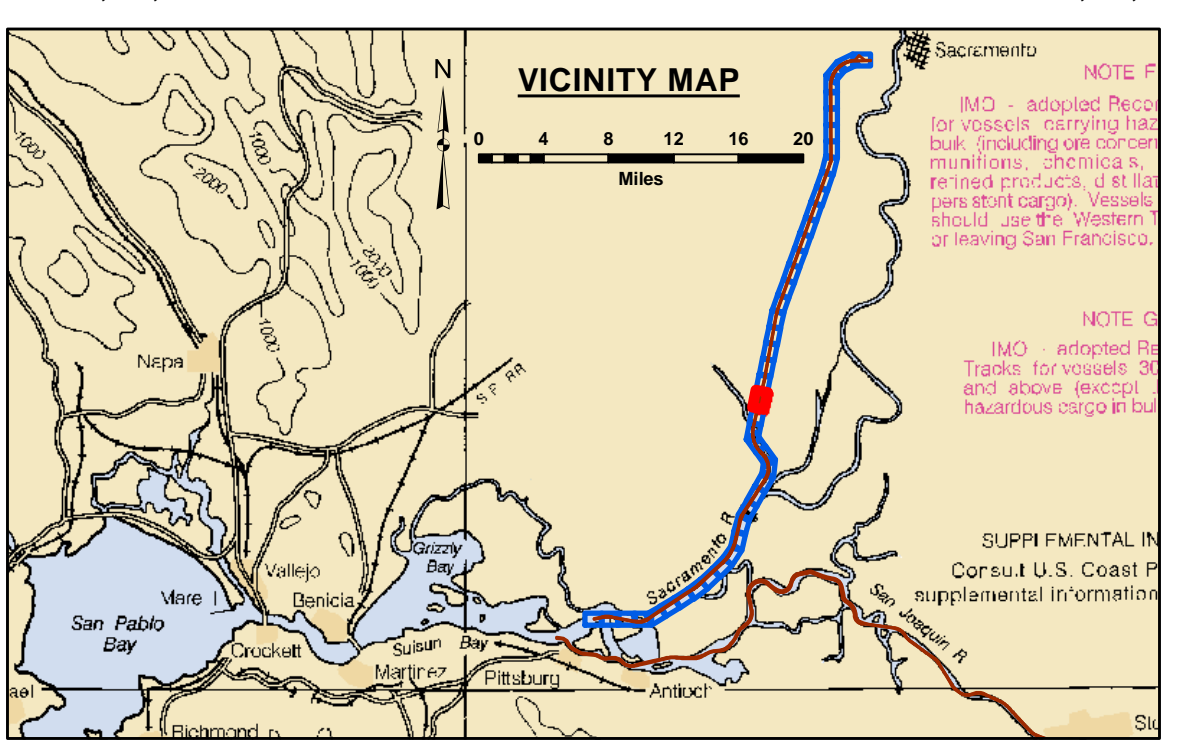


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Access Constraints: The United States Government furnishes this data and the results of its use to the recipient on an "as is" basis. The US Government does not warrant the accuracy, completeness, or reliability of the data. The recipient shall be responsible for any liability whatsoever by reason of any use of the data for other than its intended purpose. The recipient may not transfer this data to others without obtaining the permission of the US Army Corps of Engineers.

Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND			
--- Federal Navigation Channel	Cable Area	Shoaling Area	-30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	-29
..... Cable Submarine	Anchorage Area	Beacon, General	-28
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy	-27
— Contour Line	Wrecks-Submerged	Green Navigation Buoy	-26

NOTES:
DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY.
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BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.

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PROJECT DEPTH: -30'

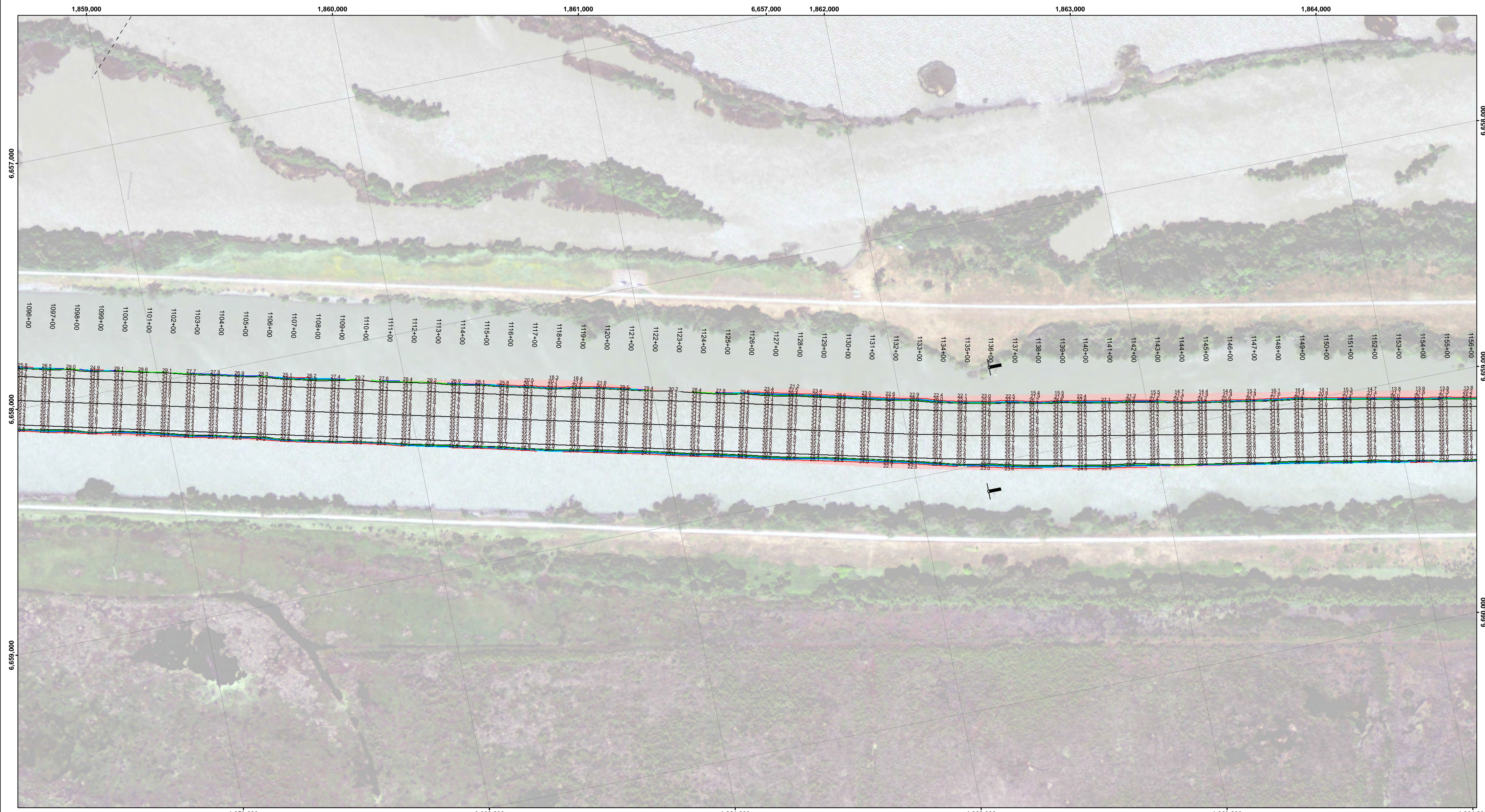
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
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NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
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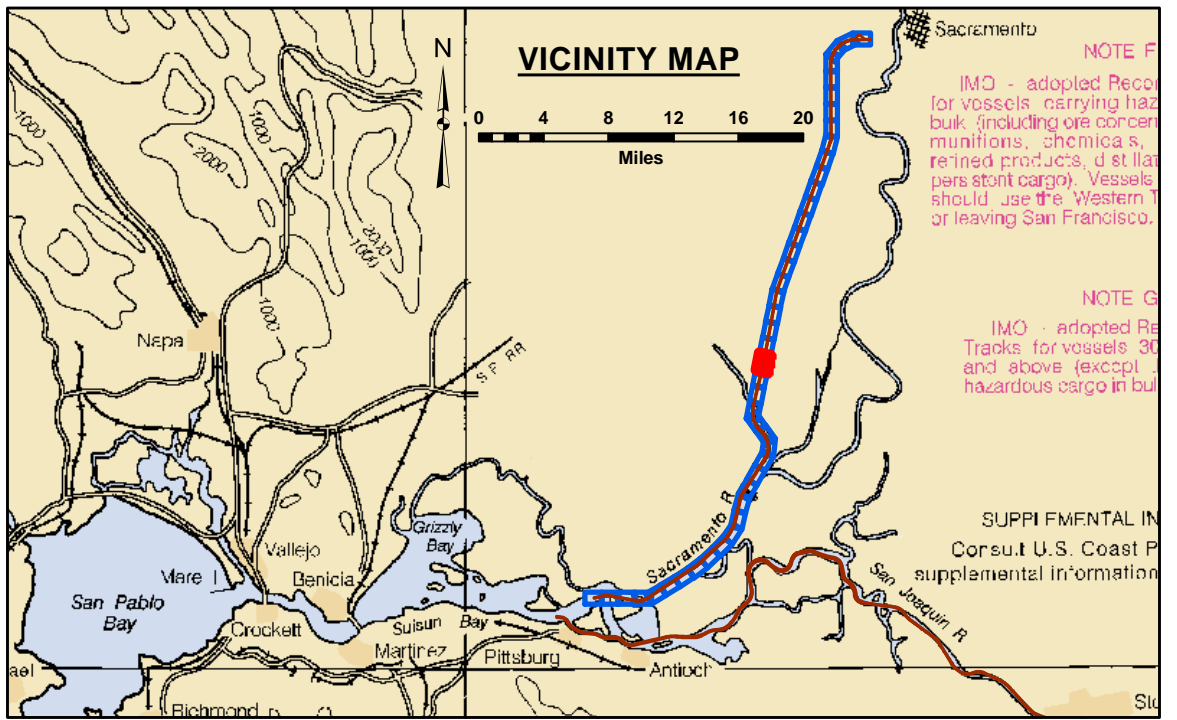
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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

PREPARED UNDER THE DIRECTION OF
TRAVIS J. RAYFIELD
 LT COLONEL, C.E., DISTRICT ENGINEER

Standard: Hydro Survey Team Leader
 Recommended: Chief, Hydro Survey Section
 Approved: Chief, Construction Branch

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018



0 400 800 1,200 Feet

LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
..... Cable Submarine	▨ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	✦ Wrecks-Submerged	— -26	
	● Shoaling Area		
	⊥ Beacon, General		
	◆ Red Navigation Buoy		
	◆ Green Navigation Buoy		

NOTES:
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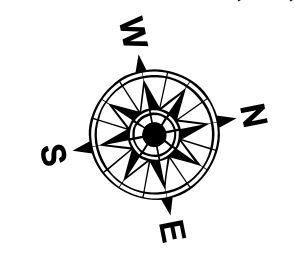
PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW

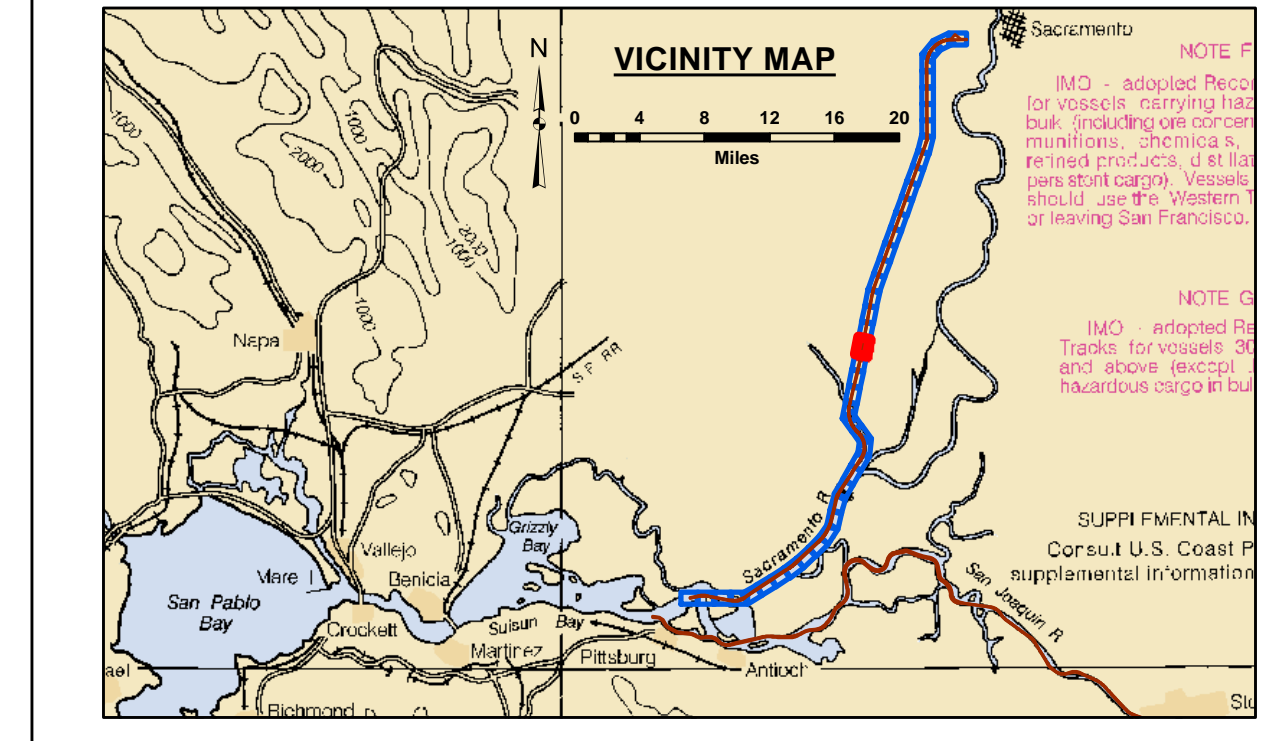
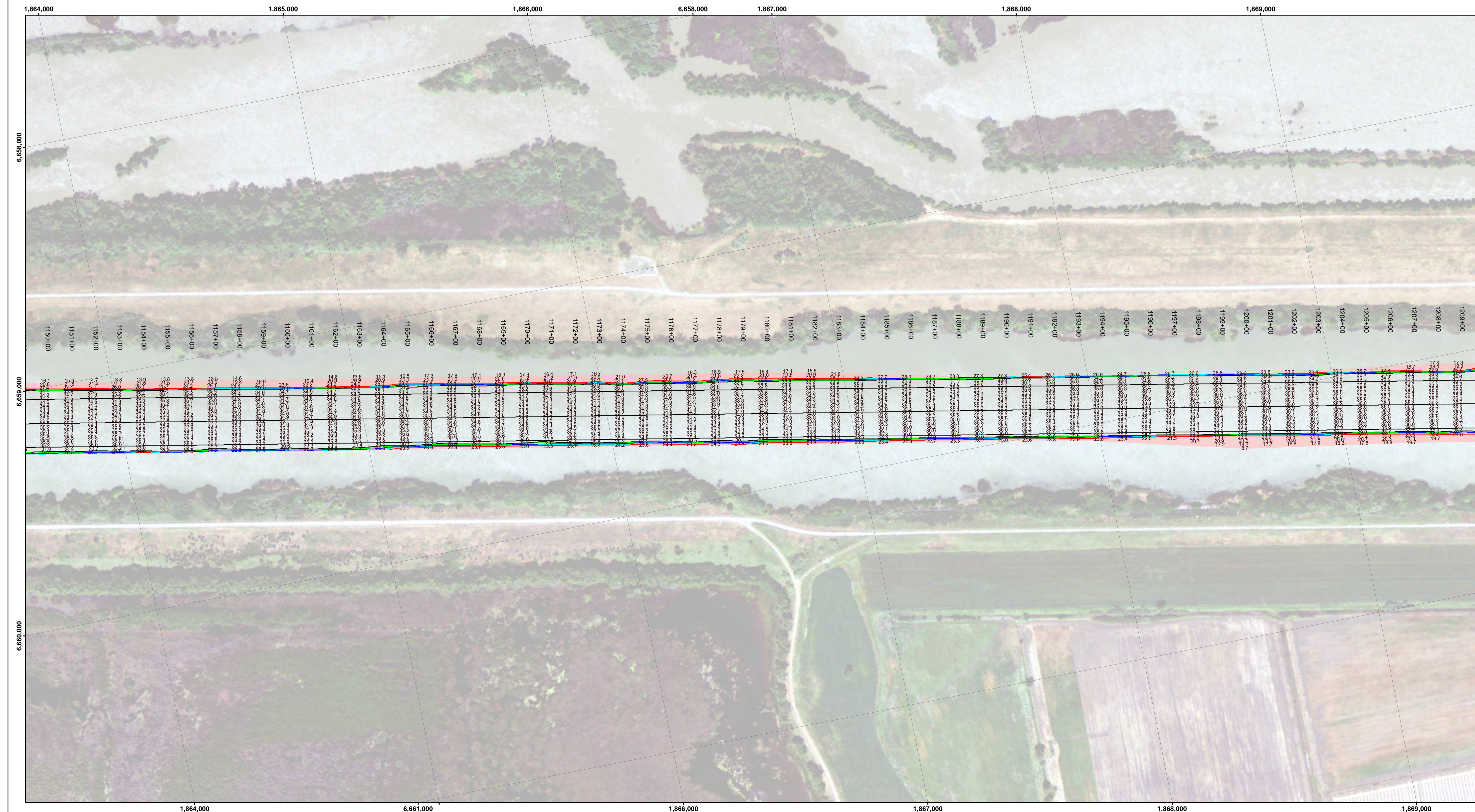
THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.





LEGEND

--- Federal Navigation Channel	Cable Area	Shoaling Area
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**
..... Cable Submarine	Anchorage Area	Beacon, General
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy
— Contour Line	Wrecks-Submerged	Green Navigation Buoy

Contours

- 30
- 29
- 28
- 27
- 26

NOTES:
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PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

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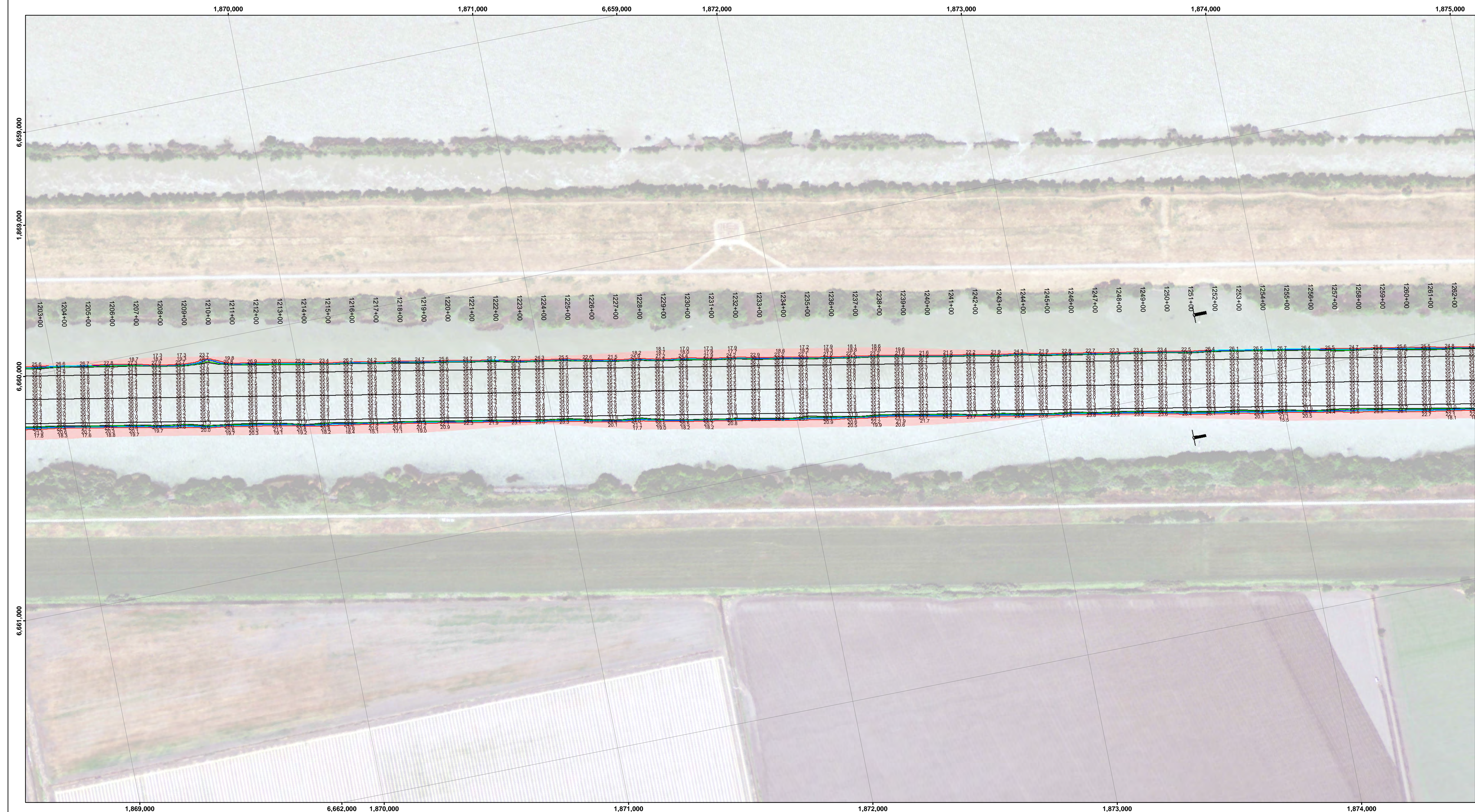
Chart Date:	Mar 12, 2018
Designed By:	PDT
Drawn By:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

PREPARED UNDER THE DIRECTION OF
TRAVIS J. RAYFIELD
LT COLONEL, C.E., DISTRICT ENGINEER

Submitted: Hydro Survey Team Leader
Recommended: Chief, Hydro Survey Section
Approved: Chief, Construction Branch

CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
24 of 45



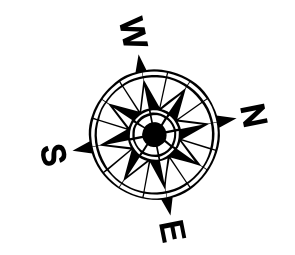
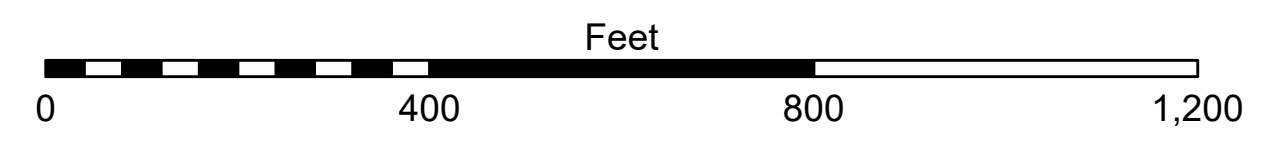
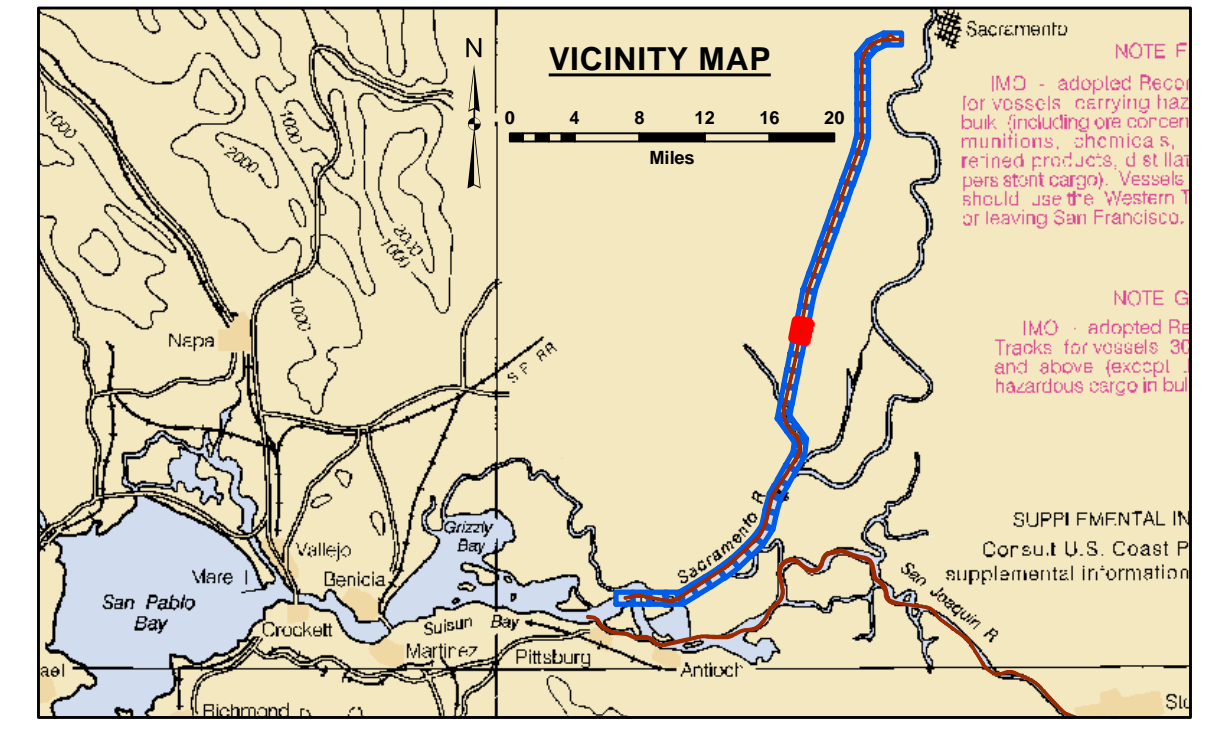
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Chart Date:	Mar 12, 2018
Designed By:	PDT
Drawn By:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
25 of 45



LEGEND

--- Federal Navigation Channel	Cable Area	Shoaling Area	-30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	-29
..... Cable Submarine	Anchorage Area	Beacon, General	-28
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy	-27
— Contour Line	Wrecks-Submerged	Green Navigation Buoy	-26

NOTES:
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 CA ZONE II (0402). DISTANCE UNITS IN U.S. SURVEY FEET.

PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83,
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.



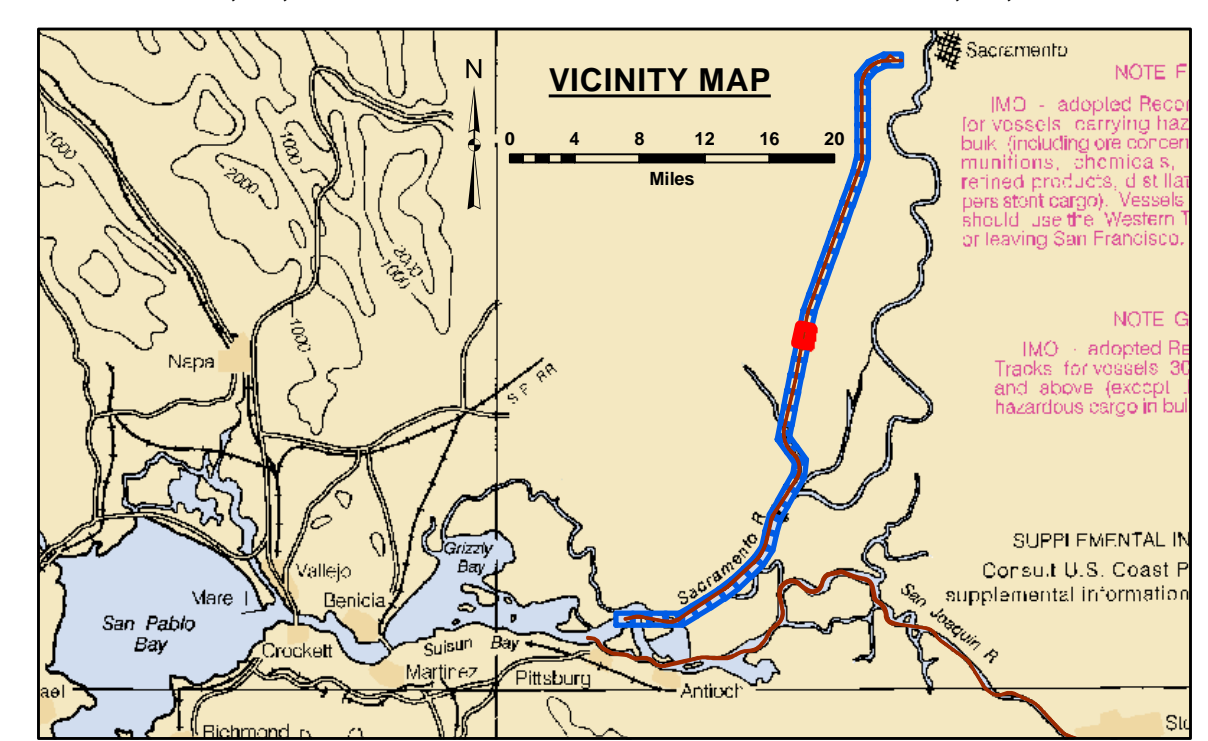
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Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Standard: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Plotted by: PDT
Approved: Chief, Construction Branch	Checked by: PDT
	Drawn by: PDT

CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



LEGEND

--- Federal Navigation Channel	Cable Area	Shoaling Area	-30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	-29
..... Cable Submarine	Anchorage Area	Beacon, General	-28
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy	-27
— Contour Line	Wrecks-Submerged	Green Navigation Buoy	-26

NOTES:
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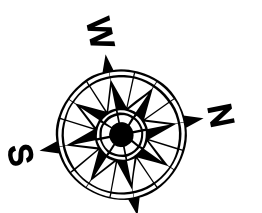
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

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CONTROLS:
LOCATION: RIO VISTA
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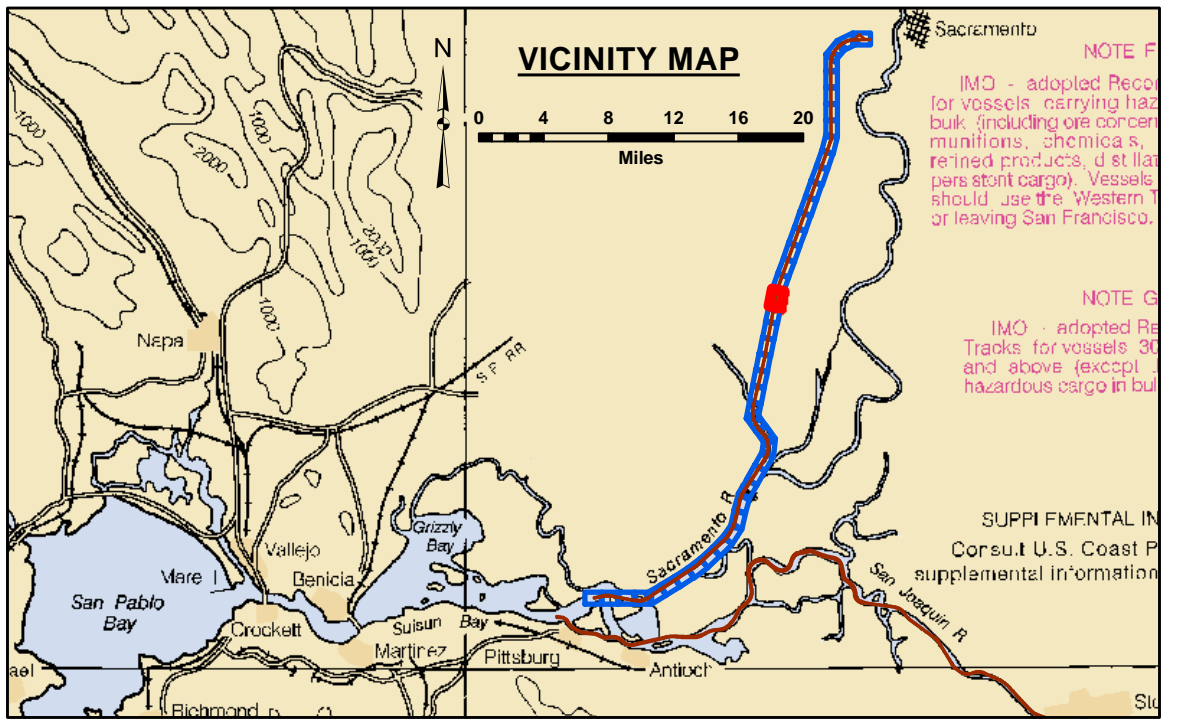
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Prepared Under the Direction of TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	
Surveyed By:	
Plotted By:	
Checked By:	



LEGEND		
--- Federal Navigation Channel	Cable Area	Shoaling Area
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**
..... Cable Submarine	Anchorage Area	Beacon, General
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy
— Contour Line	Wrecks-Submerged	Green Navigation Buoy

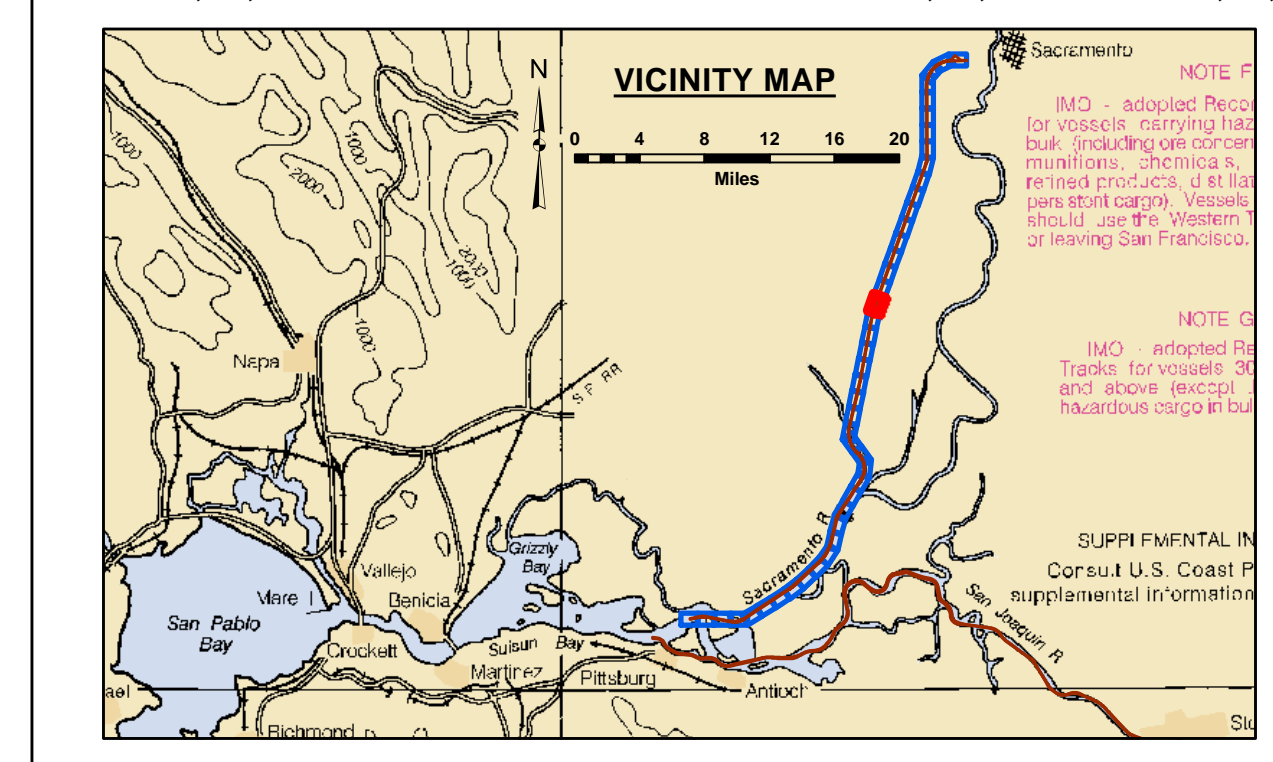
Contours	
	-30
	-29
	-28
	-27
	-26

NOTES:
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PROJECT DEPTH: -30'
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CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014
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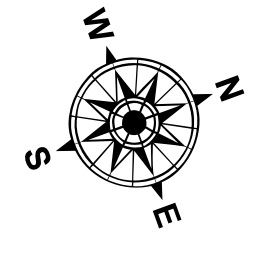
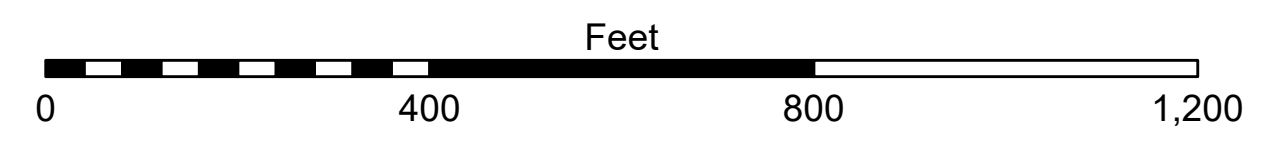
CALIFORNIA
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018
SAN JOAQUIN COUNTY

Sheet Reference Number
27 of 45



LEGEND

--- Federal Navigation Channel	Cable Area	Shoaling Area	-30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	-29
..... Cable Submarine	Anchorage Area	Beacon, General	-28
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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	TRAVIS J. RAYFIELD LT COLONEL, C.E. DISTRICT ENGINEER
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
28 of 45

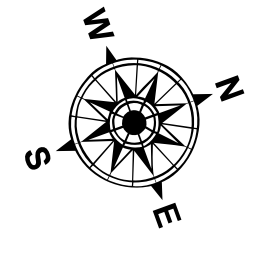
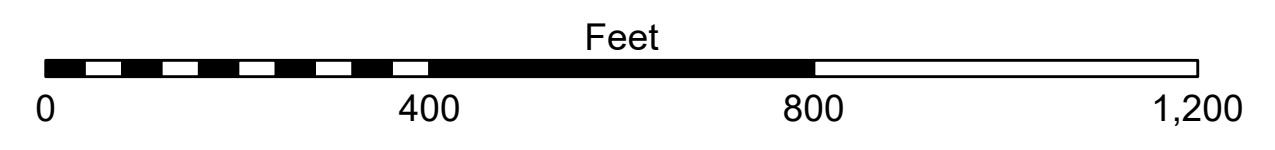
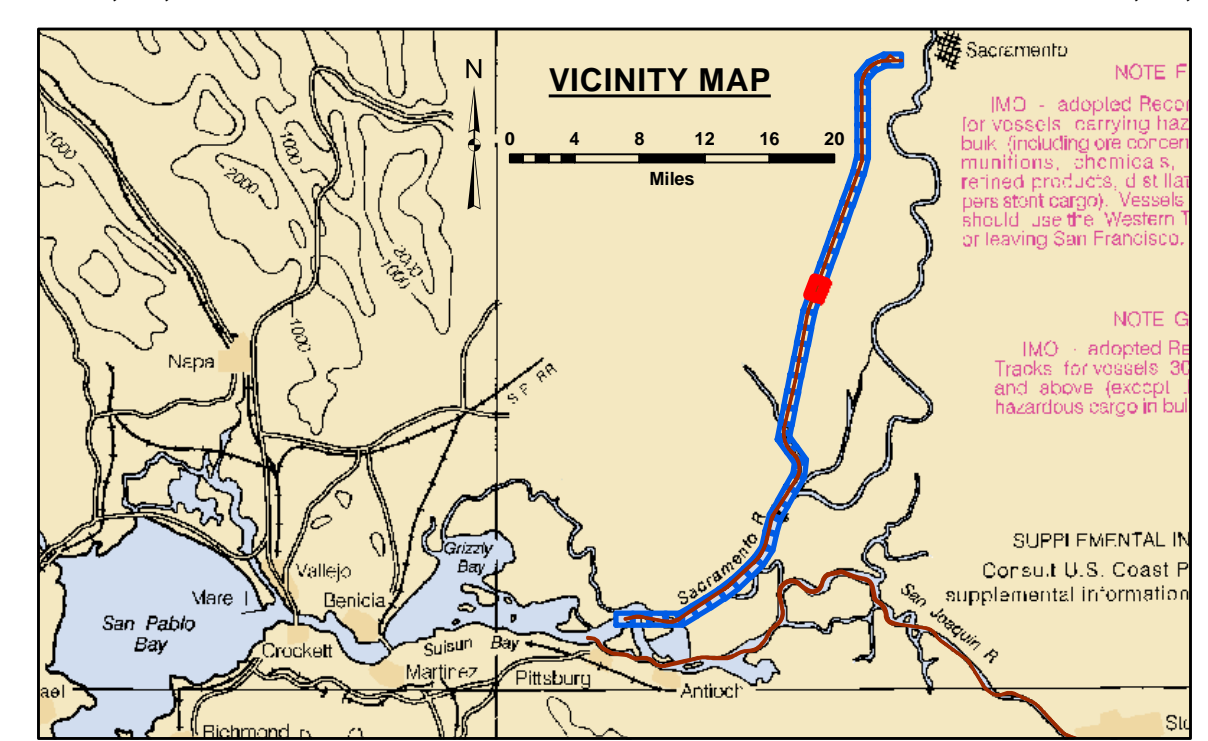


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
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LEGEND			
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
⋯ Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
			— -26

NOTES:
DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY.
THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD.
BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.

SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), ZONE II (0402). DISTANCE UNITS IN U.S. SURVEY FEET.

PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

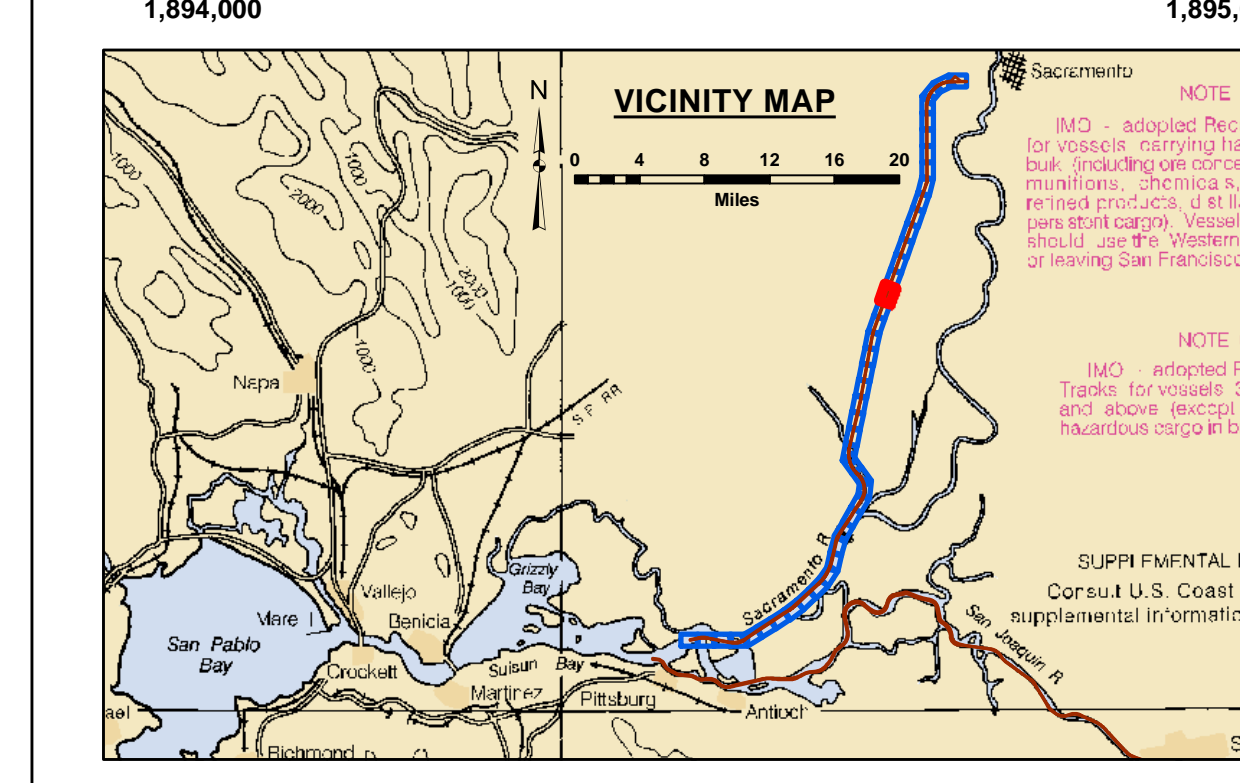
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

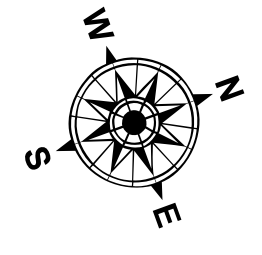
LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.



LEGEND

--- Federal Navigation Channel	[Hatched Box] Cable Area	[Pink Box] Shoaling Area	— -30
— Federal Navigation Center Line	[White Box] Placement Area	[Yellow Dot] Shoalest Sounding**	— -29
..... Cable Submarine	[Dashed Box] Anchorage Area	[T-shaped Symbol] Beacon, General	— -28
- - - Cable Overhead	[X Symbol] Obstruction Point	[Red Diamond] Red Navigation Buoy	— -27
— Contour Line	[Star Symbol] Wrecks-Submerged	[Green Diamond] Green Navigation Buoy	— -26



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PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
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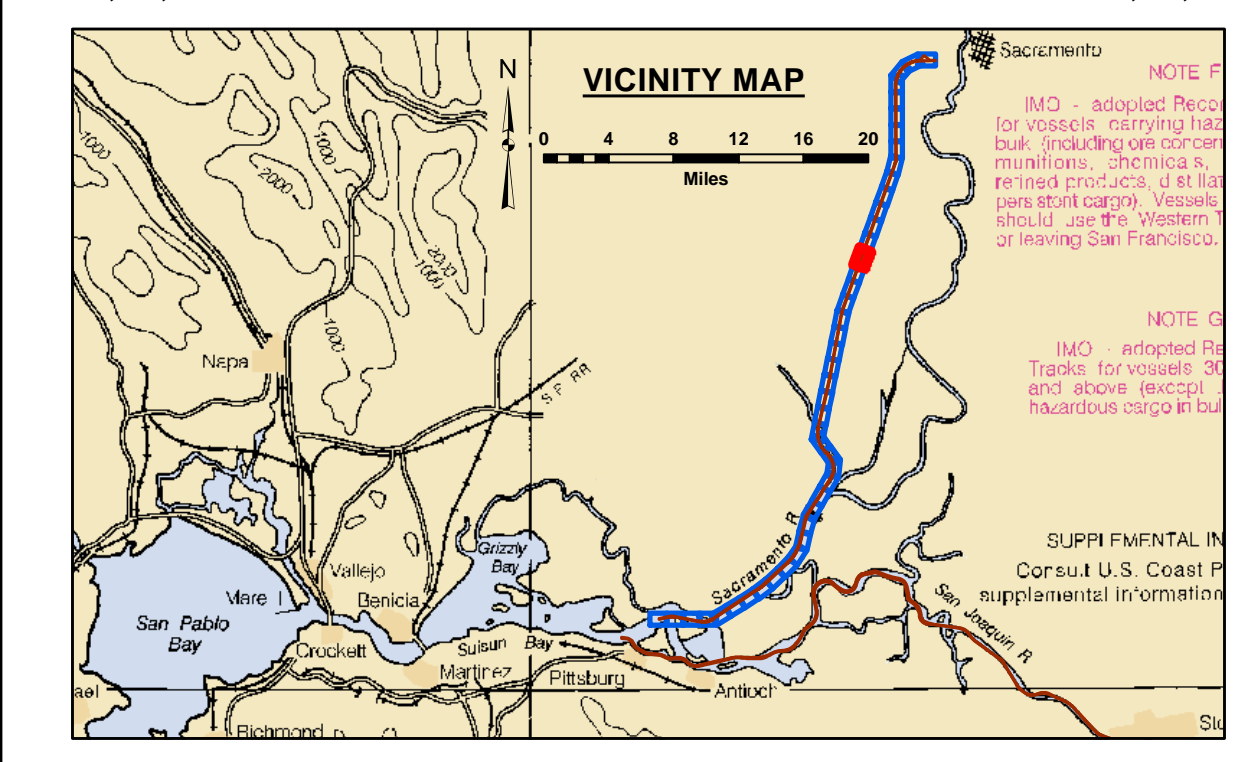
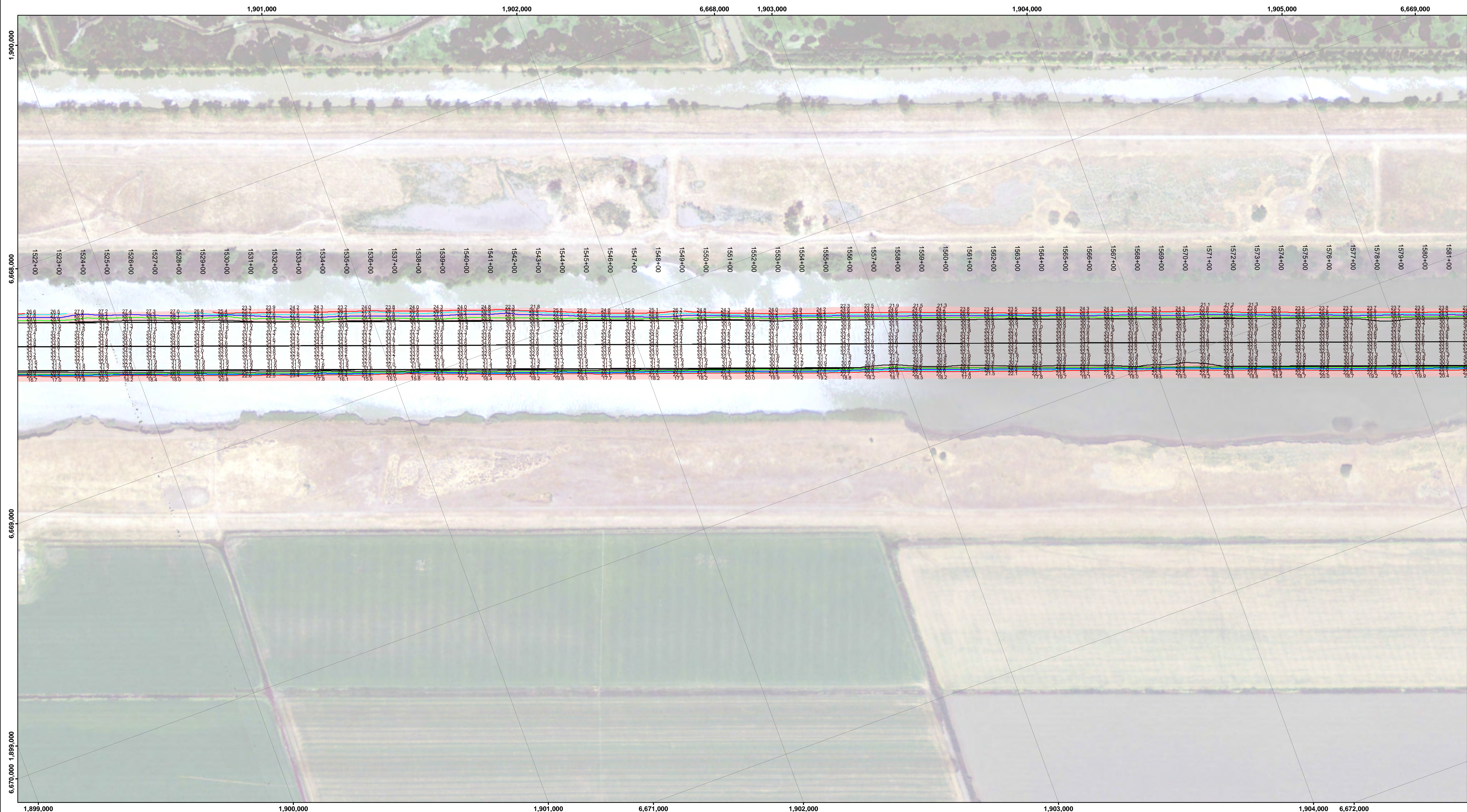
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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Approved:	Chief, Construction Branch
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	Hydro Survey Team Leader
Checked By:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA

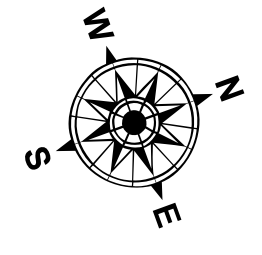
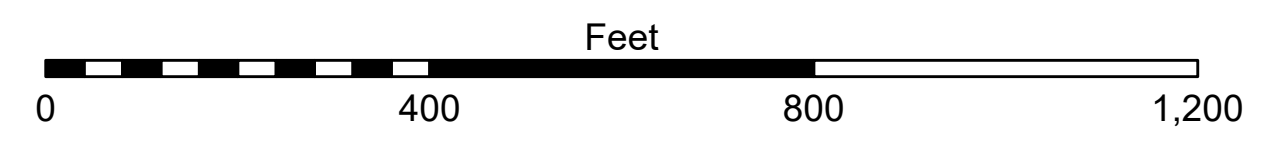
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
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LEGEND

--- Federal Navigation Channel	Cable Area	Shoaling Area	-30
— Federal Navigation Center Line	Placement Area	Shoalest Sounding**	-29
..... Cable Submarine	Anchorage Area	Beacon, General	-28
- - - Cable Overhead	Obstruction Point	Red Navigation Buoy	-27
— Contour Line	Wrecks-Submerged	Green Navigation Buoy	-26



NOTES:
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PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.

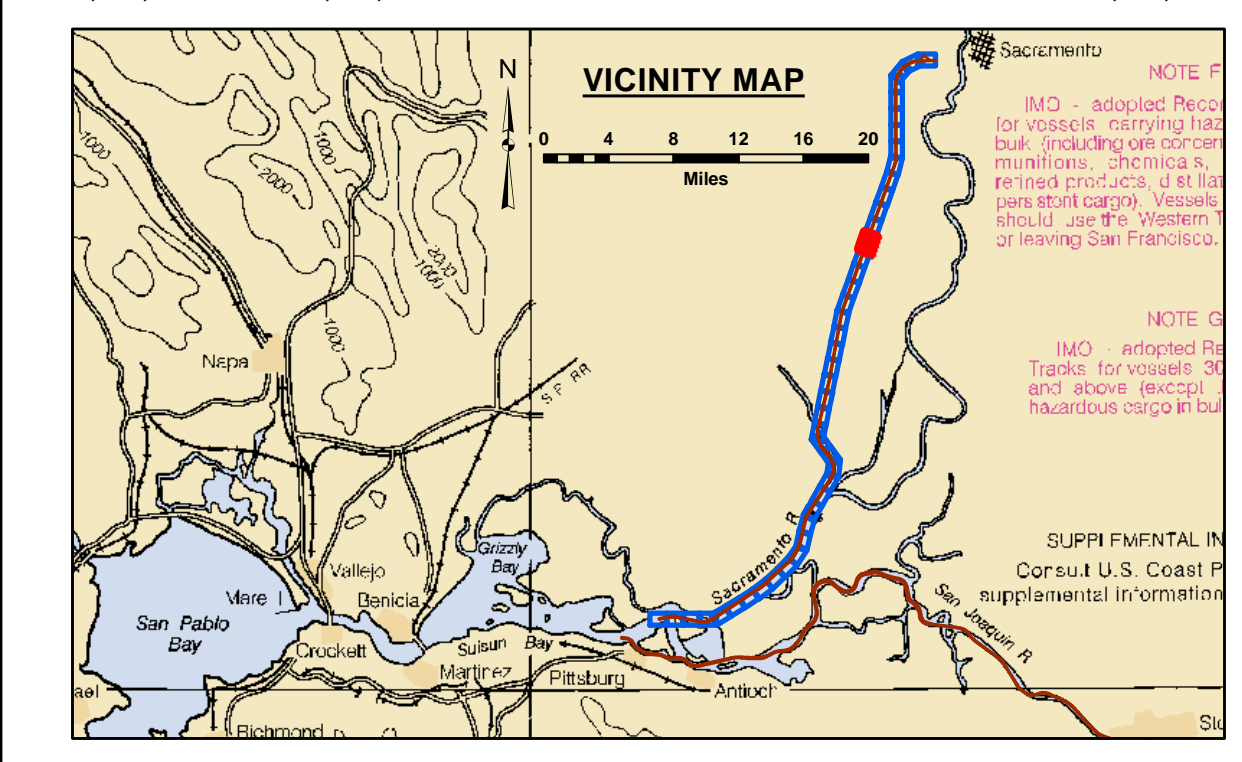
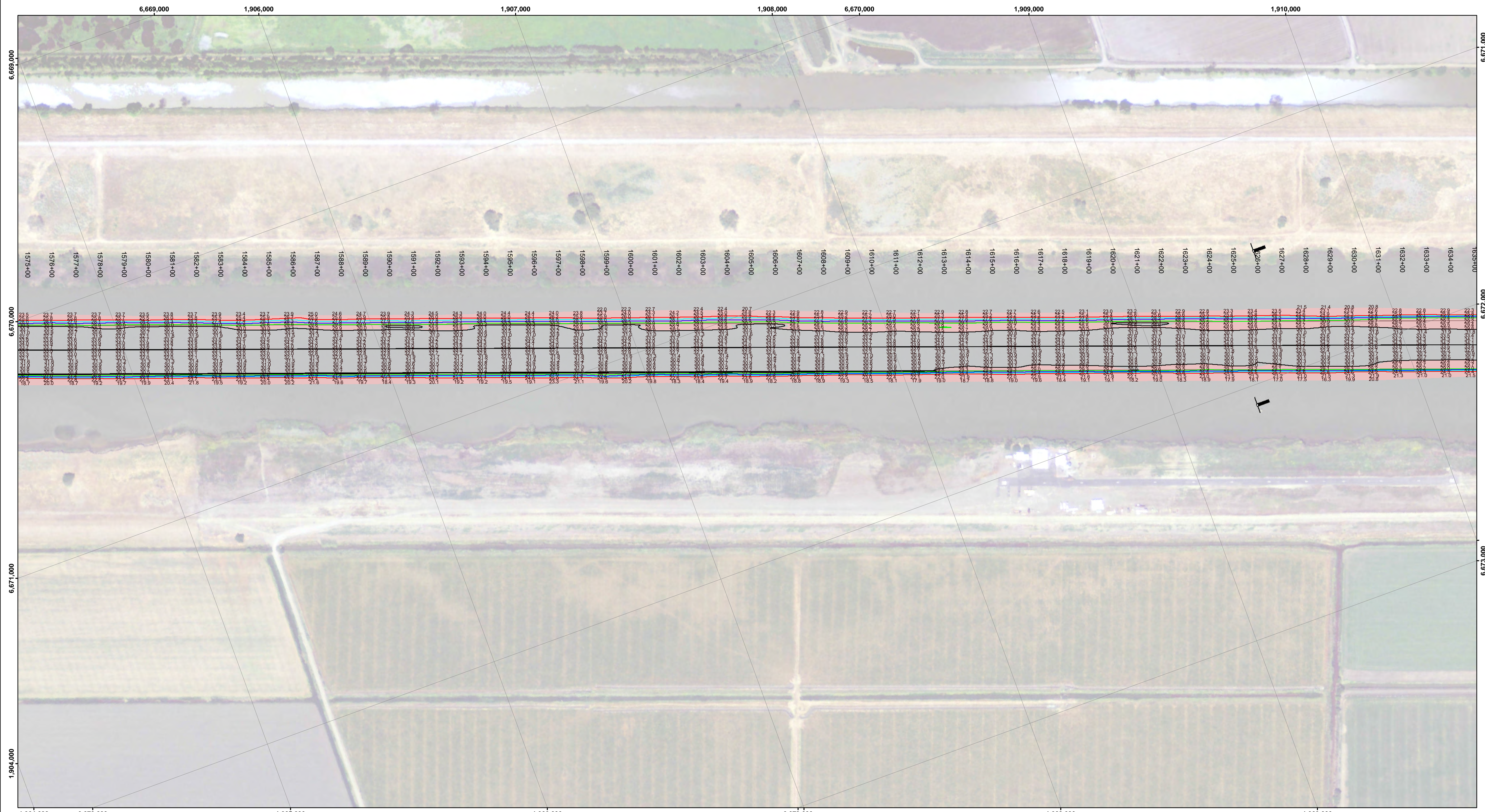


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Chart Date:	Mar 12, 2018
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	PDT
Checked By:	PDT
Designed by:	
Drawn by:	PDT

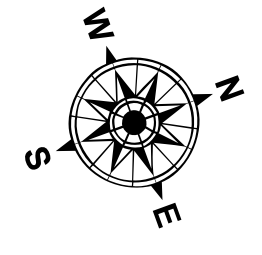
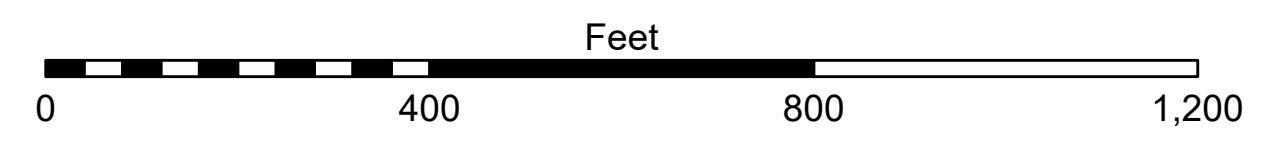
CALIFORNIA
 SAN JOAQUIN COUNTY
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
 31 of 45



LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
⋯ Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
			— -26



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 NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS),
 CA ZONE II (0402). DISTANCE UNITS IN U.S. SURVEY FEET.
 PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83,
 ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235,
 PUBLISHED BY THE NATIONAL OCEAN SURVEY.
 PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW
 THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.

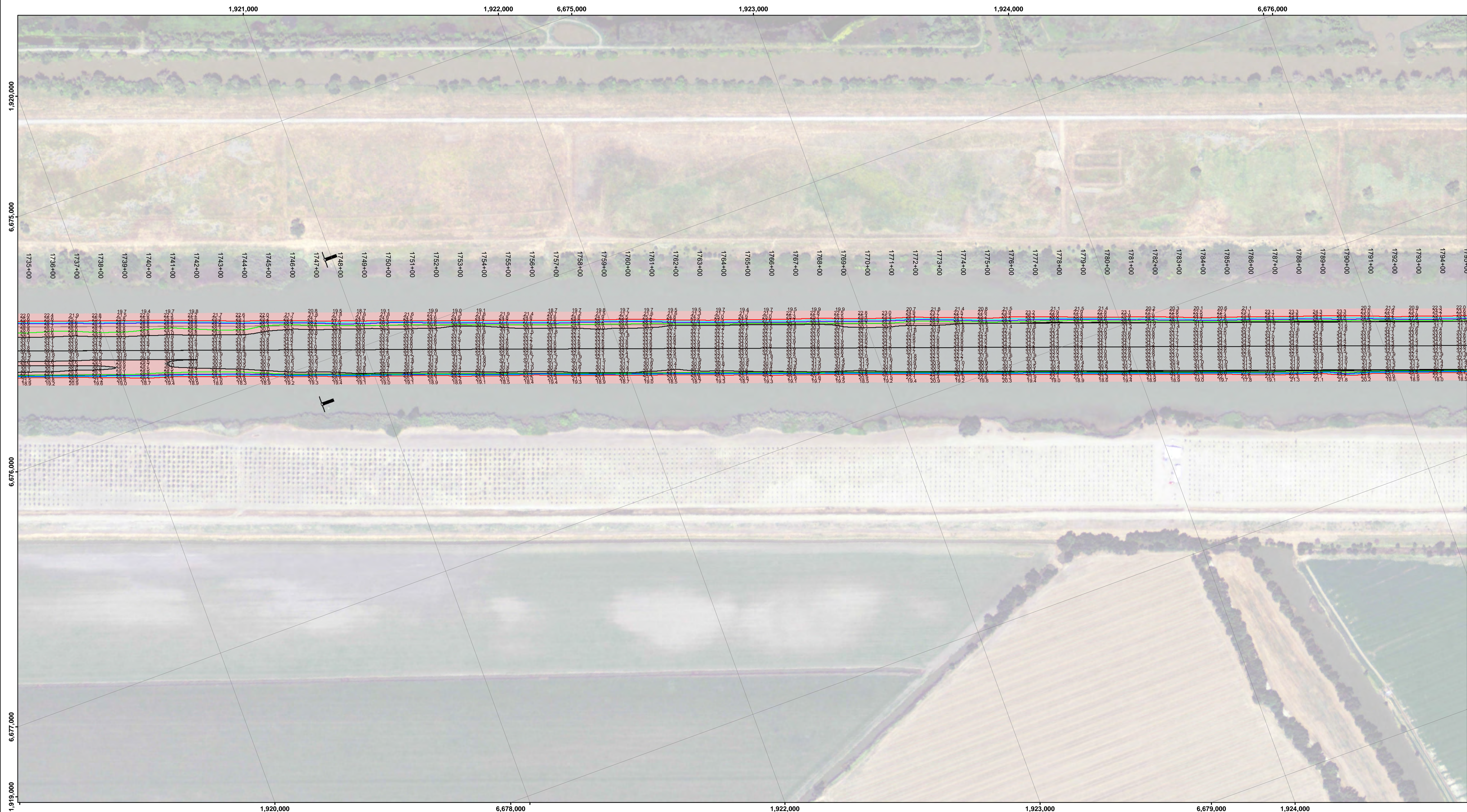


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Standard: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

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 Reference
 Number
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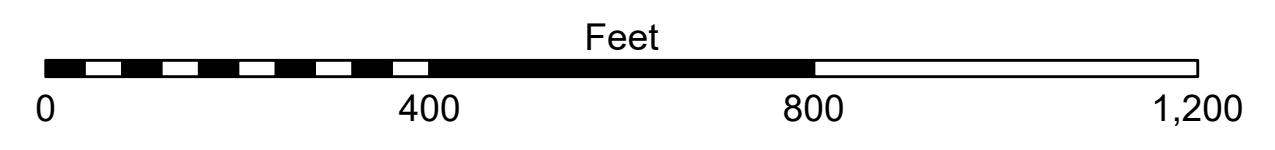
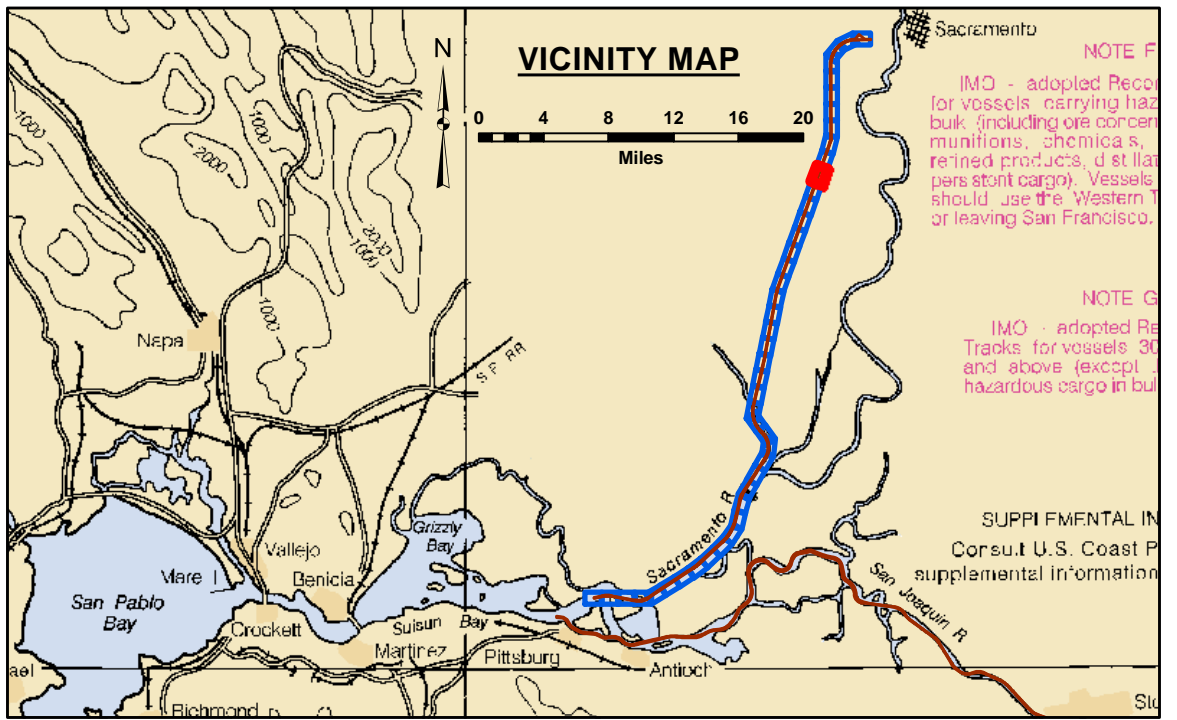


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Chart Date:	Mar 12, 2018
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

Sheet Reference Number
35 of 45



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
⋯ Cable Submarine	⊠ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	⚓ Wrecks-Submerged	— -26	
	● Shoaling Area		
	● Shoalest Sounding**		
	⌵ Beacon, General		
	◆ Red Navigation Buoy		
	◆ Green Navigation Buoy		

NOTES:
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NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CA ZONE II (0402). DISTANCE UNITS IN U.S. SURVEY FEET.

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PROJECT DEPTH: -30'

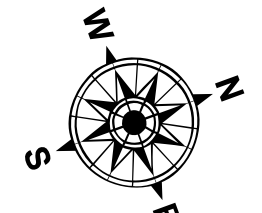
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
TIDE GAUGE: NAIL @ 10.0 FT MLLW
METADATA: NAIL SET BY USACE 8 APRIL, 2014

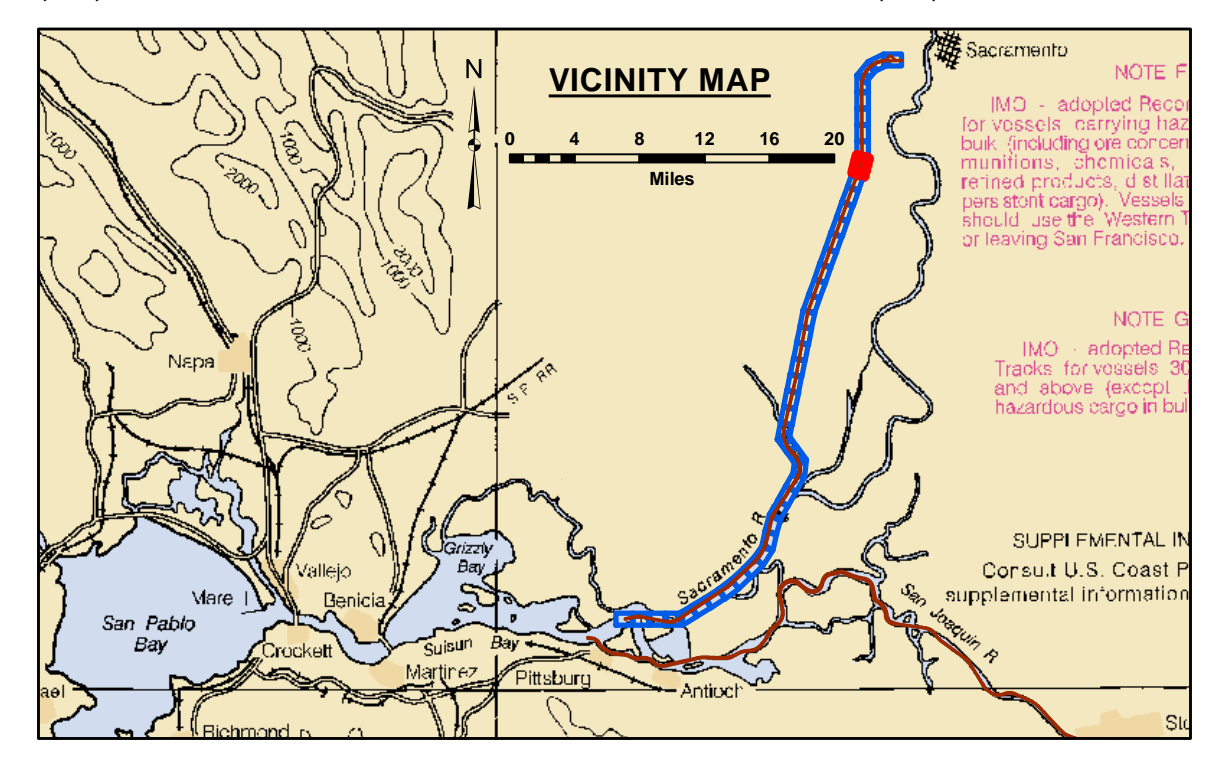
ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.





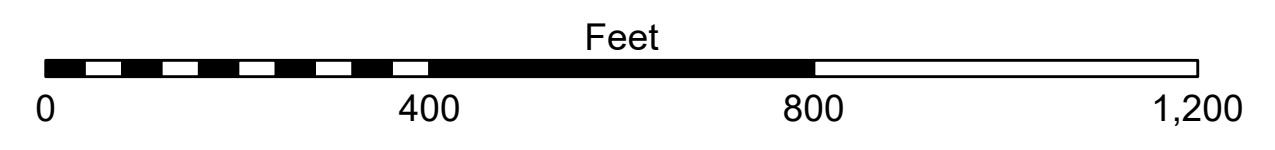
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Chart Date:	Mar 12, 2018
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Designed By:	PDT
Checked By:	PDT
Drawn By:	PDT

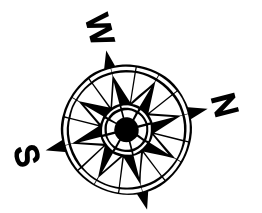


LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	▤ Anchorage Area	⊥ Beacon, General
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy

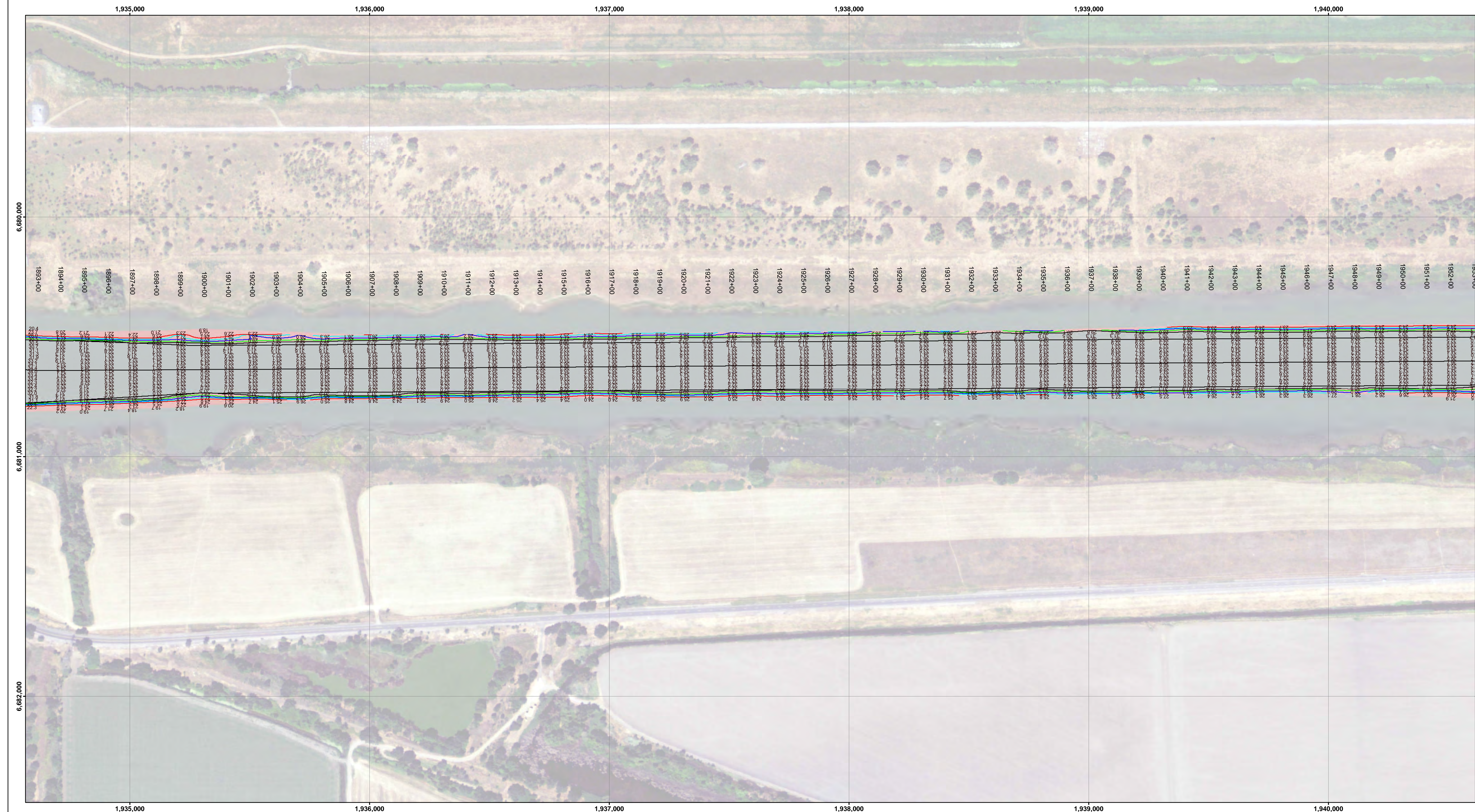
Contours	
—	-30
—	-29
—	-28
—	-27
—	-26



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CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018
Sheet Reference Number
37 of 45



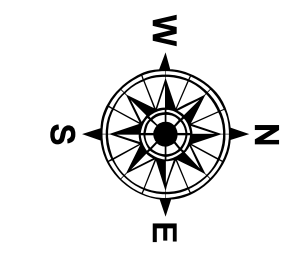
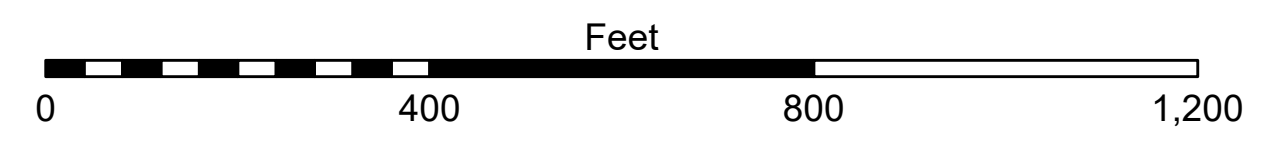
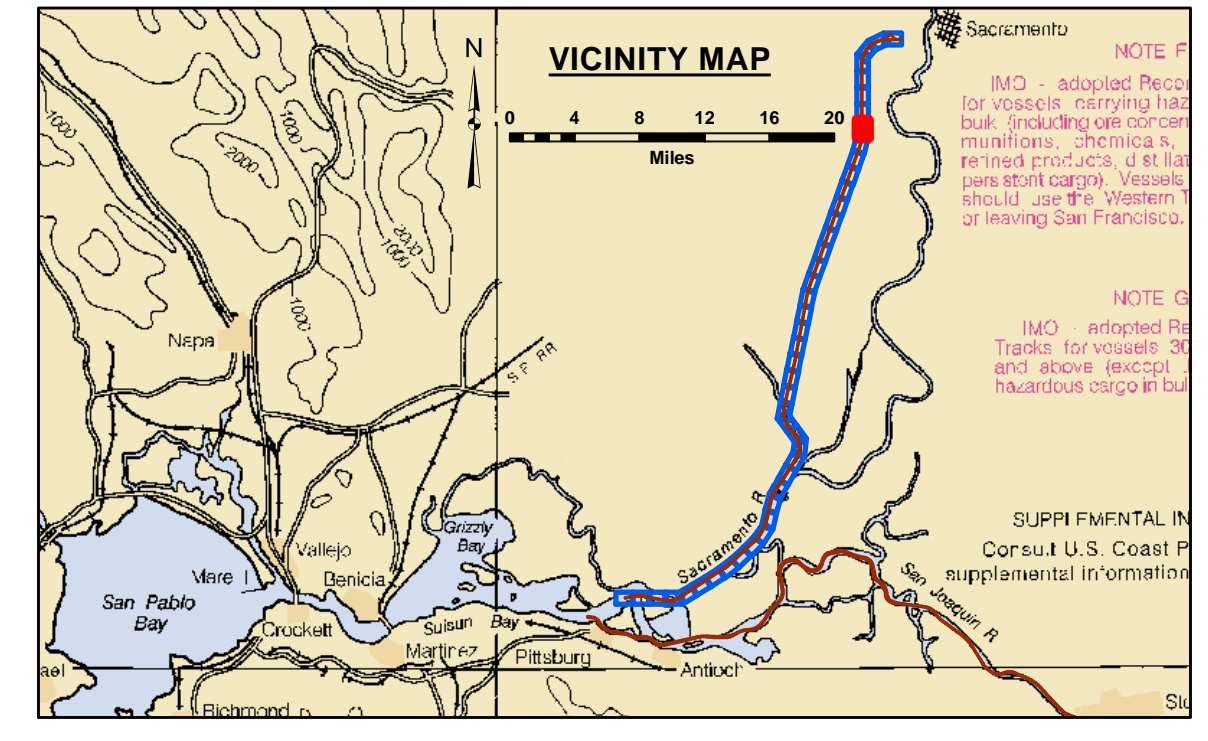
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Chart Date:	Mar 12, 2018
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Designed By:	PDT
Checked By:	PDT
Drawn By:	PDT

CALIFORNIA
 SAN JOAQUIN COUNTY
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet
 Reference
 Number
38 of 45



LEGEND			
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
..... Cable Submarine	▤ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
			— -26

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PROJECT DEPTH: -30'
 VERTICAL DATUM: MLLW

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CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
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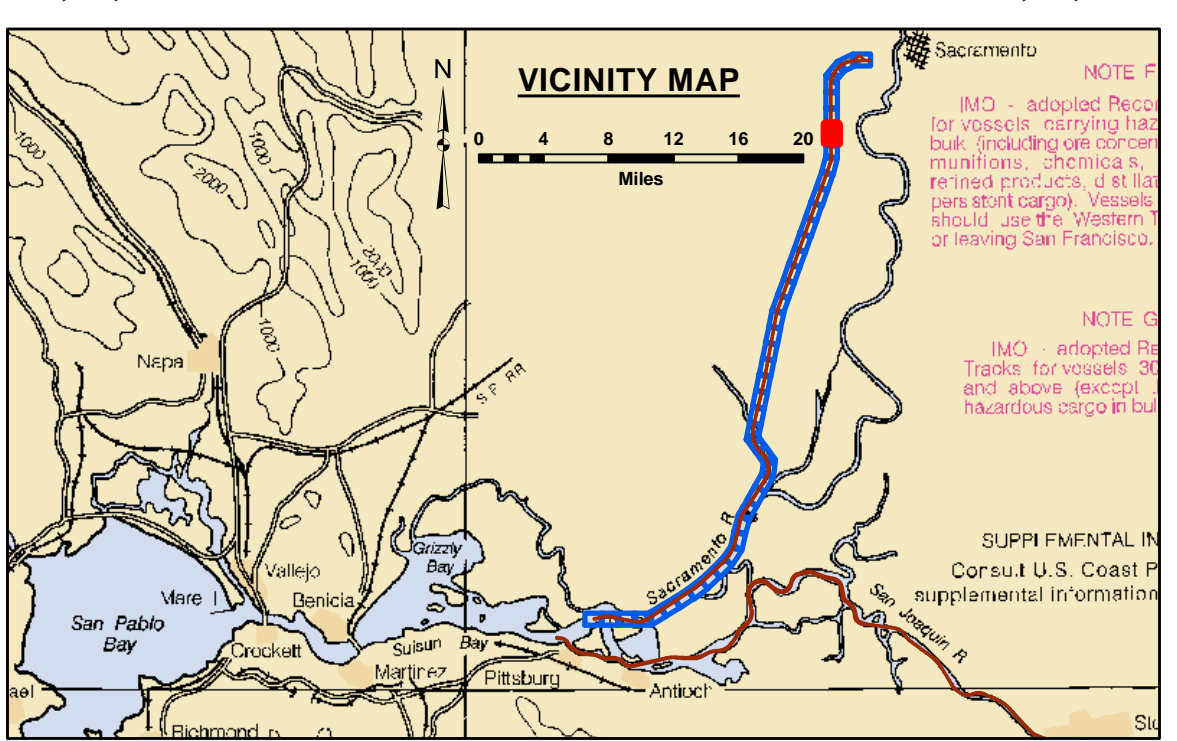
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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	PDT
Chief, Construction Branch	

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018

Sheet
 Reference
 Number
39 of 45



LEGEND		Contours	
--- Federal Navigation Channel	▨ Cable Area	— -30	
— Federal Navigation Center Line	□ Placement Area	— -29	
..... Cable Submarine	▨ Anchorage Area	— -28	
- - - Cable Overhead	⊗ Obstruction Point	— -27	
— Contour Line	✦ Wrecks-Submerged	— -26	
	● Shoaling Area		
	● Shoalest Sounding**		
	⊥ Beacon, General		
	◆ Red Navigation Buoy		
	◆ Green Navigation Buoy		

NOTES:
 DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY.
 THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD.
 BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.

SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CA ZONE II (0402). DISTANCE UNITS IN U.S. SURVEY FEET.

PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

PROJECT DEPTH: -30'

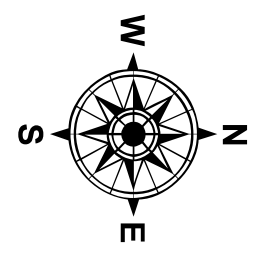
VERTICAL DATUM: MLLW

THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

CONTROLS:
 LOCATION: RIO VISTA
 NOAA STATION: 9415316
 BENCHMARK: 5316 B 1996 (NO PID)
 TIDE GAUGE: NAIL @ 8.2 FT MLLW
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
 NOAA STATION: 9416131
 BENCHMARK: POWS1 (NO PID)
 TIDE GAUGE: NAIL @ 10.0 FT MLLW
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.





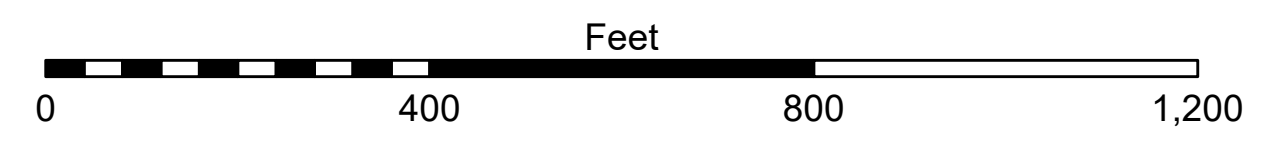
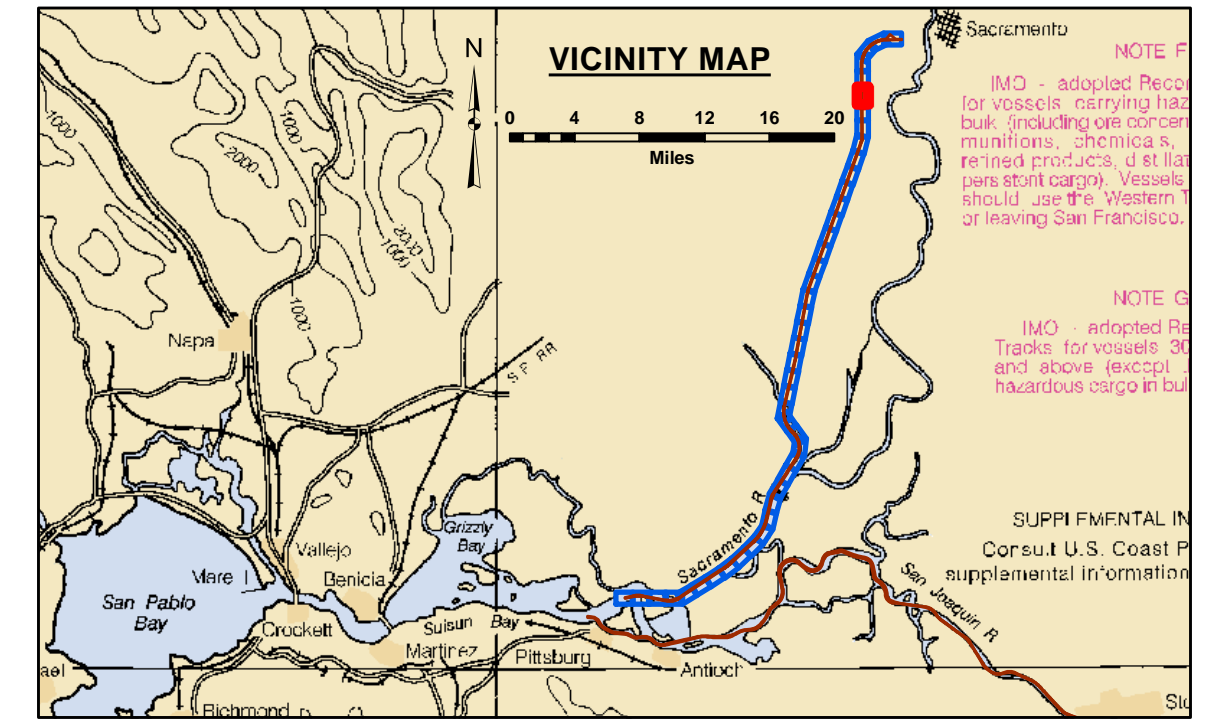
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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

CALIFORNIA
SACRAMENTO RIVER
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Sheet
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LEGEND			
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
..... Cable Submarine	▨ Anchorage Area	⊥ Beacon, General	— -29
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy	— -28
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy	— -27
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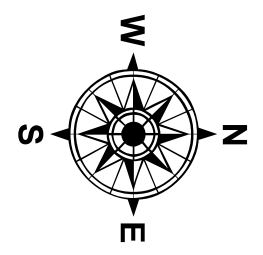
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LOCATION: PORT OF WEST SACRAMENTO
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 BENCHMARK: POWS1 (NO PID)
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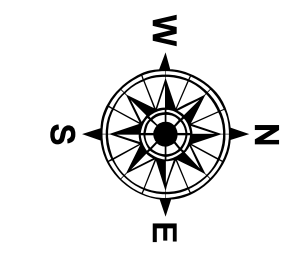
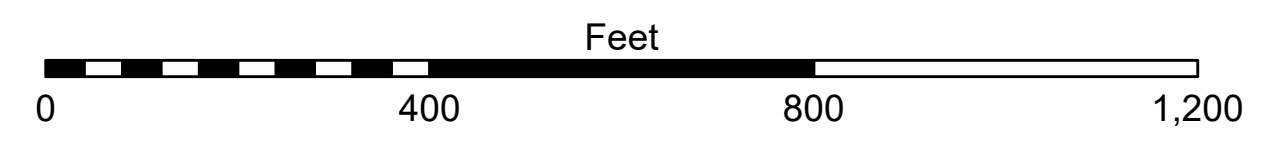
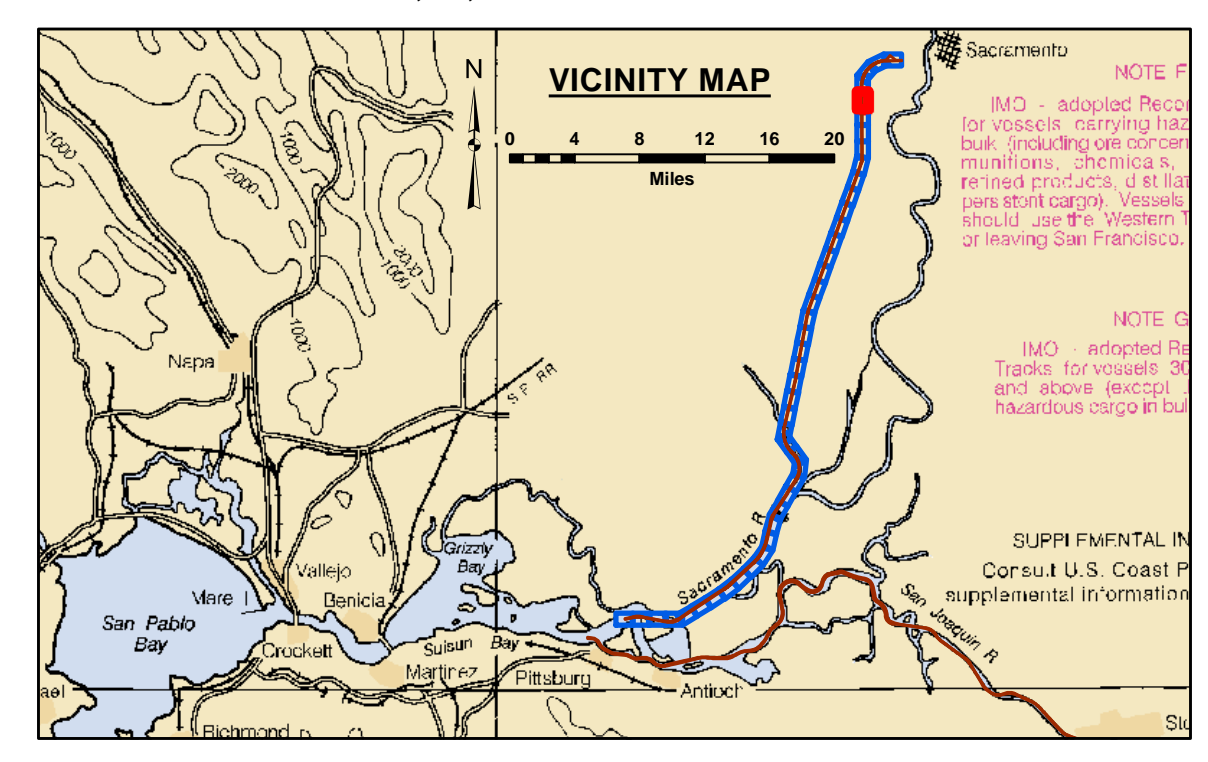
Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA

SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018

SAN JOAQUIN COUNTY

Sheet Reference Number
41 of 45



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	▤ Anchorage Area	⊥ Beacon, General
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy
— Contour Line	✦ Wrecks-Submerged	◆ Green Navigation Buoy

Contours

—	-30
—	-29
—	-28
—	-27
—	-26

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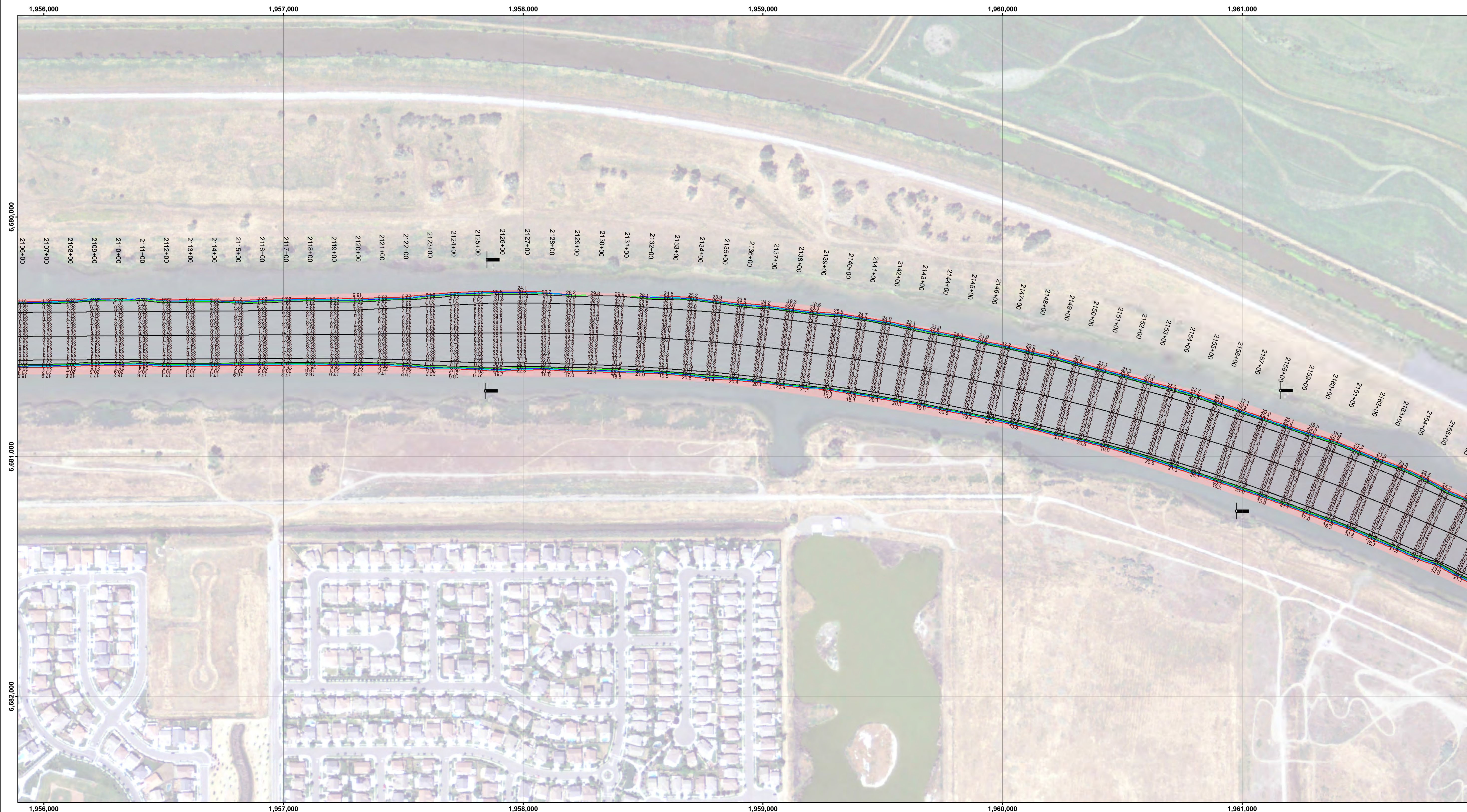
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

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LOCATION: RIO VISTA
NOAA STATION: 9415316
BENCHMARK: 5316 B 1996 (NO PID)
TIDE GAUGE: NAIL @ 8.2 FT MLLW
METADATA: NAIL SET BY USACE 31 MARCH, 2014

LOCATION: PORT OF WEST SACRAMENTO
NOAA STATION: 9416131
BENCHMARK: POWS1 (NO PID)
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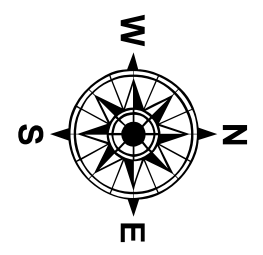
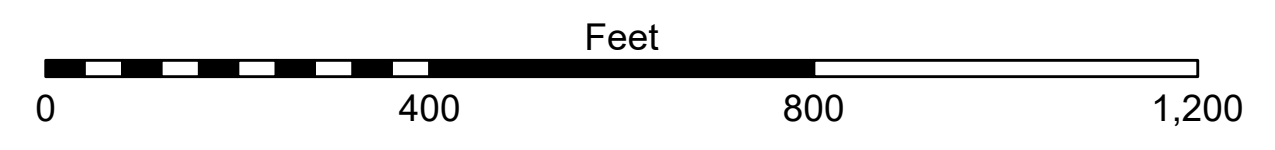
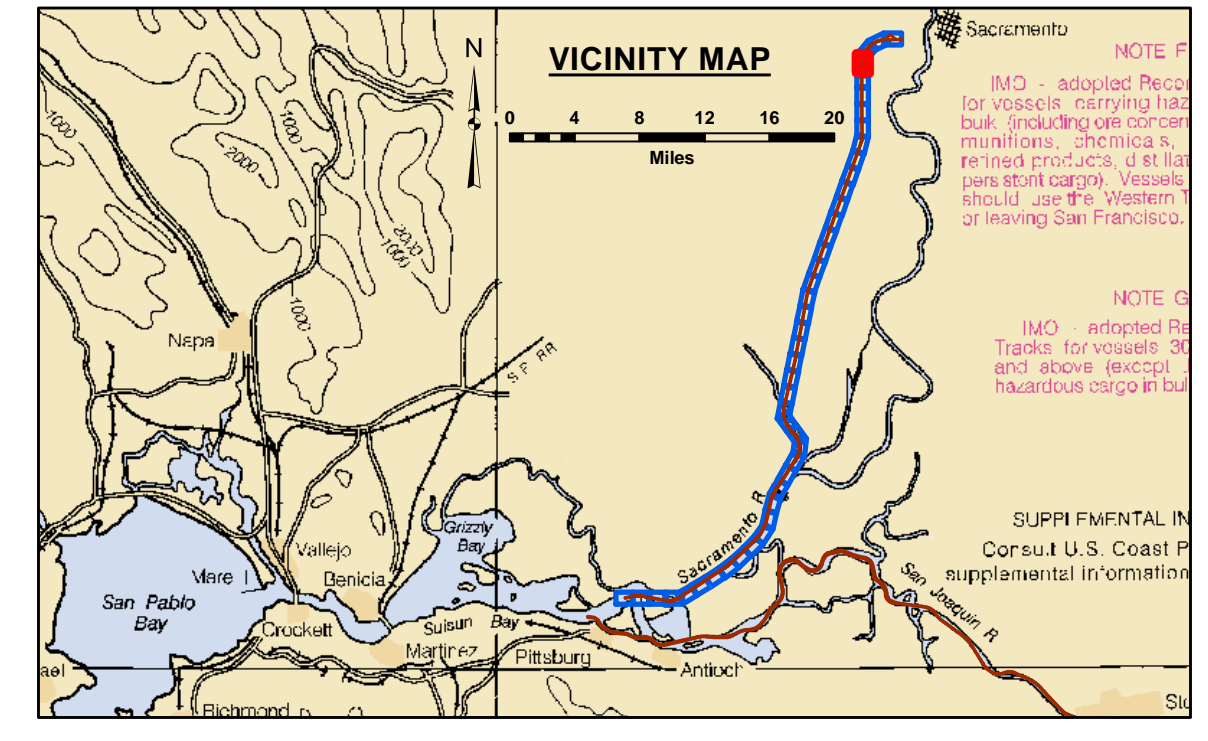


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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

CALIFORNIA
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
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Contours

—	-30
—	-29
—	-28
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—	-26

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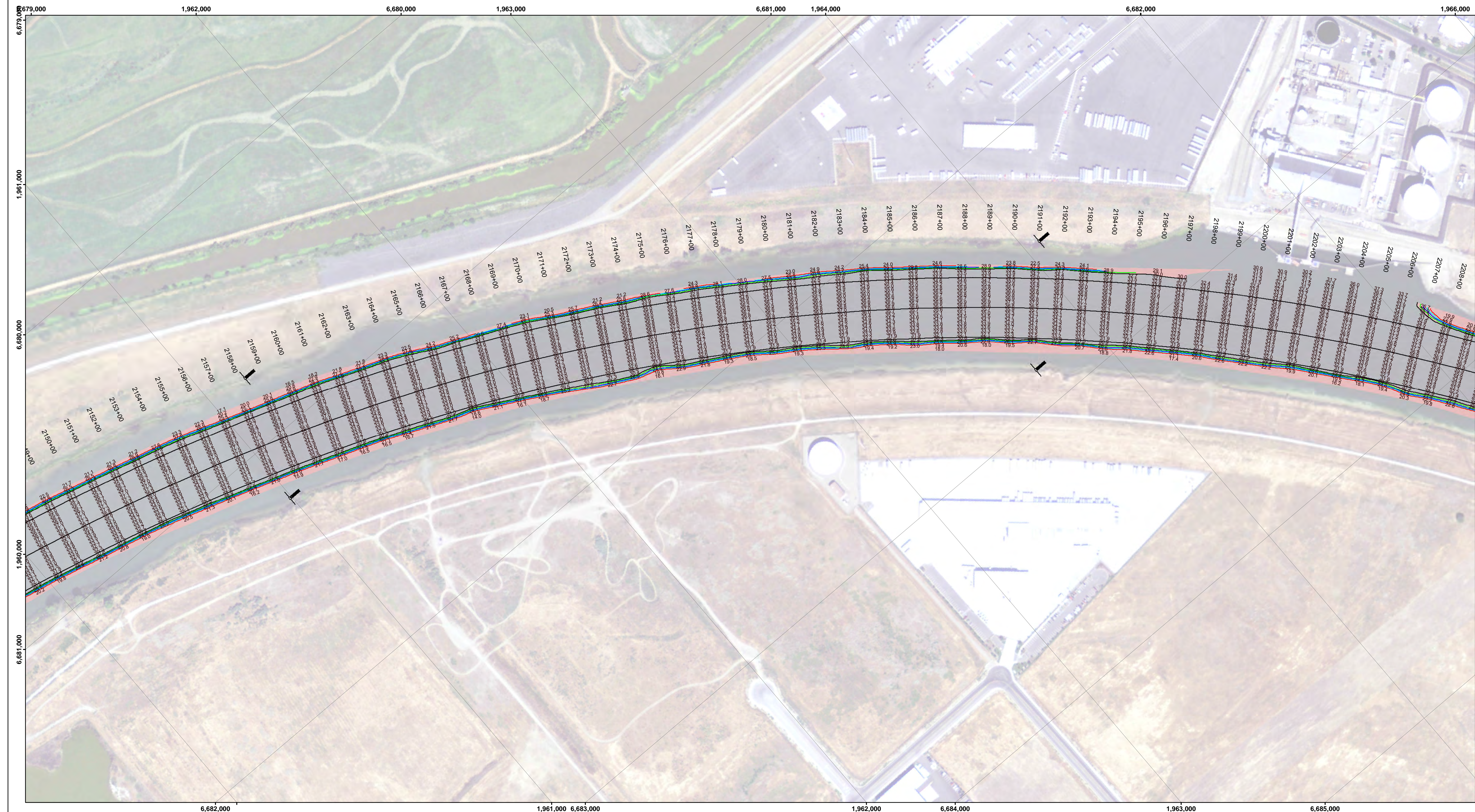
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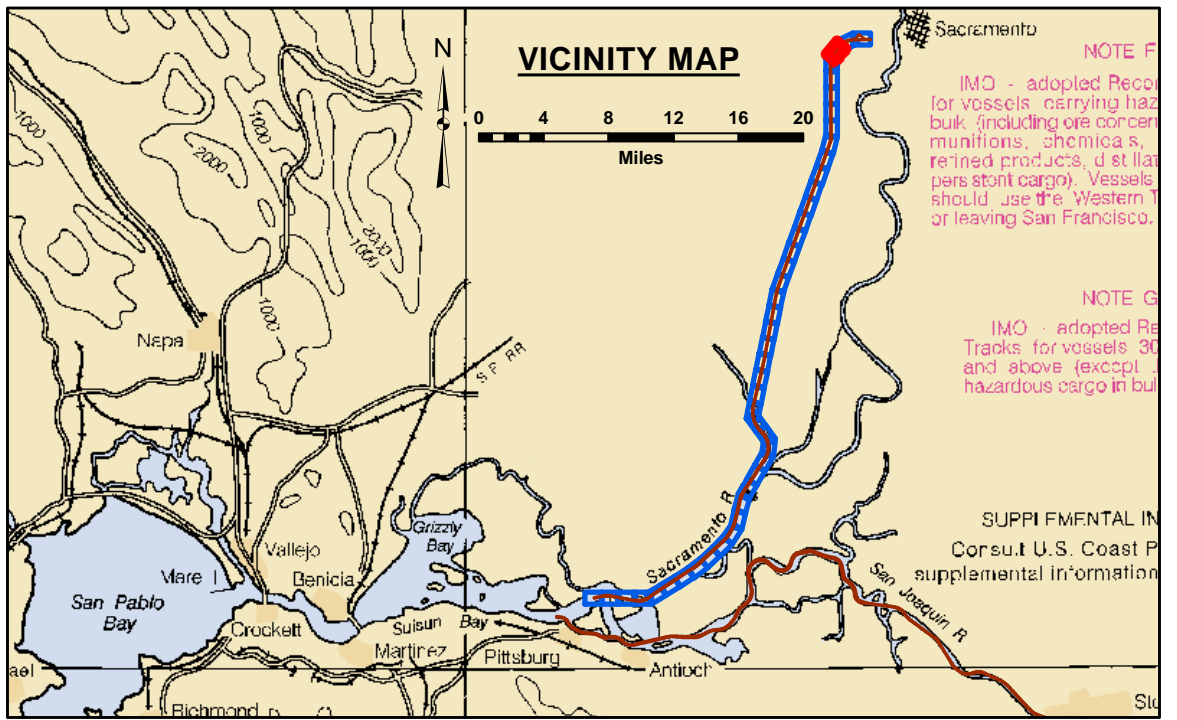


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Prepared Under the Direction of TRAVIS J. RAYFIELD LT Colonel, C.E., District Engineer	Chart Date: Mar 12, 2018
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN JOAQUIN COUNTY
SACRAMENTO RIVER
CONDITION SURVEY
21, 25, 27-28 FEBRUARY 2018



0 400 800 1,200 Feet

LEGEND

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area	— Contours
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	— -30
⋯ Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General	— -29
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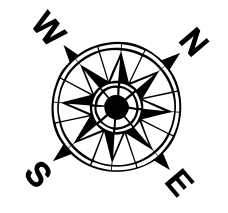
PROJECT DEPTH: -30'
VERTICAL DATUM: MLLW

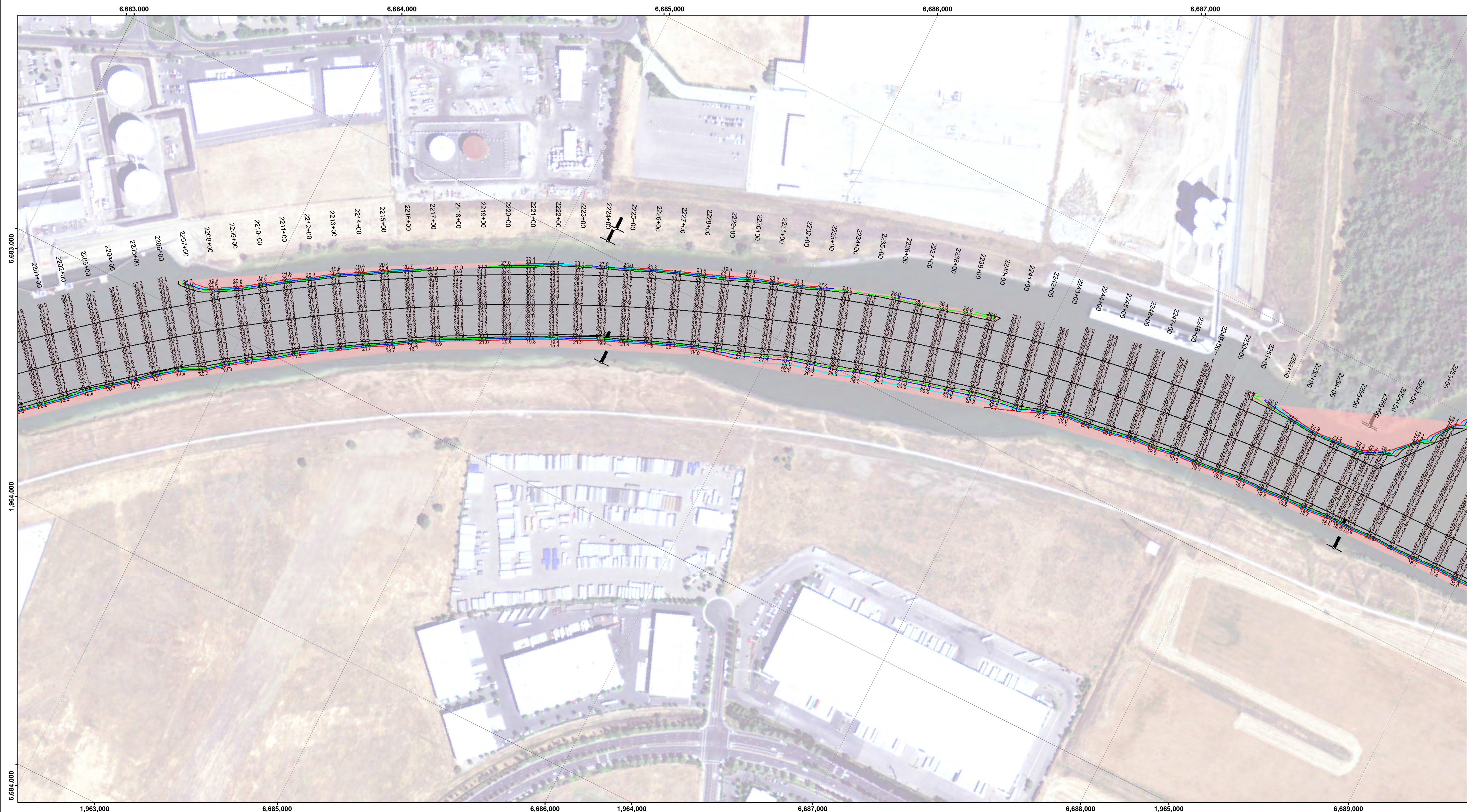
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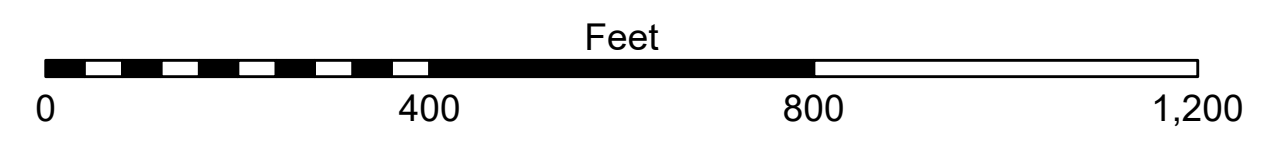
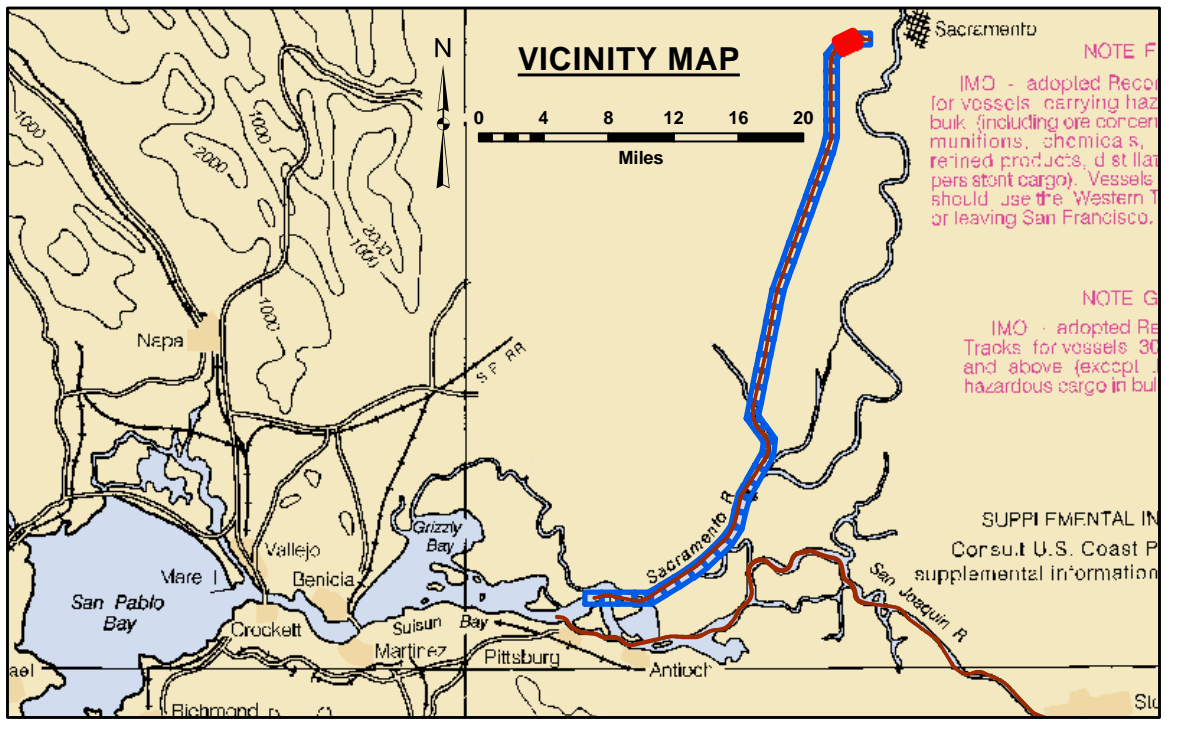




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Chart Date:	Mar 12, 2018
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

CALIFORNIA
 SAN JOAQUIN COUNTY
SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
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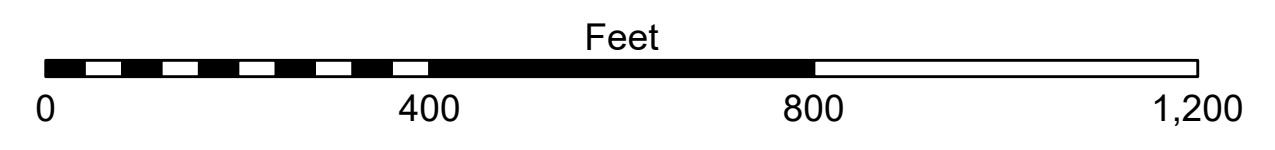
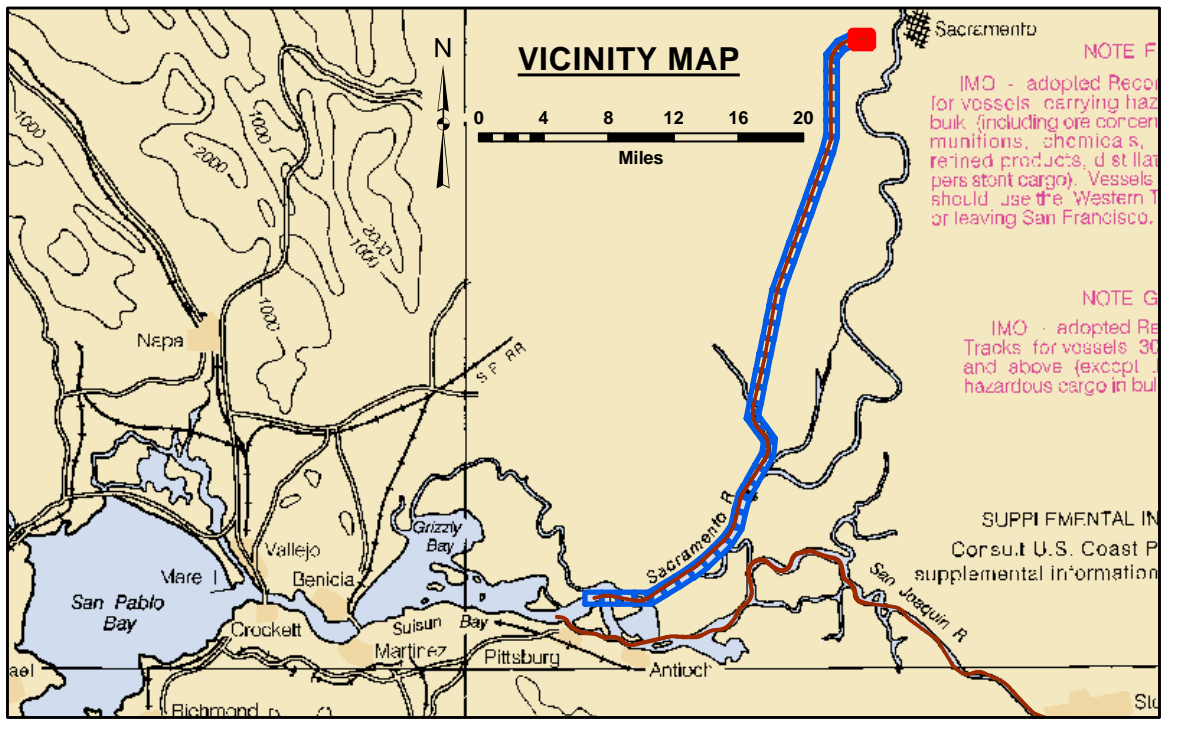


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Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

PREPARED UNDER THE DIRECTION OF
TRAVIS J. RAYFIELD
 LT COLONEL, C.E., DISTRICT ENGINEER
 Standard: Hydro Survey Team Leader
 Recommended: Chief, Hydro Survey Section
 Approved: Chief, Construction Branch

SACRAMENTO RIVER
 CONDITION SURVEY
 21, 25, 27-28 FEBRUARY 2018
45 of 45



LEGEND		Contours	
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