

**US Army Corps of Engineers District: CESPK**

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Chart Date:	Jan 29, 2019
Designed by:	
Drawn by:	PDT
Surveyed By:	
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

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

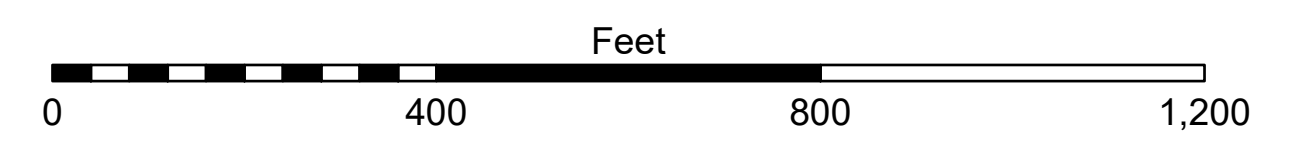
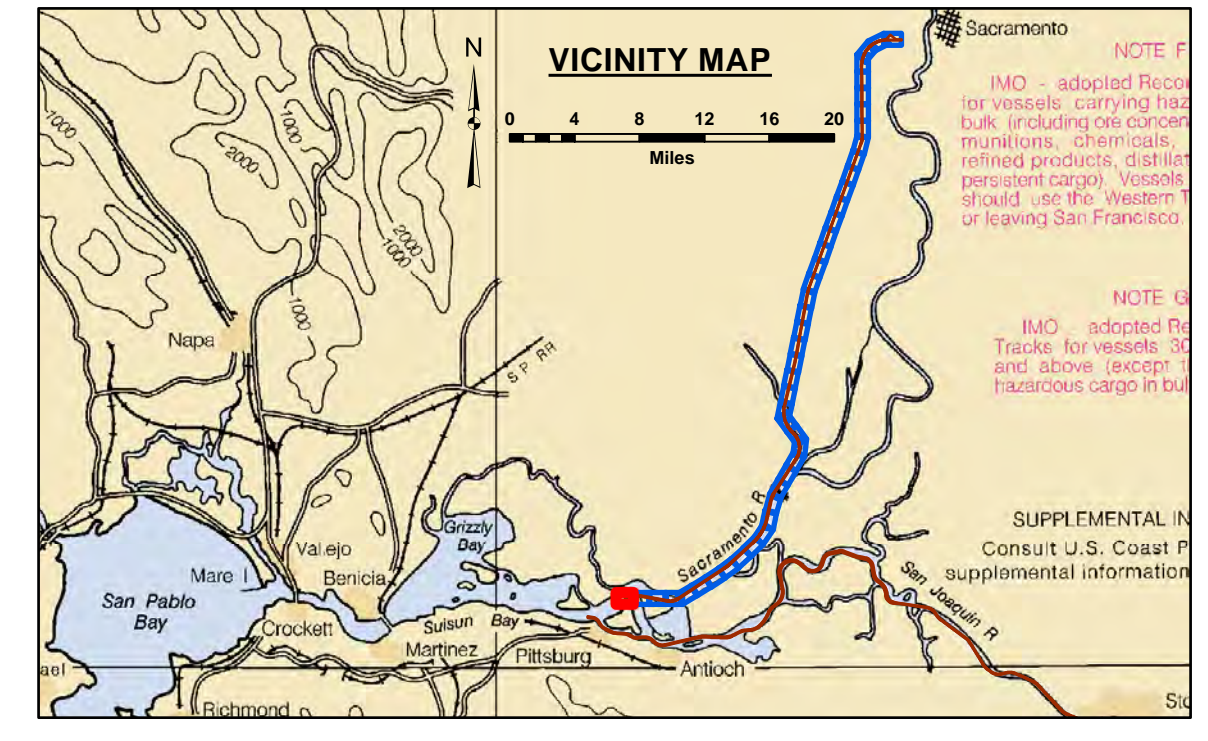
Supervised: Hydro Survey Team Leader  
 Recommended: Chief, Hydro Survey Section  
 Approved: Chief, Construction Branch

CALIFORNIA

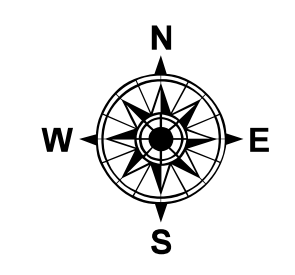
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

SAN JOAQUIN COUNTY

**Sheet Reference Number**  
**1 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

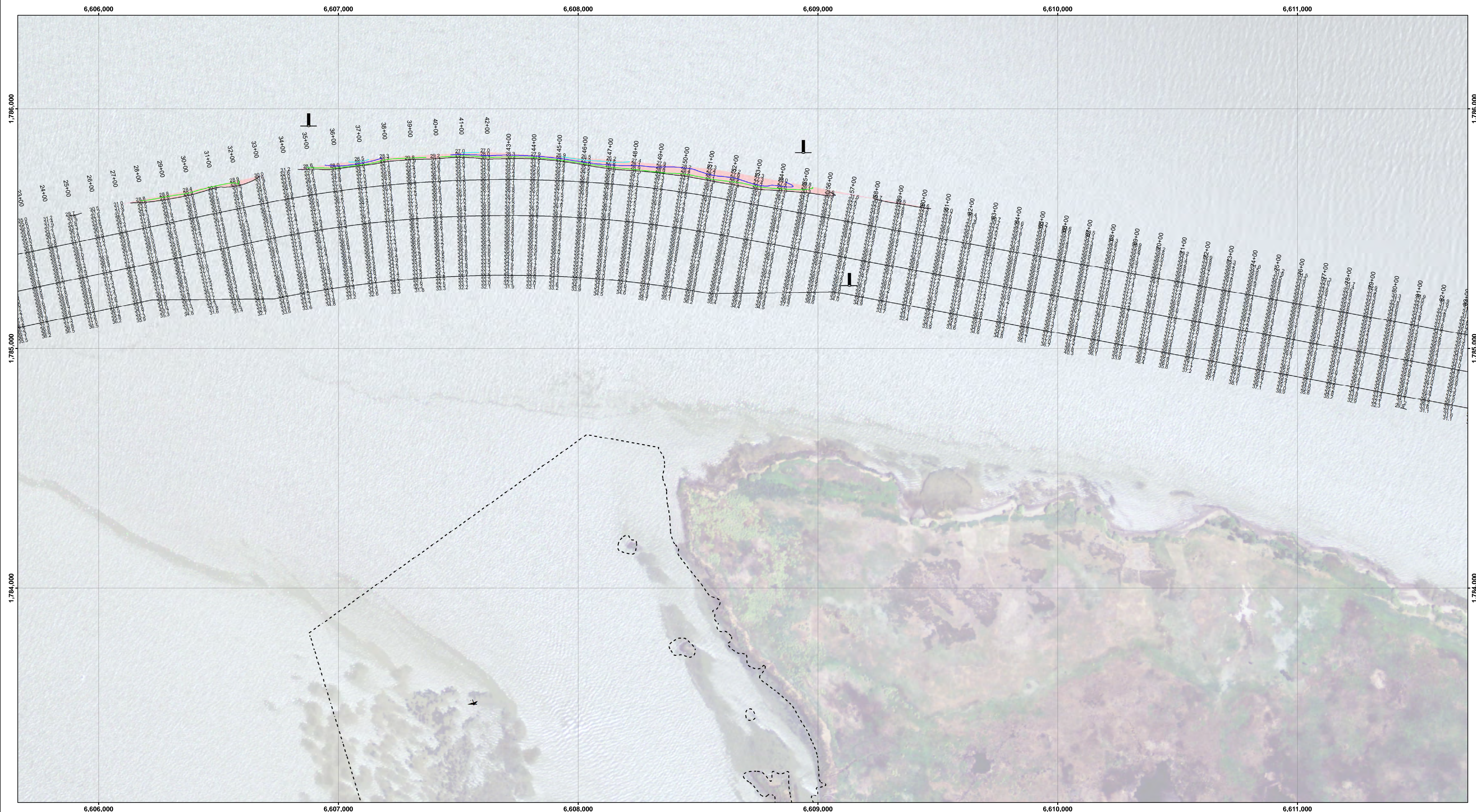


**NOTES:**  
 DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY.  
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 SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.  
 SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.  
 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  
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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

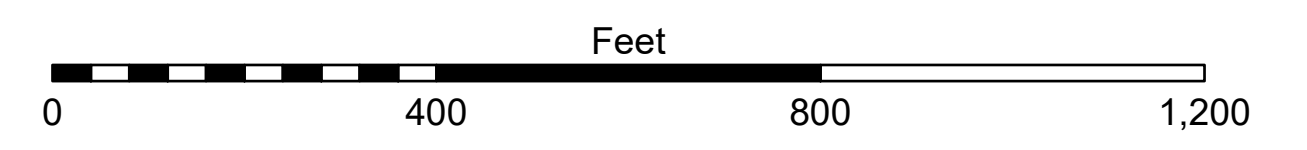
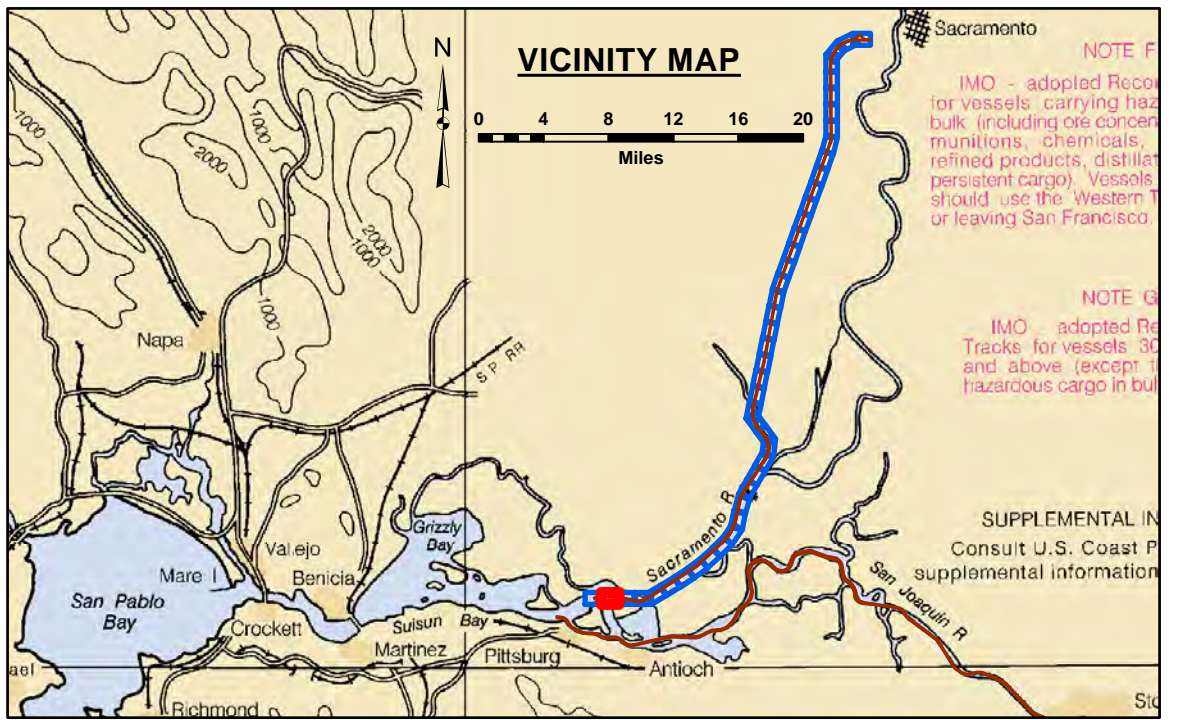
LOCATION: PORT OF WEST SACRAMENTO  
 NOAA STATION: 9416131  
 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

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

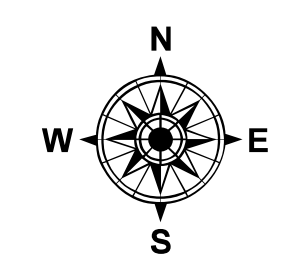


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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jan 29, 2019
Survised By: Hydro Survey Team Leader	Designed By: PDT
Plotted By: PDT	Drawn By: PDT
Checked By: Chief, Hydro Survey Section	
Approved: Chief, Construction Branch	



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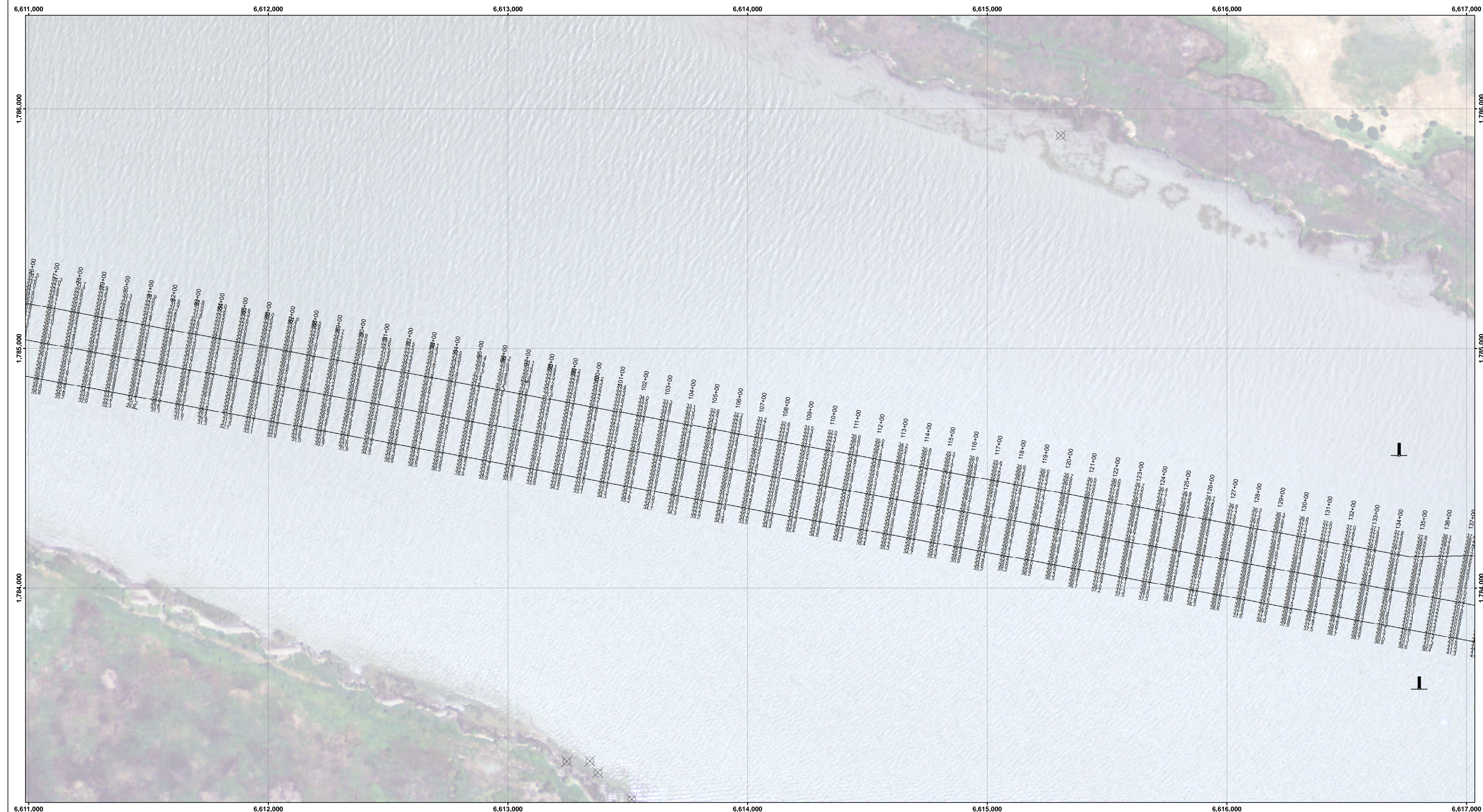
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CALIFORNIA  
SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
CONDITION SURVEY  
16-21 JANUARY 2019

Sheet Reference Number  
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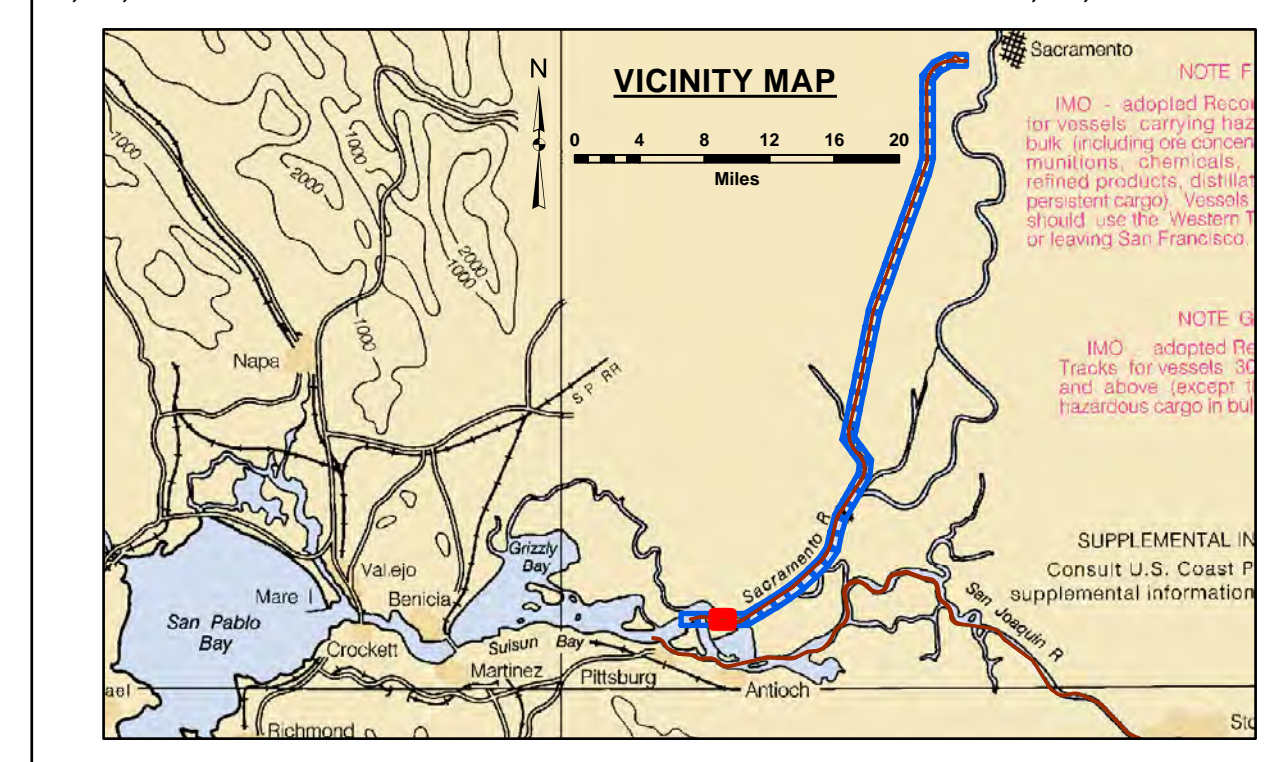


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Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT

**SAN JOAQUIN COUNTY**  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

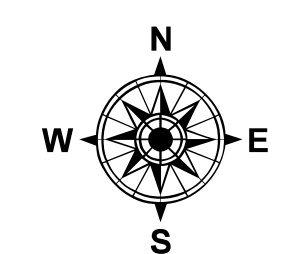
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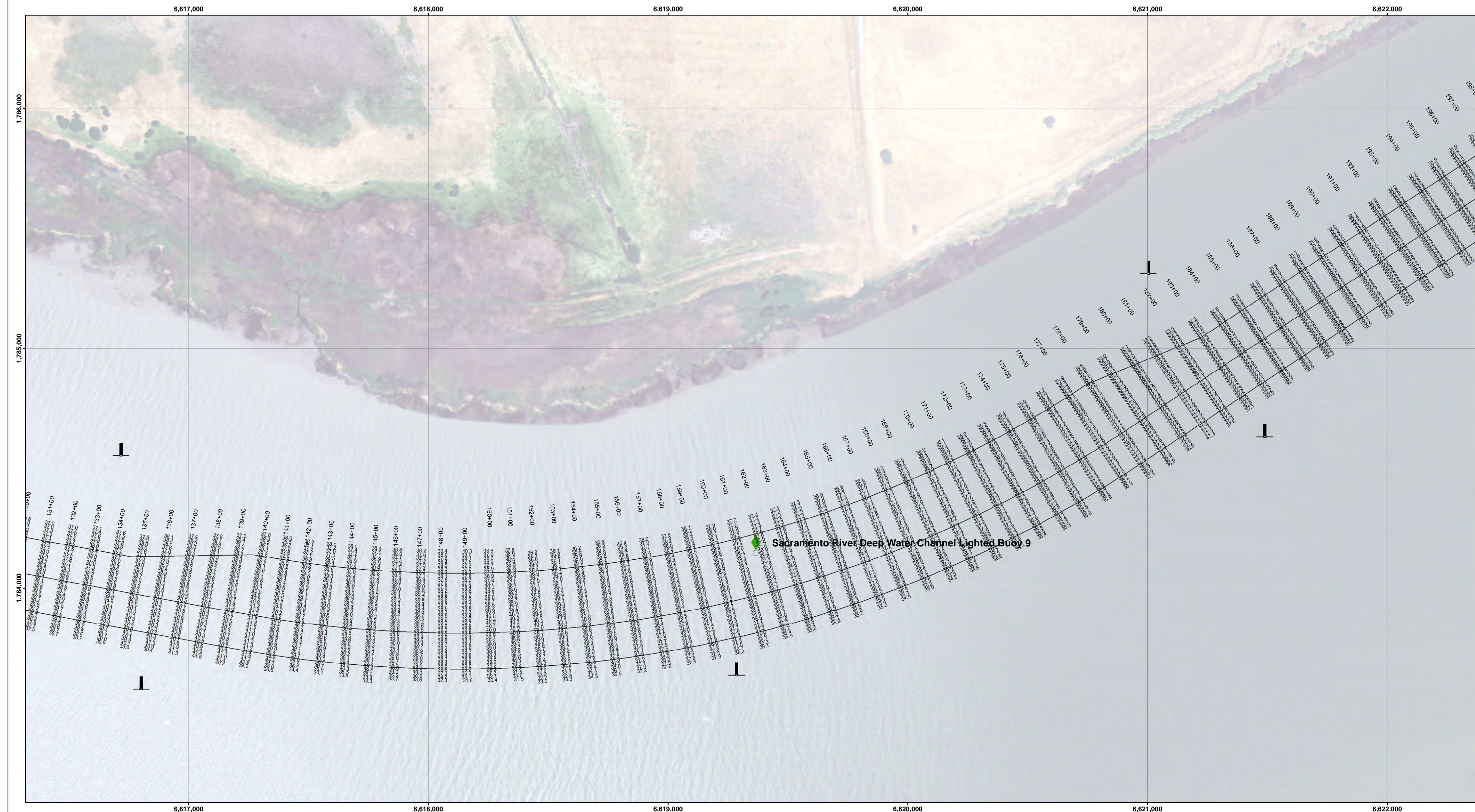
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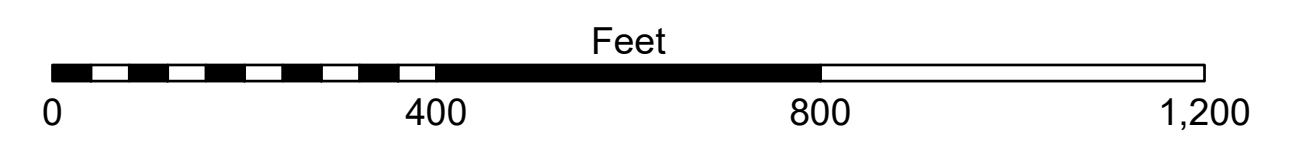
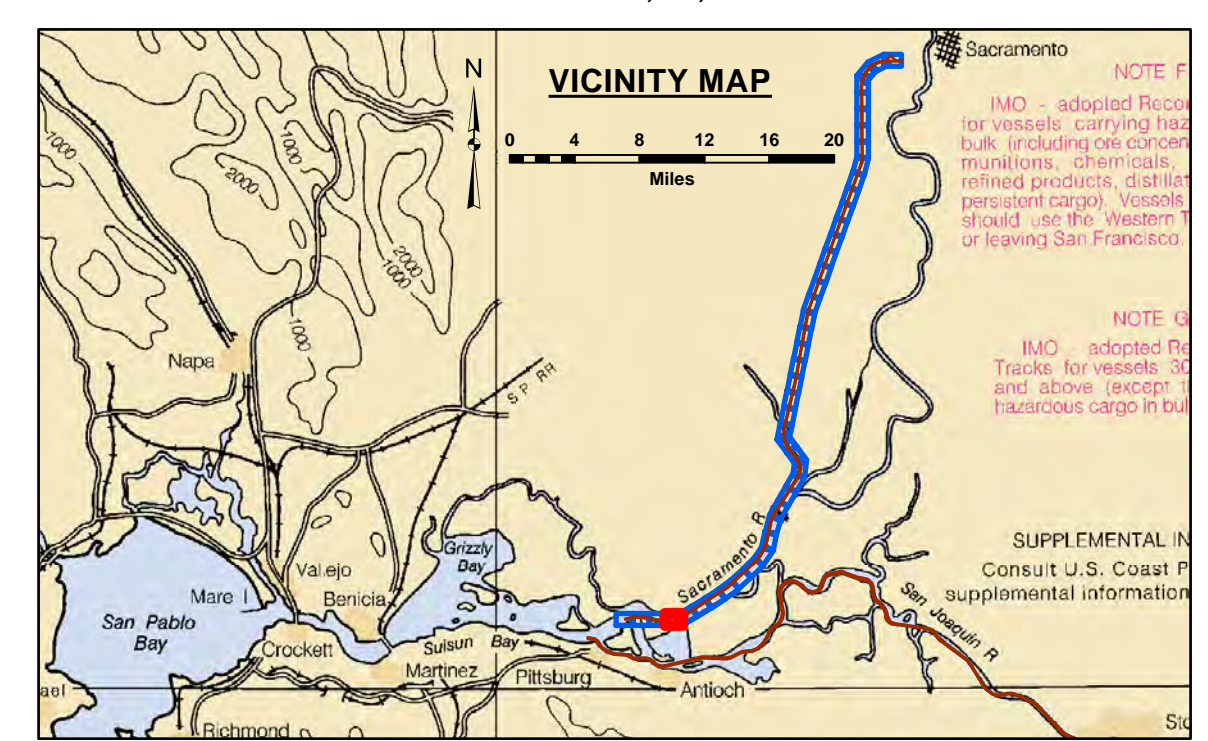


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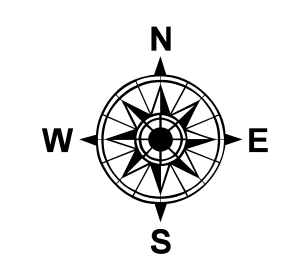
Chart Date:	Jan 29, 2019
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Plotted By:	PDT
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Drawn By:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet  
 Reference  
 Number  
**4 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

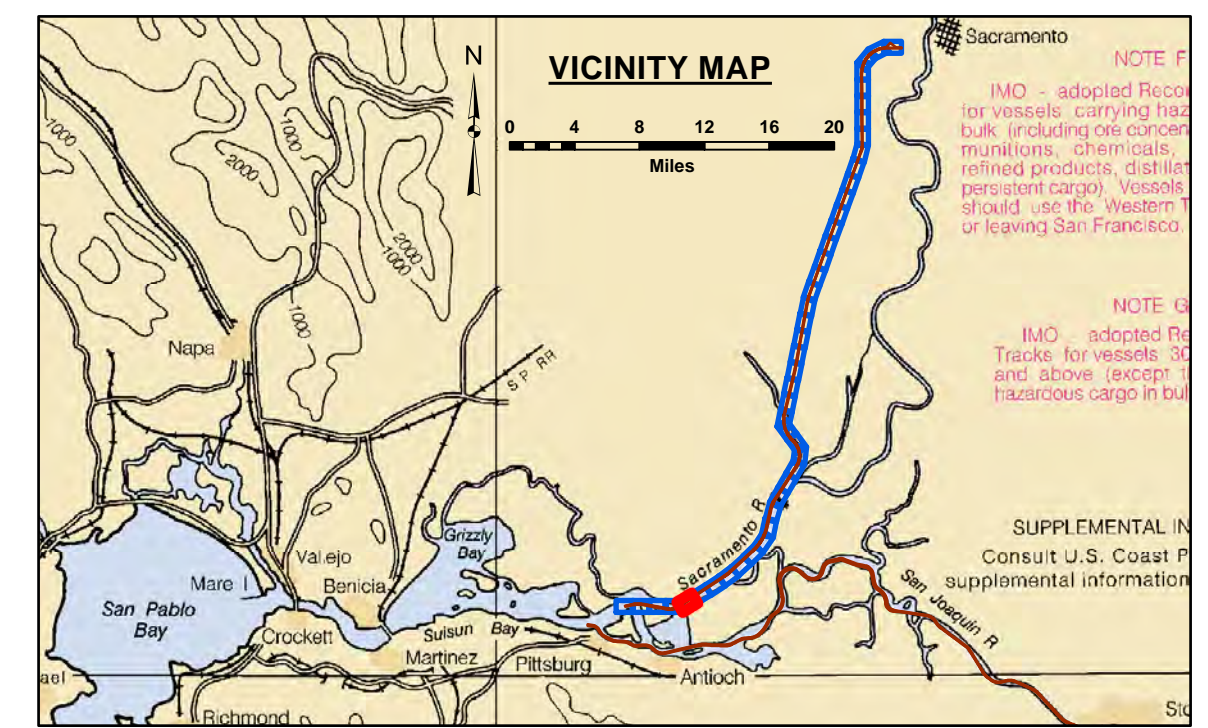
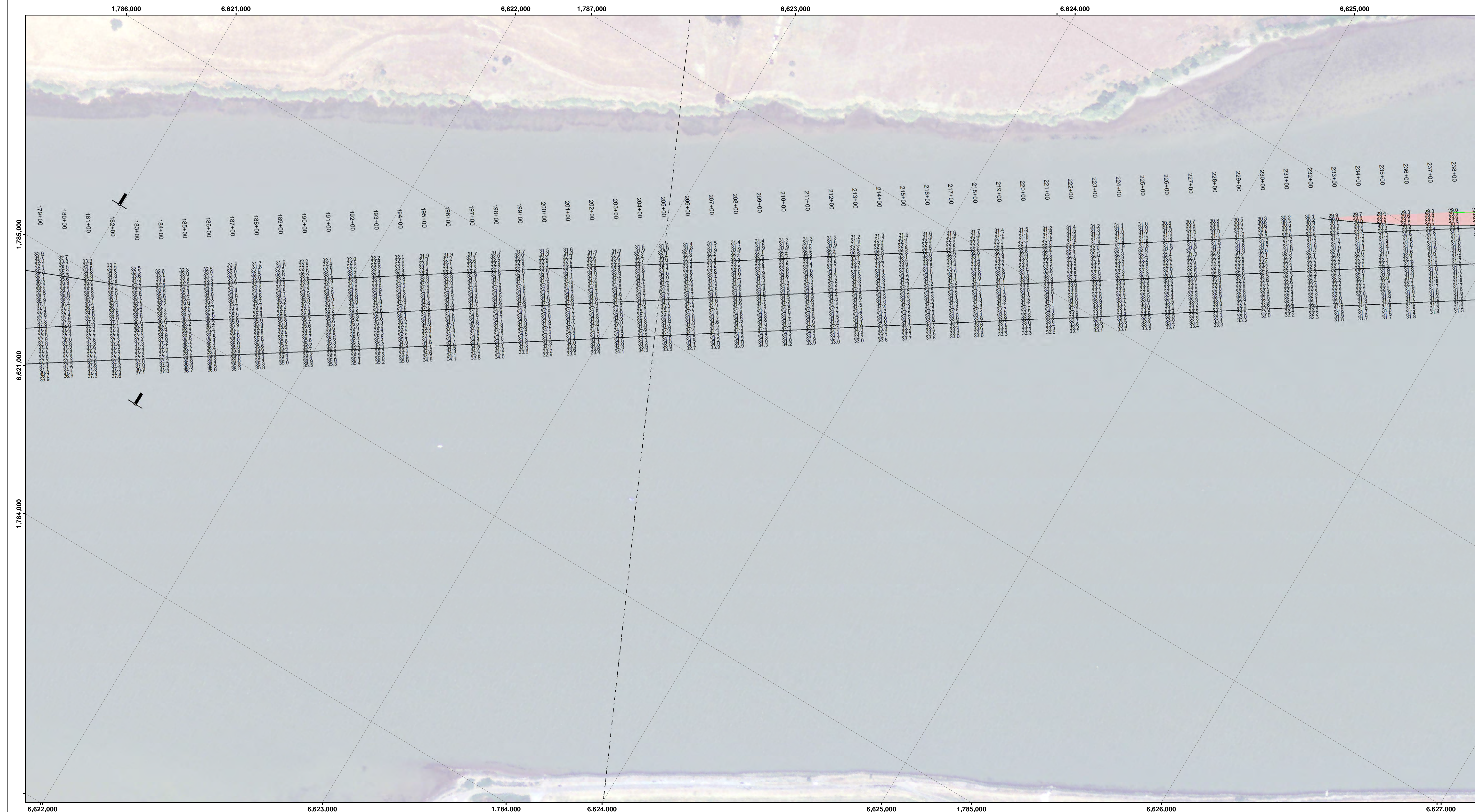


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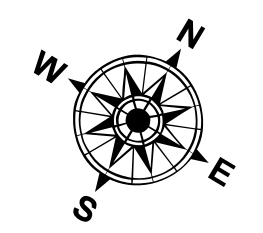
LOCATION: PORT OF WEST SACRAMENTO  
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**LEGEND**

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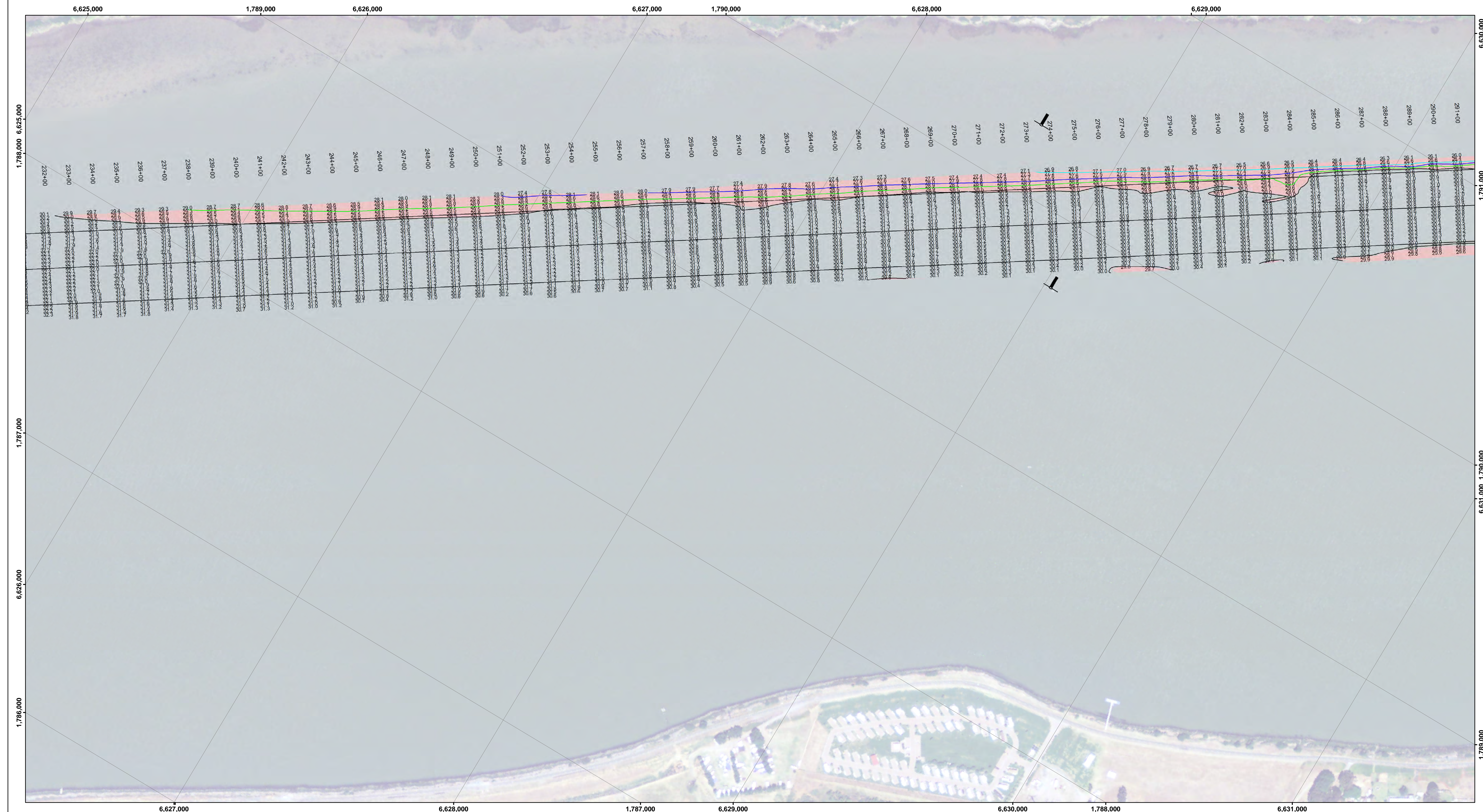


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Drawn By:	PDT
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Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

**Sheet Reference Number**  
 5 of 45

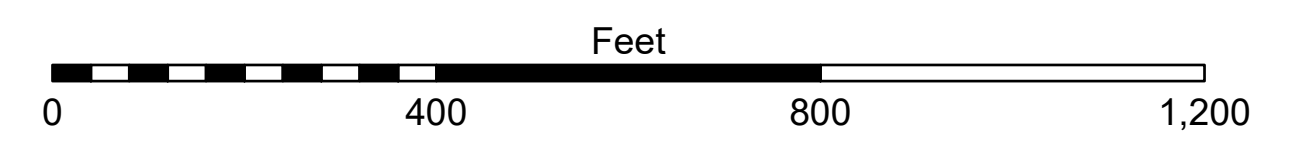
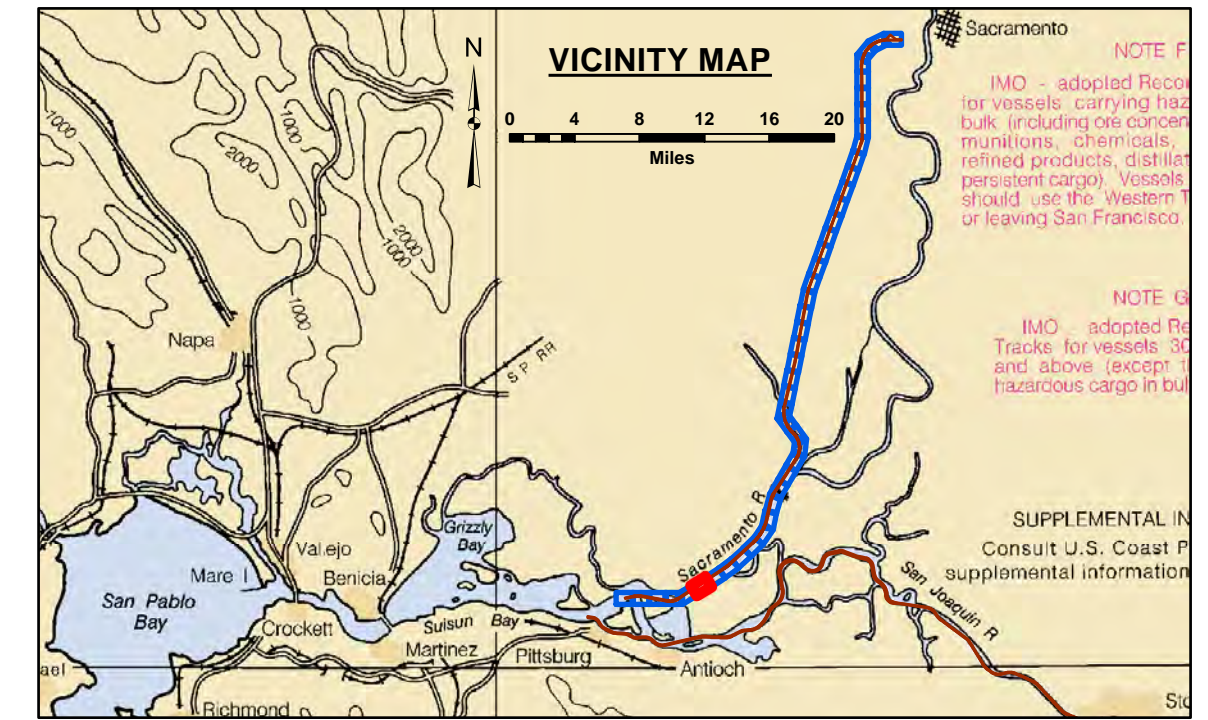


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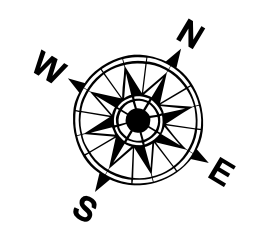
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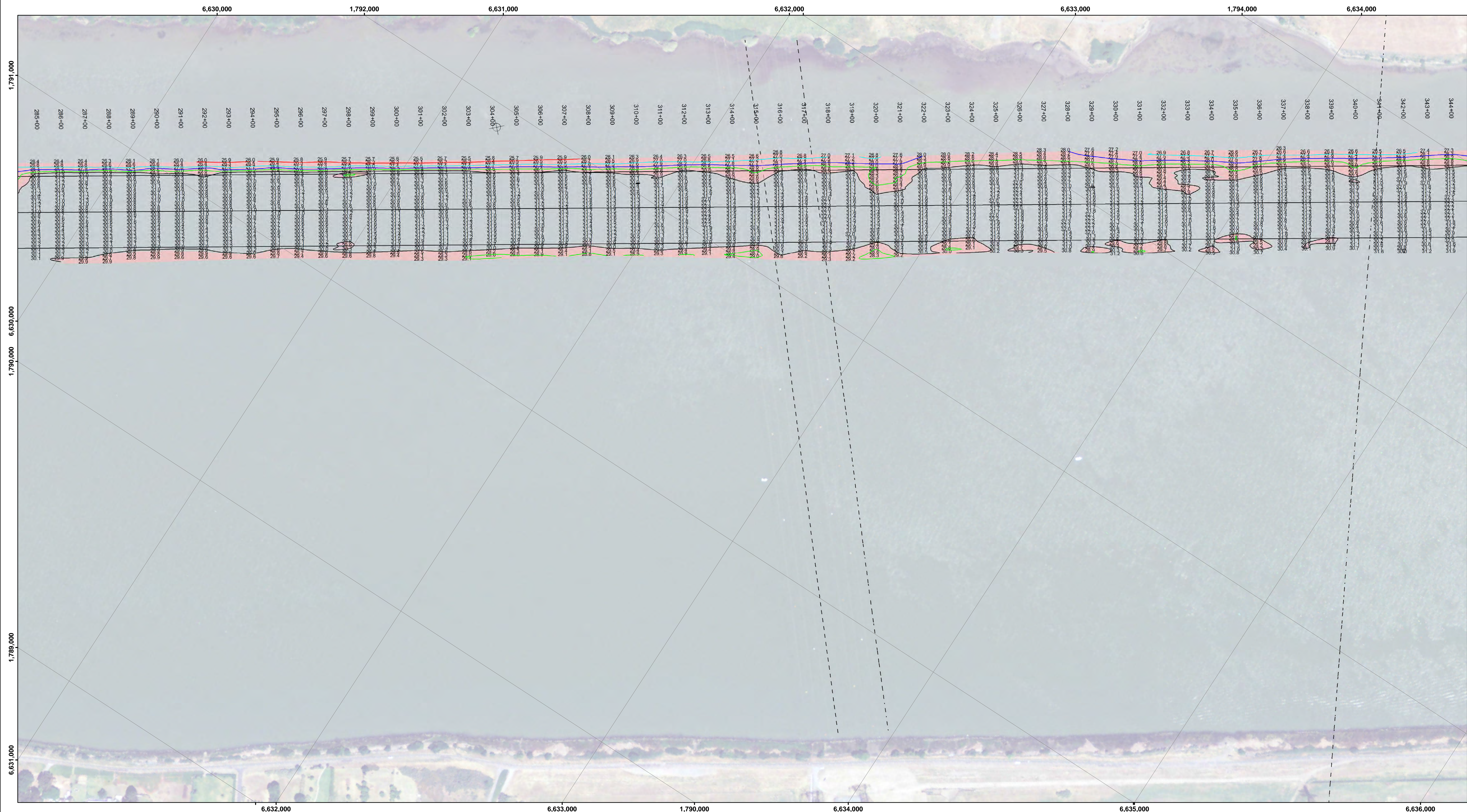


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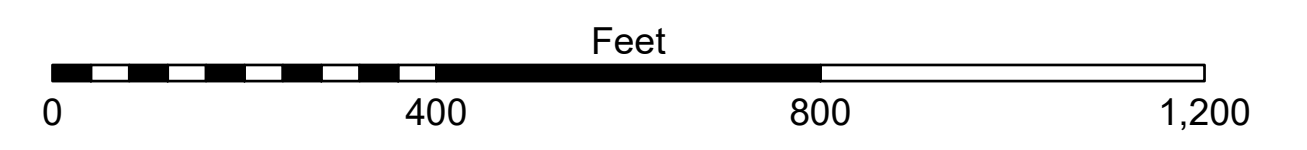
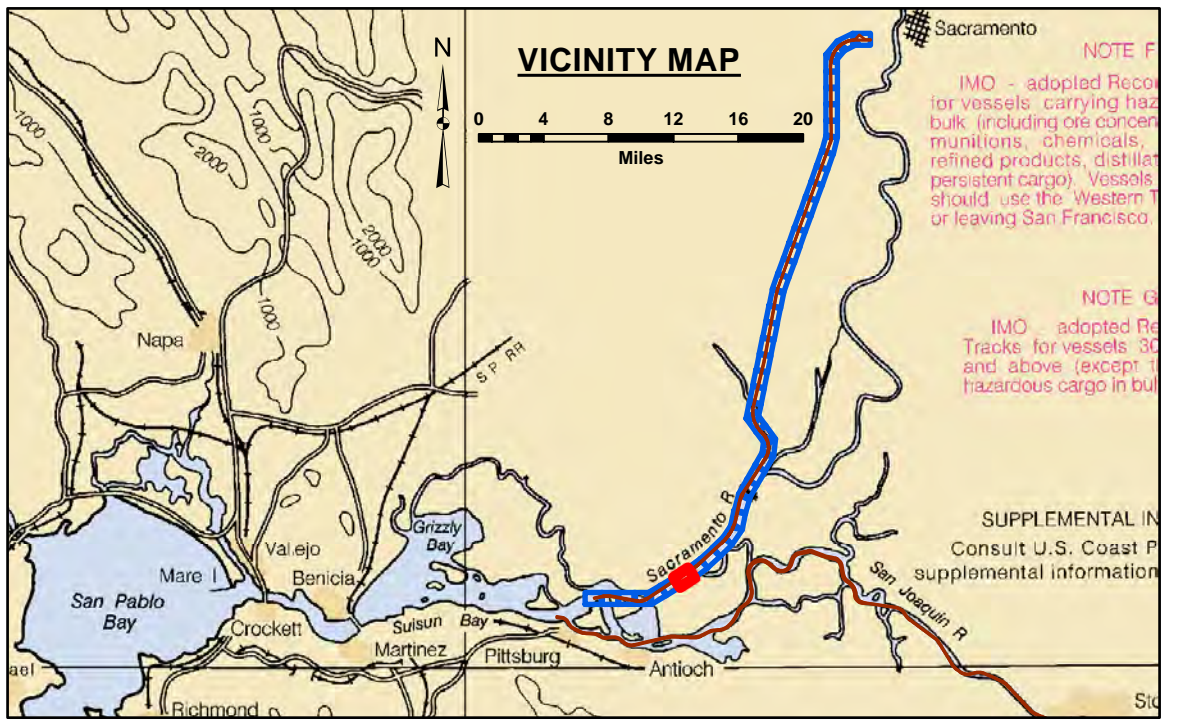
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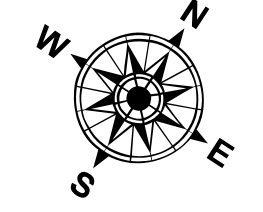
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Recommended:	Chief, Hydro Survey Section
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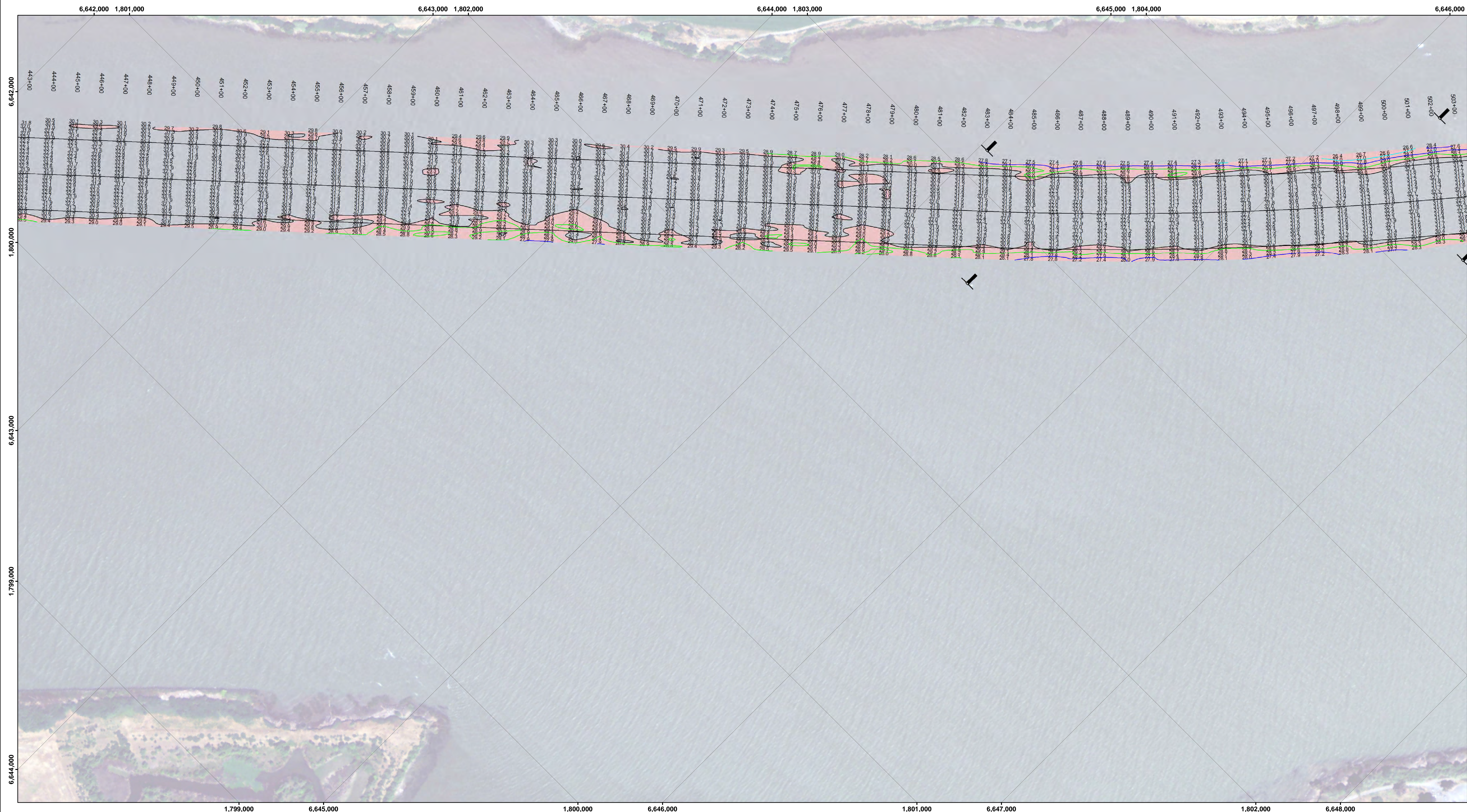
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 METADATA: NAIL SET BY USACE 8 APRIL, 2014  
 ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.



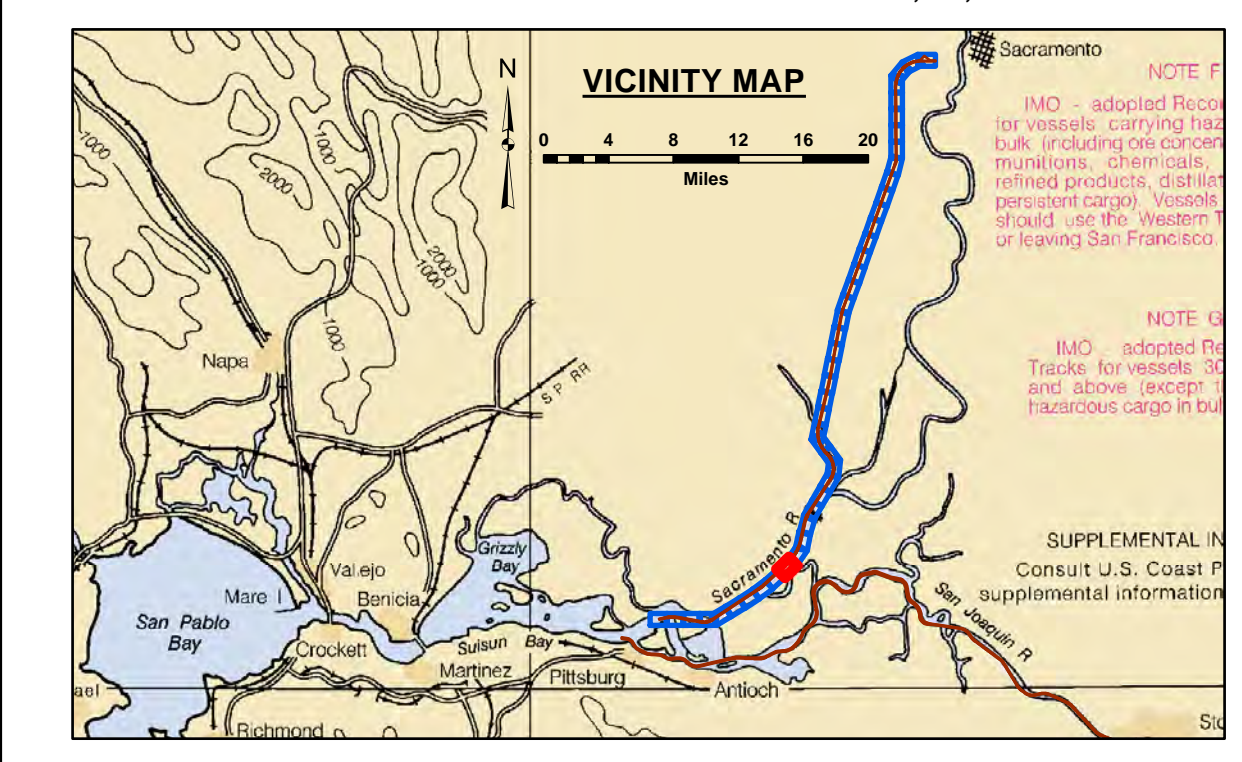






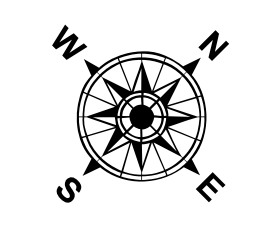
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch



Feet  
0 400 800 1,200

--- 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



**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

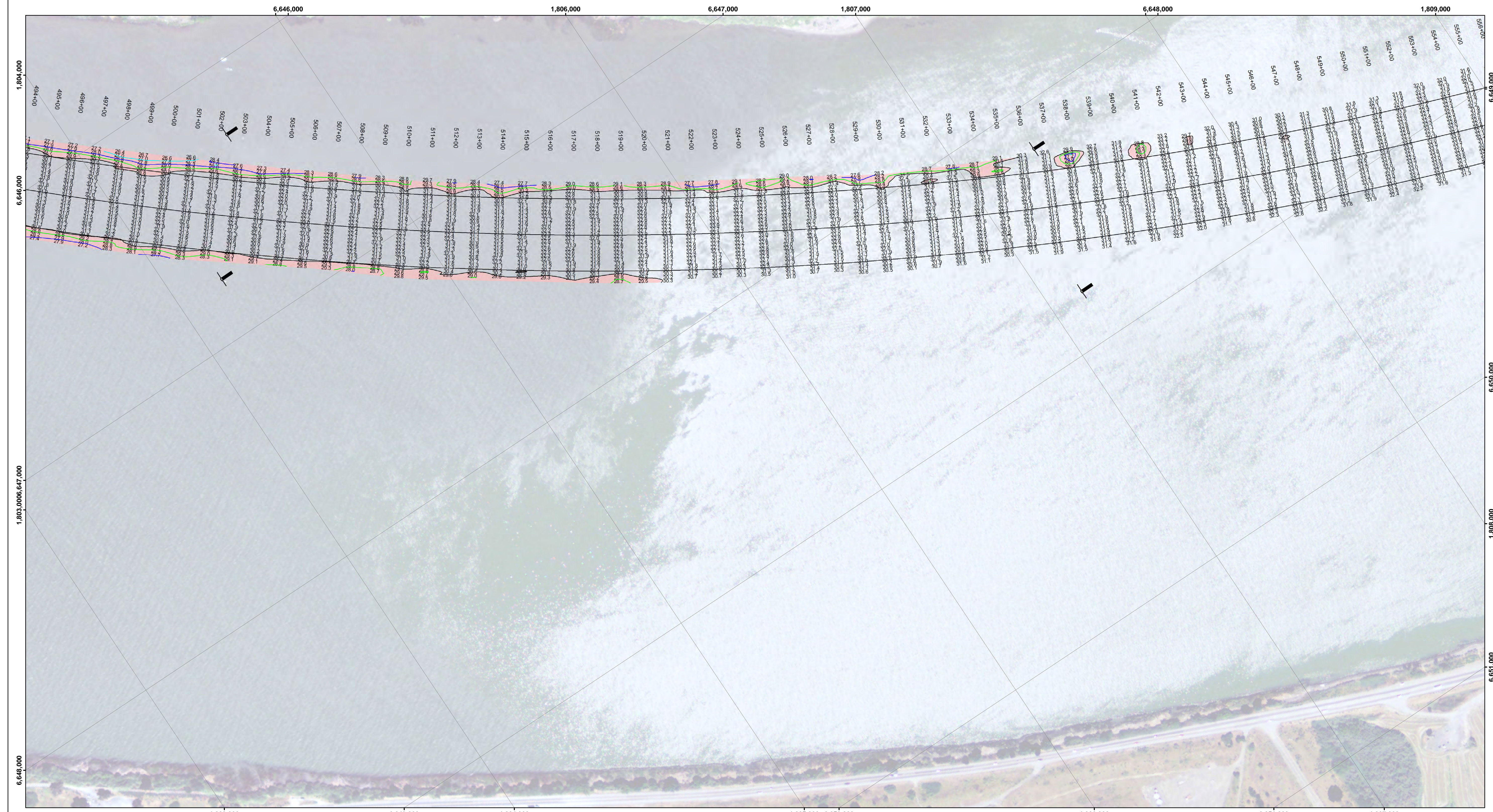
**CONTROLS:**  
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 NOAA STATION: 9415316  
 BENCHMARK: 5316 B 1996 (NO PID)  
 TIDE GAUGE: NAIL @ 8.2 FT MLLW  
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

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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CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

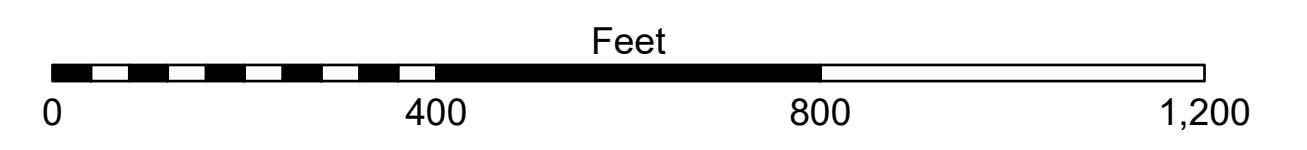
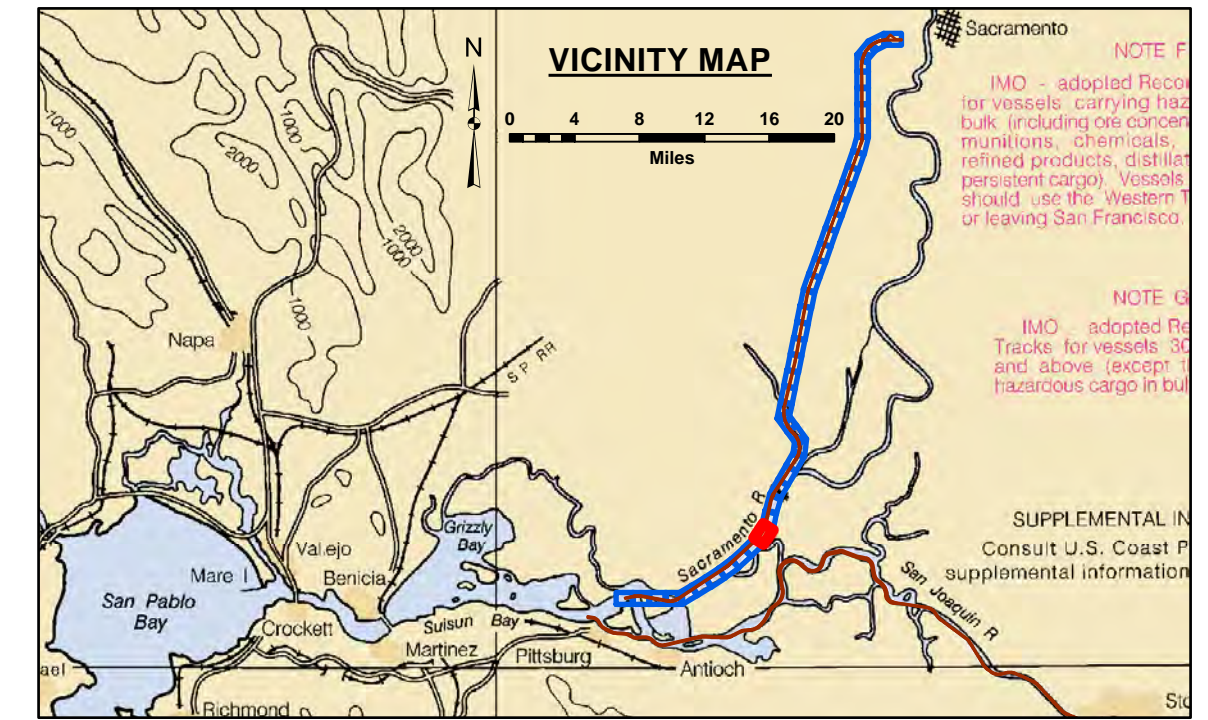
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 Reference  
 Number  
**10 of 45**



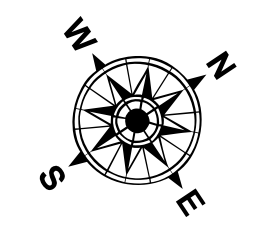
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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT Colonel, C.E., District Engineer	Chart Date: Jan 29, 2019
Stationed: Hydro Survey Team Leader	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



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

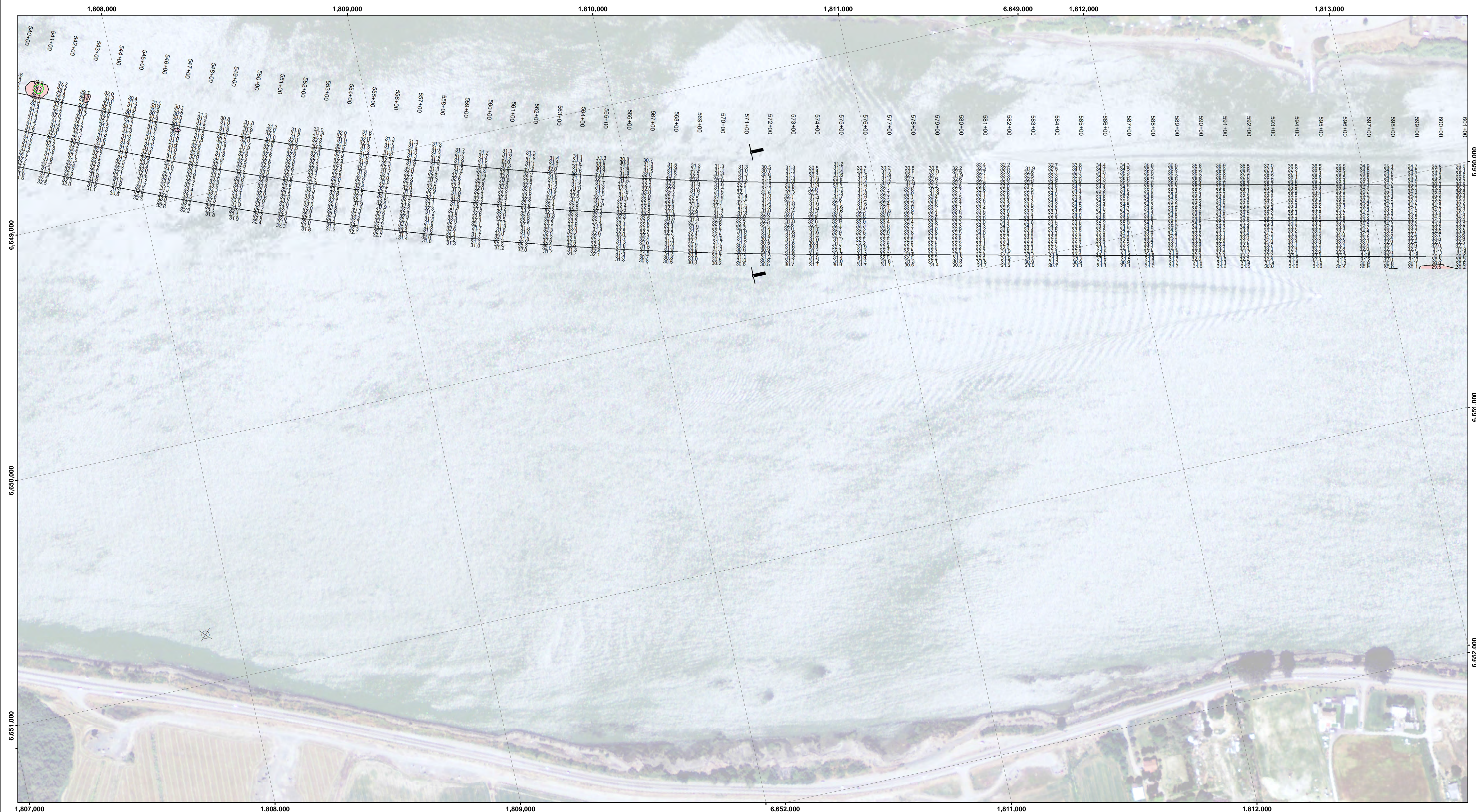


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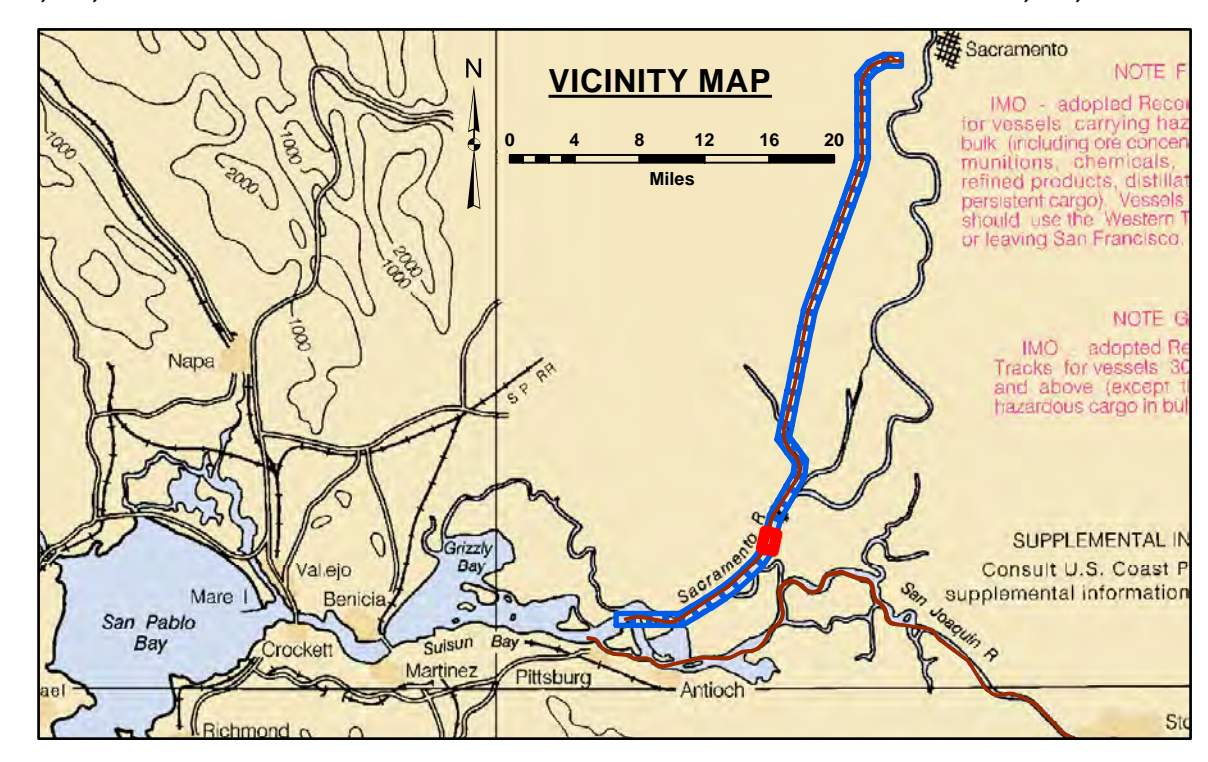
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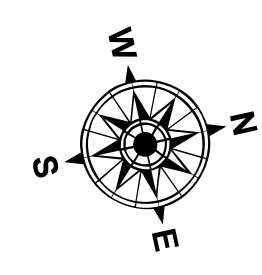
Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jan 29, 2019
Supervised By: Hydro Survey Team Leader	Designed By: PDT
Plotted By: PDT	Drawn By: PDT
Recommended: Chief, Hydro Survey Section	Checked By: PDT
Approved: Chief, Construction Branch	



0 400 800 1,200 Feet

**LEGEND**

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	▭ Anchorage Area	⊥ Beacon, General
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CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

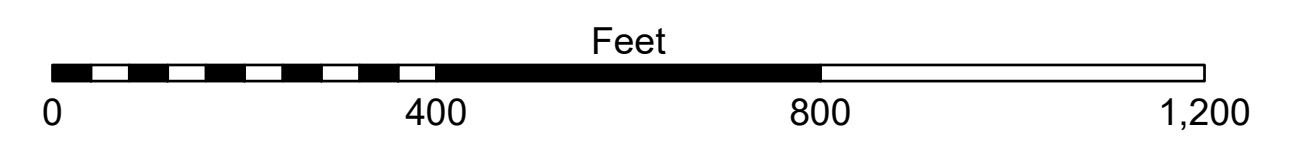
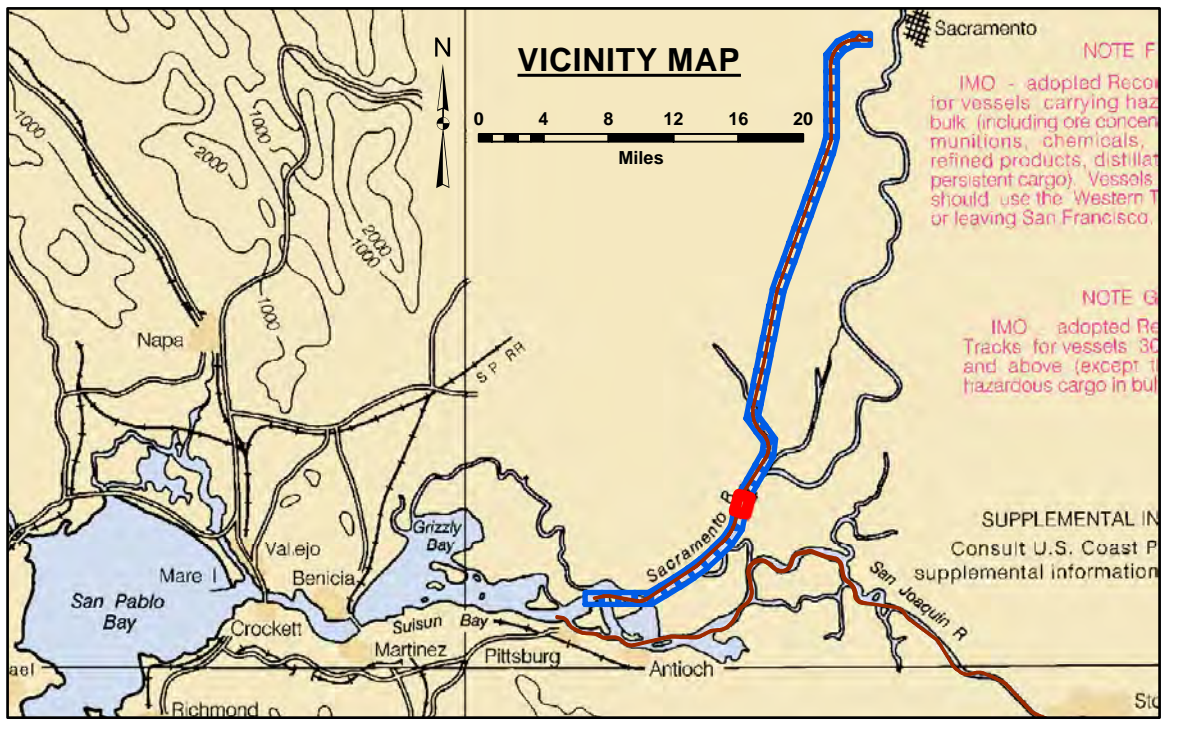
Sheet Reference Number  
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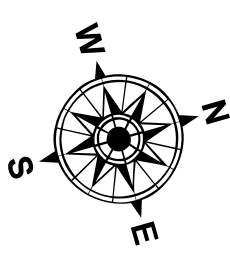
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



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

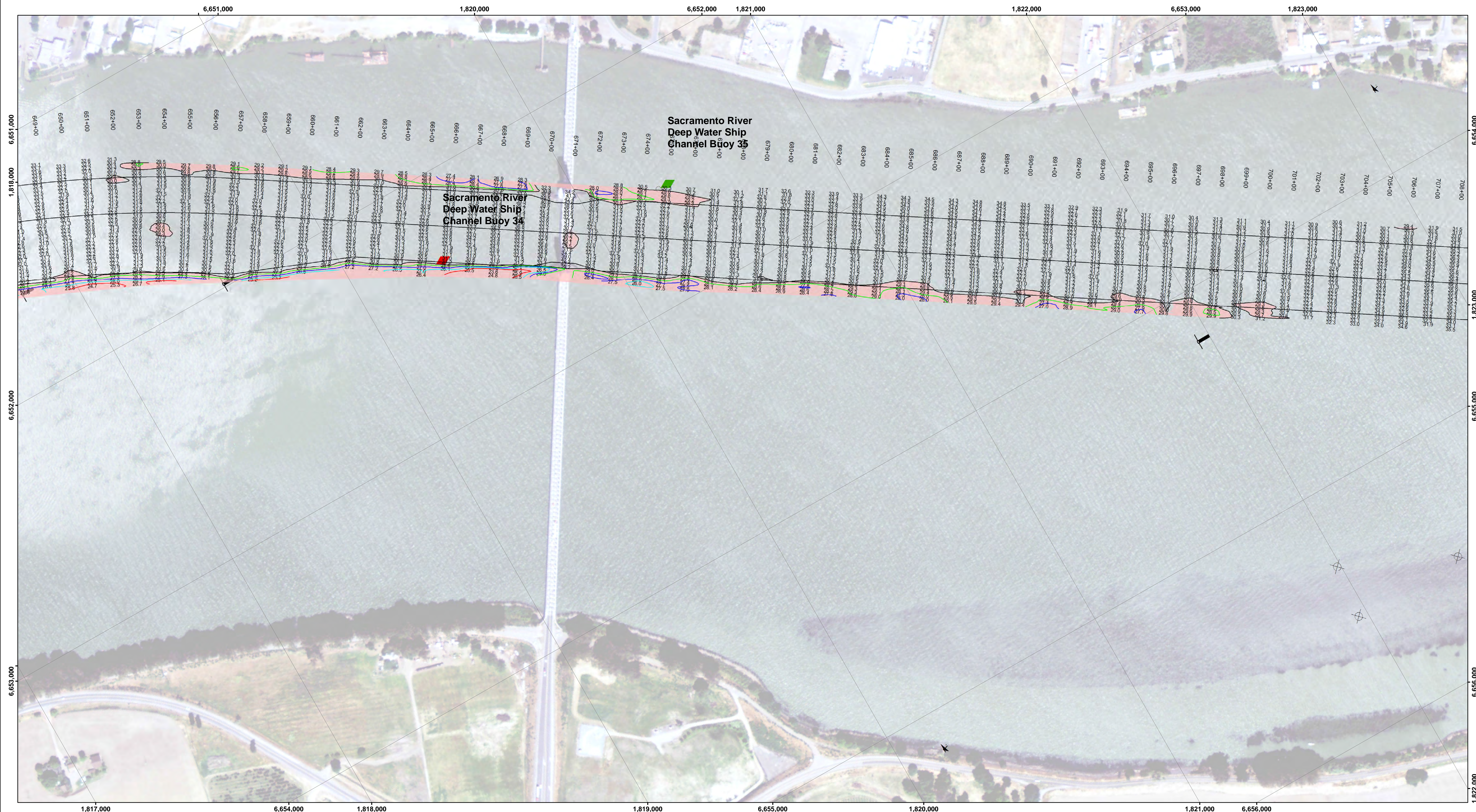


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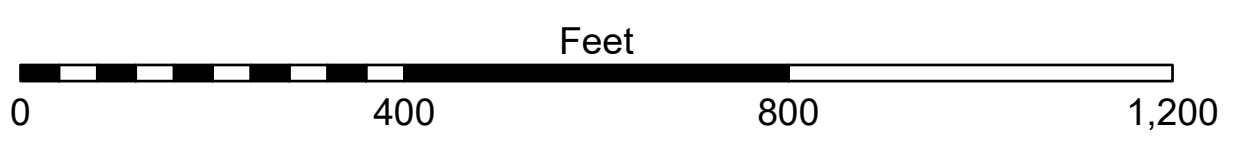
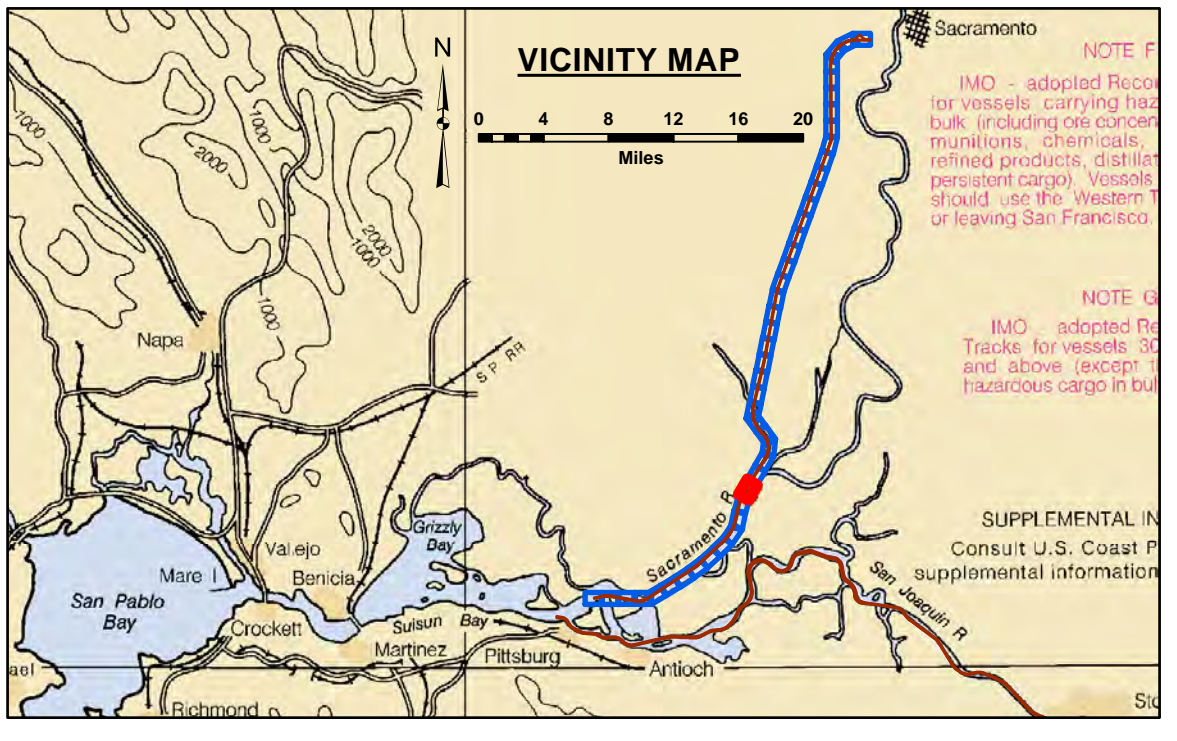
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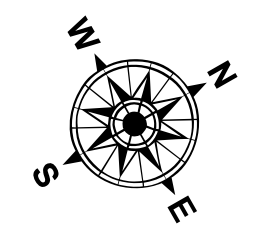
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Chart Date:	Jan 29, 2019
Designed by:	
Drawn by:	PDT
Surveyed By:	
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
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..... Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General
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 LOCATION: PORT OF WEST SACRAMENTO  
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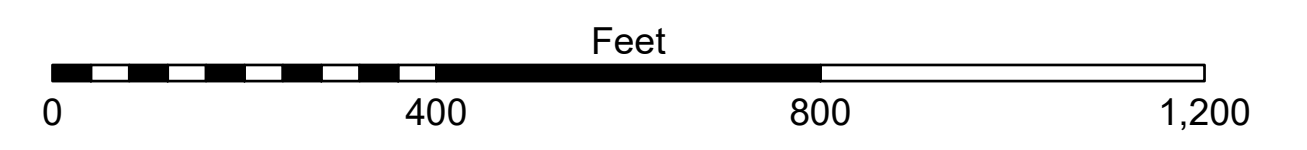
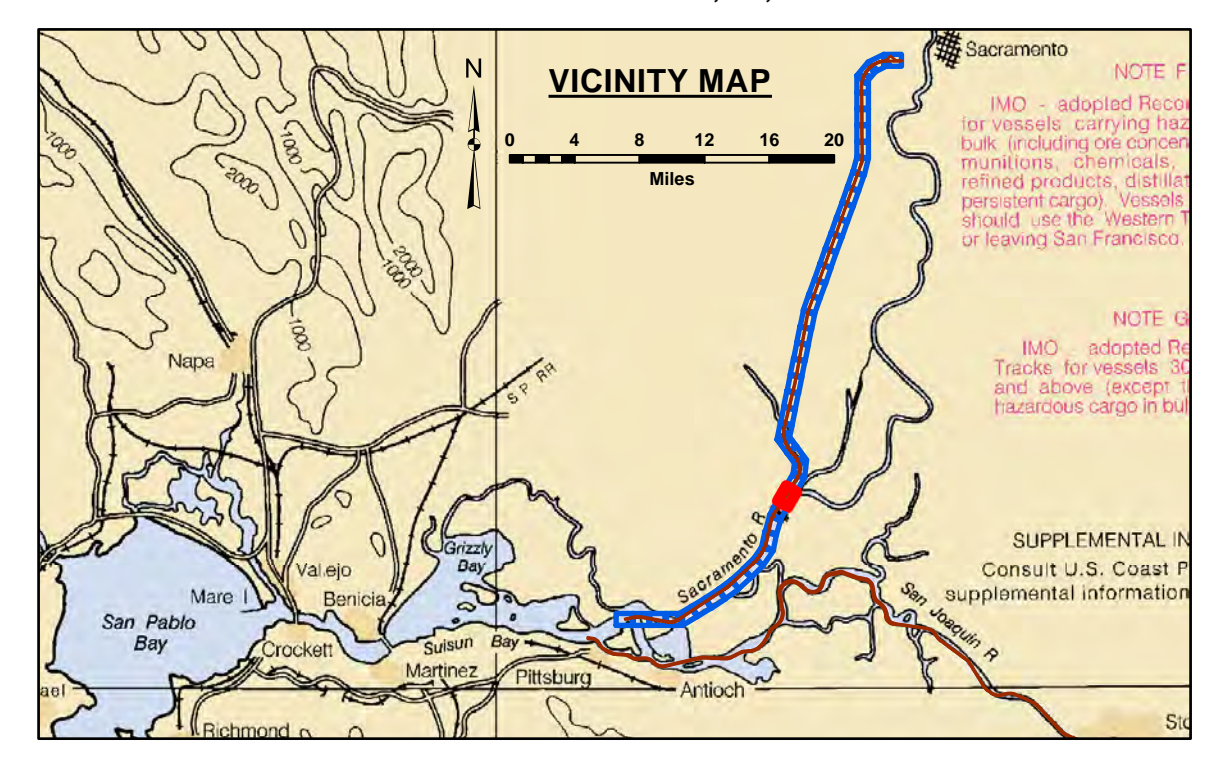
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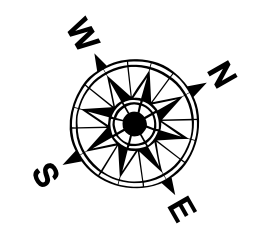
Chart Date:	Jan 29, 2019
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER TRAVIS J. RAYFIELD
Plotted By:	PDT
Checked By:	PDT
Designed by:	
Drawn by:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**15 of 45**



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	▭ Placement Area	● Shoalest Sounding**
..... Cable Submarine	- - - Anchorage Area	⊥ Beacon, General
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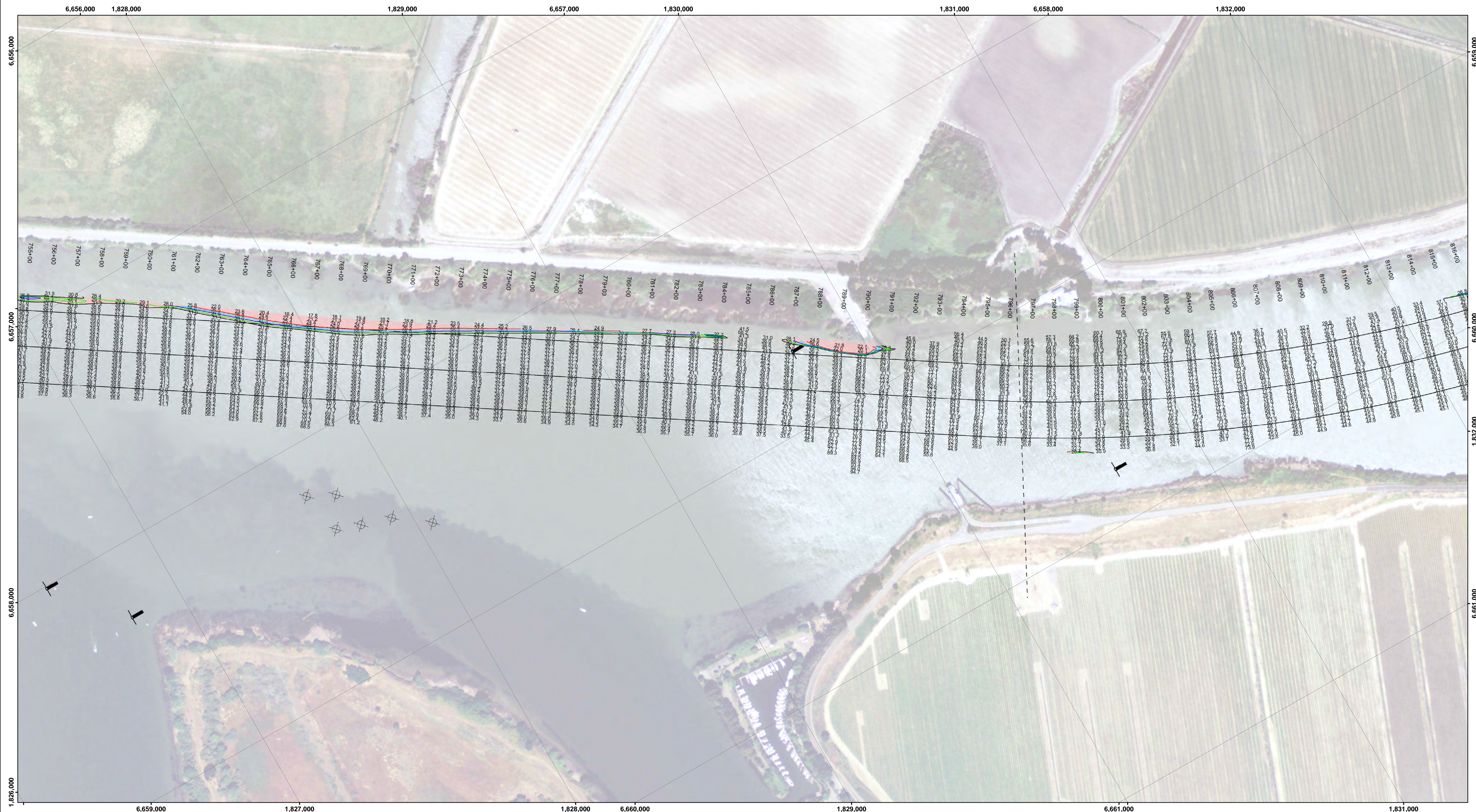


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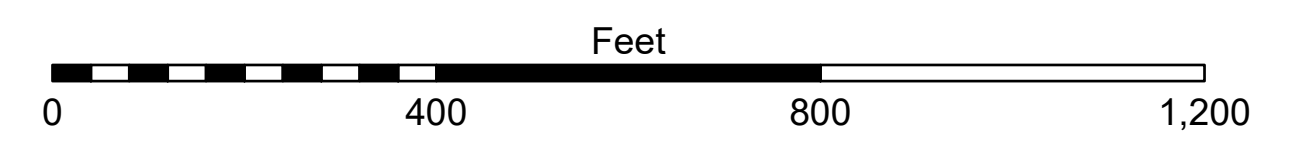
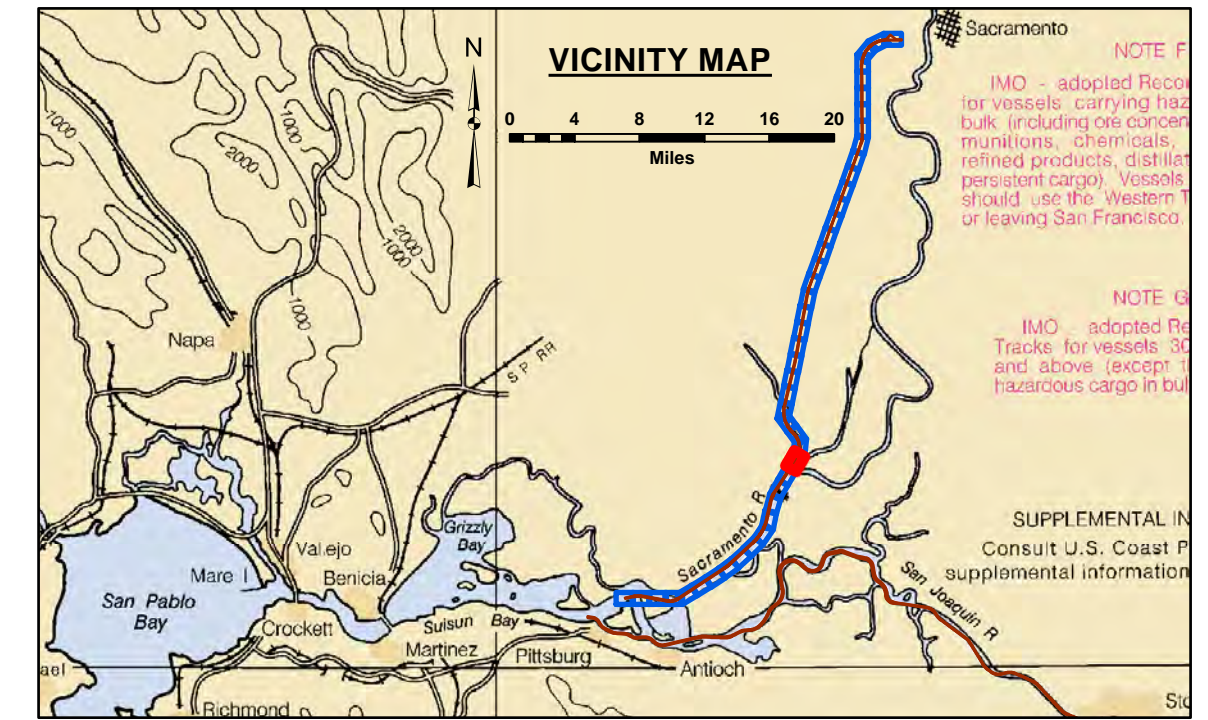
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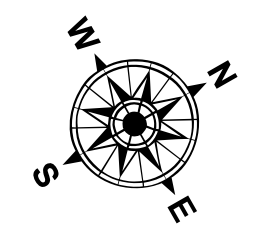
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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT Colonel, C.E., District Engineer	Chart Date: Jan 29, 2019
Supervised by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Checked by: PDT
Approved by: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



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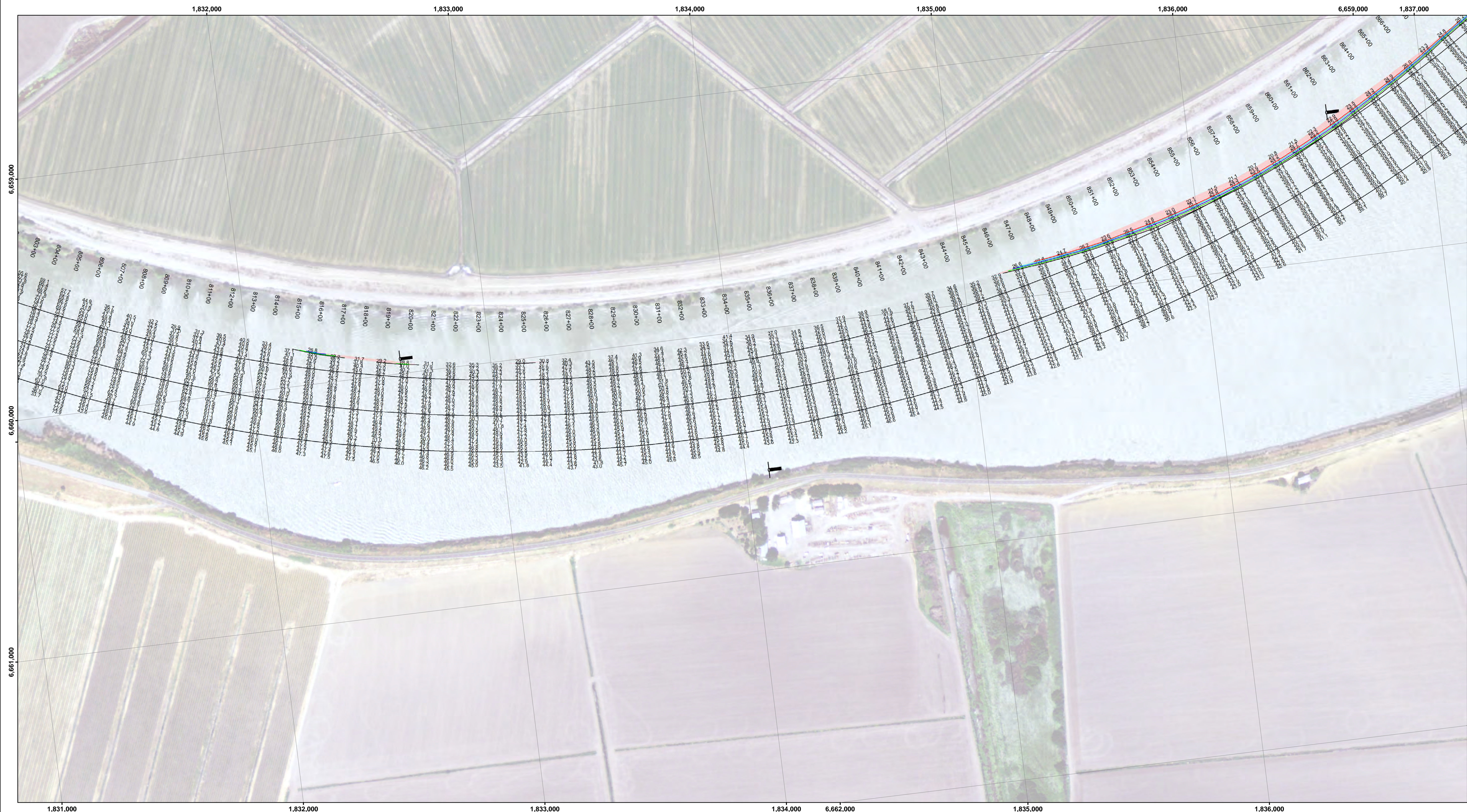
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LOCATION: PORT OF WEST SACRAMENTO  
 NOAA STATION: 9416131  
 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

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

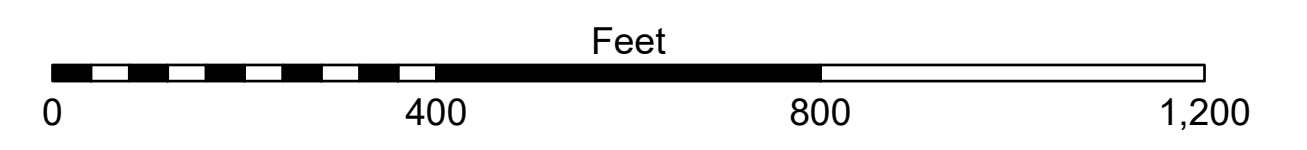
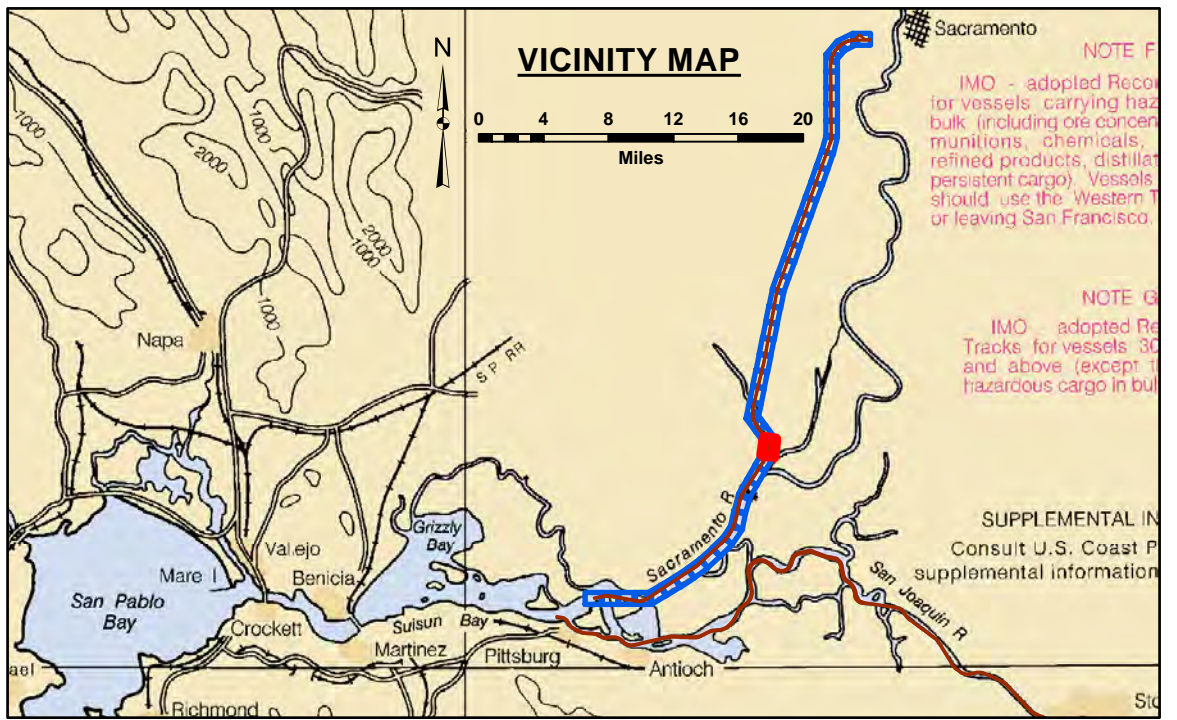




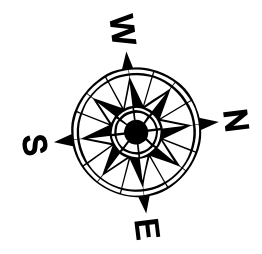
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed By:	
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

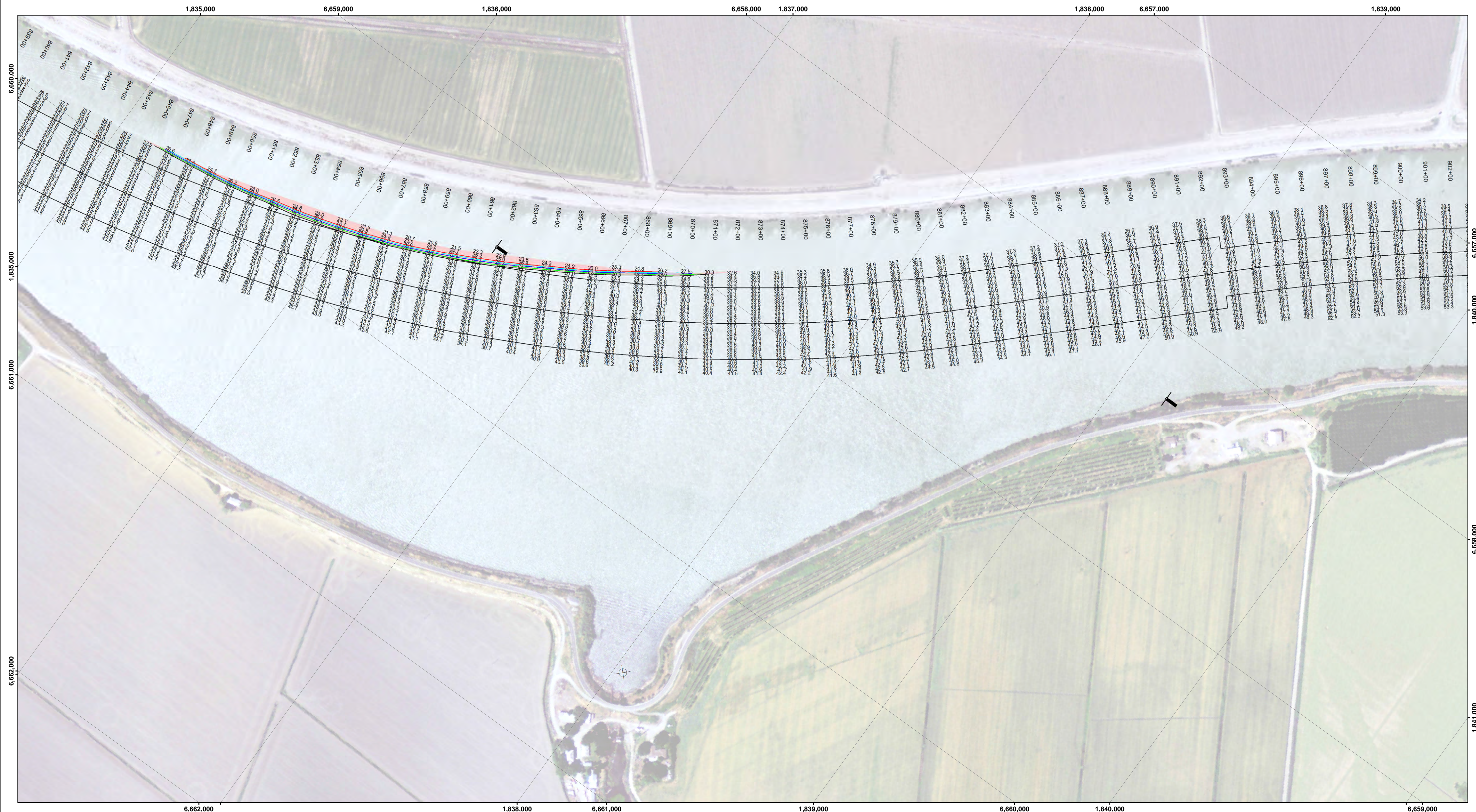


LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy
— Contour Line	✦ Wrecks-Submerged	◇ Green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



**NOTES:**  
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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

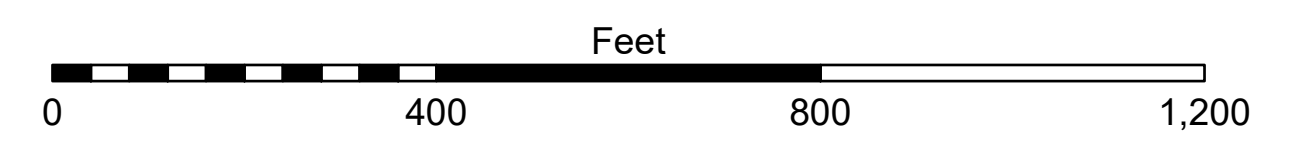
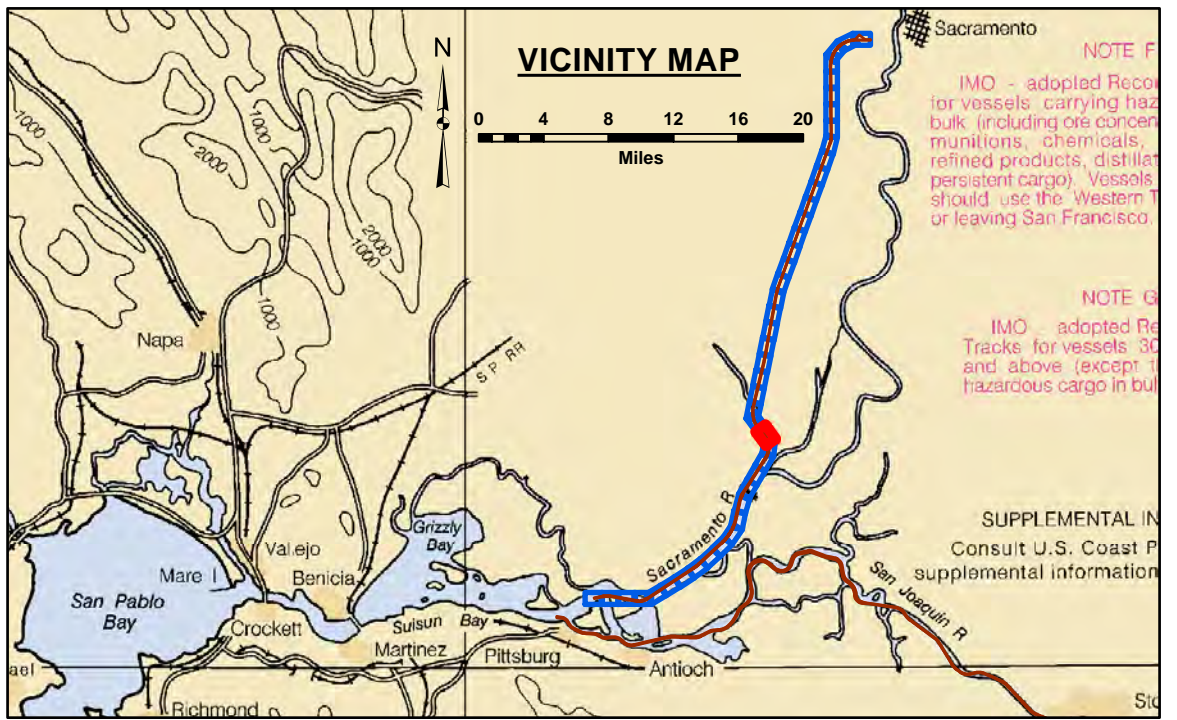
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 NOOA STATION: 9415316  
 BENCHMARK: 5316 B 1996 (NO PID)  
 TIDE GAUGE: NAIL @ 8.2 FT MLLW  
 METADATA: NAIL SET BY USACE 31 MARCH, 2014  
 LOCATION: PORT OF WEST SACRAMENTO  
 NOOA STATION: 9416131  
 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
 METADATA: NAIL SET BY USACE 8 APRIL, 2014  
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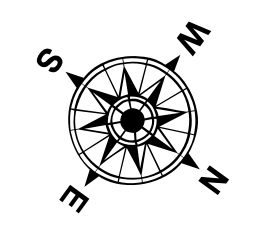
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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT Colonel, C.E., District Engineer	Chart Date: Jan 29, 2019
Survised By: Hydro Survey Team Leader	Designed By: PDT
Plotted By: PDT	Drawn By: PDT
Checked By: PDT	
Approved: Chief, Construction Branch	

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



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

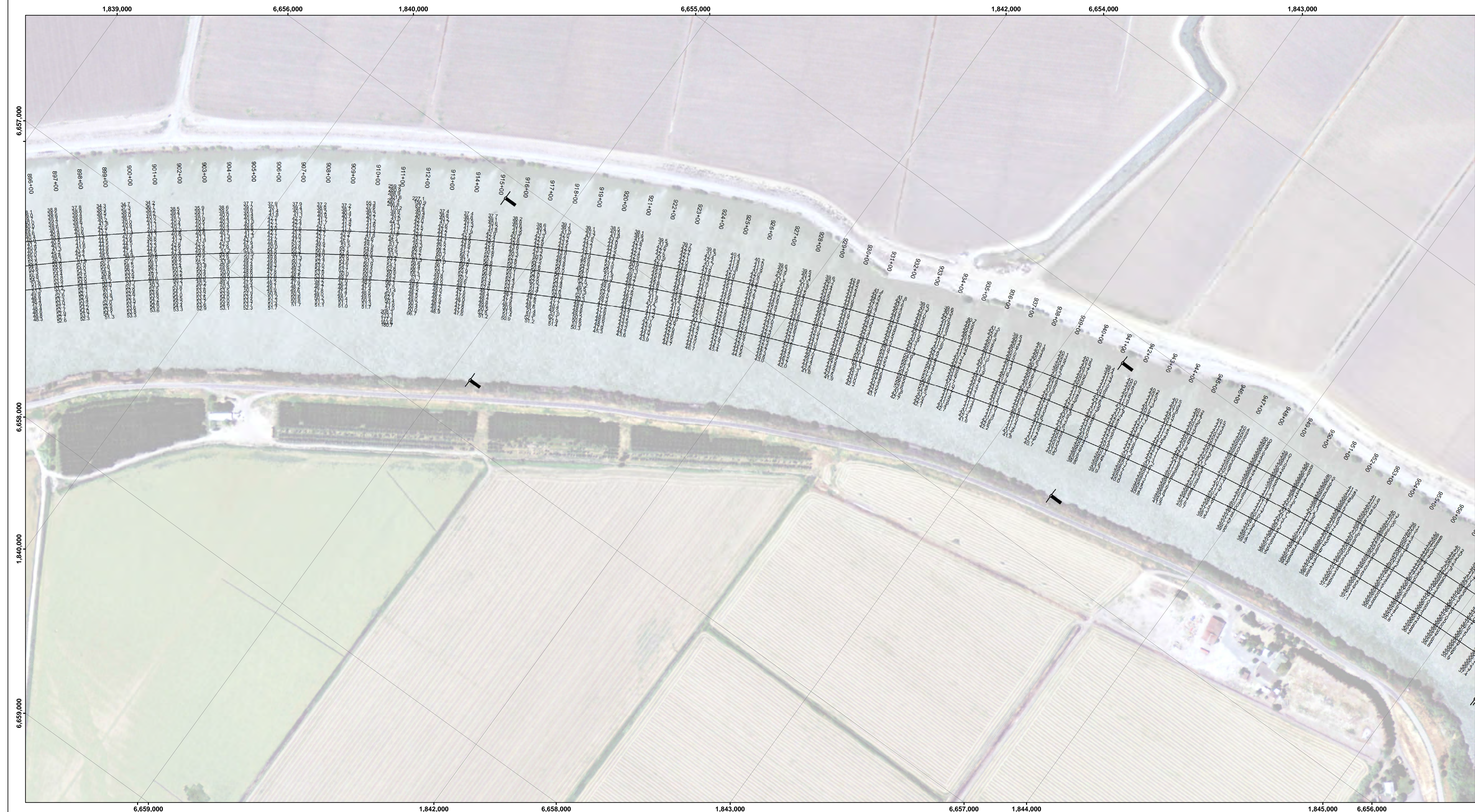


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 VERTICAL DATUM: MLLW  
 THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

**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

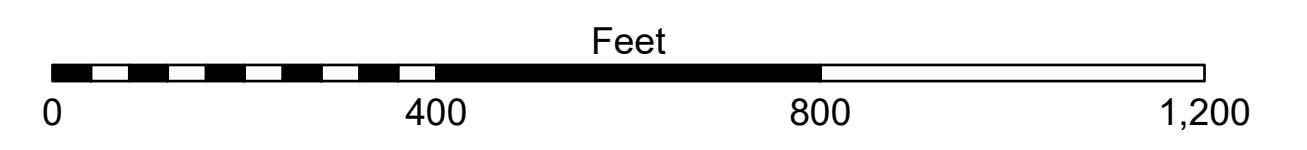
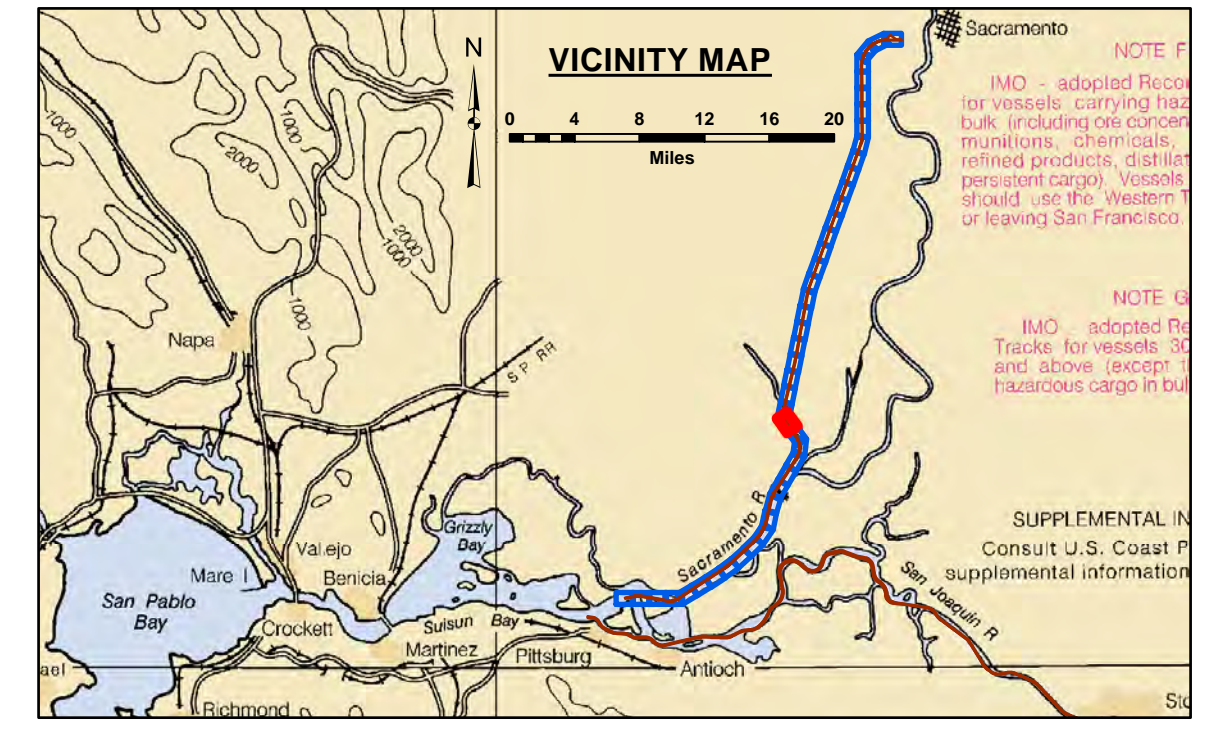
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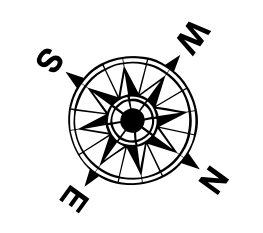
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	Chief, Hydro Survey Section
Checked By:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General
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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  
 NOOA STATION: 9415316  
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 TIDE GAUGE: NAIL @ 8.2 FT MLLW  
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LOCATION: PORT OF WEST SACRAMENTO  
 NOOA STATION: 9416131  
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 METADATA: NAIL SET BY USACE 8 APRIL, 2014

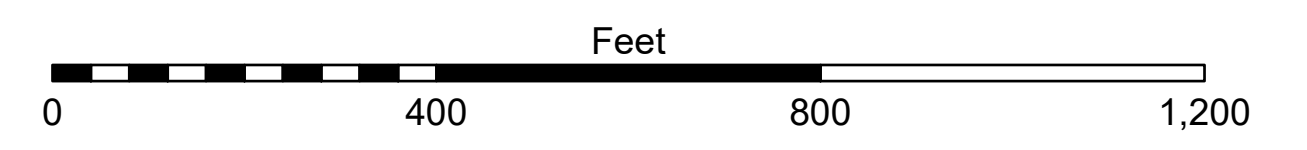
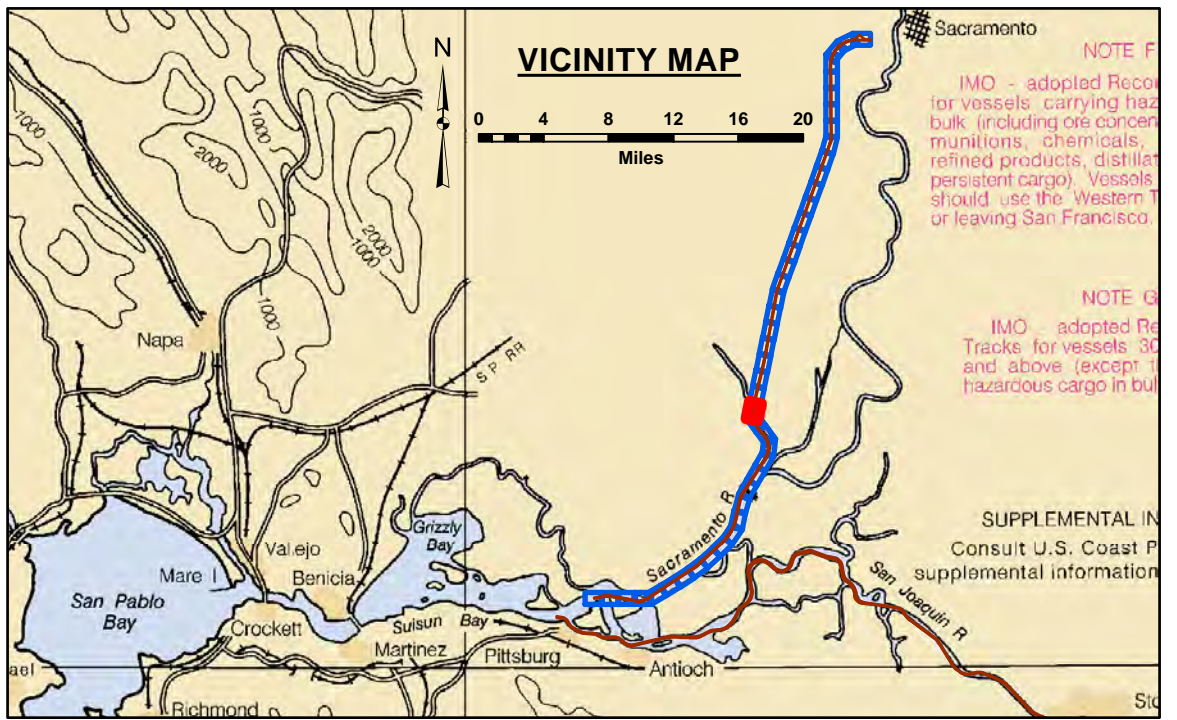
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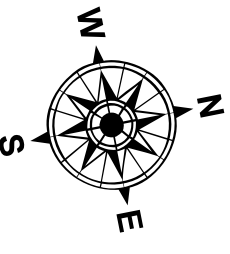
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

**SAN JOAQUIN COUNTY**  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



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

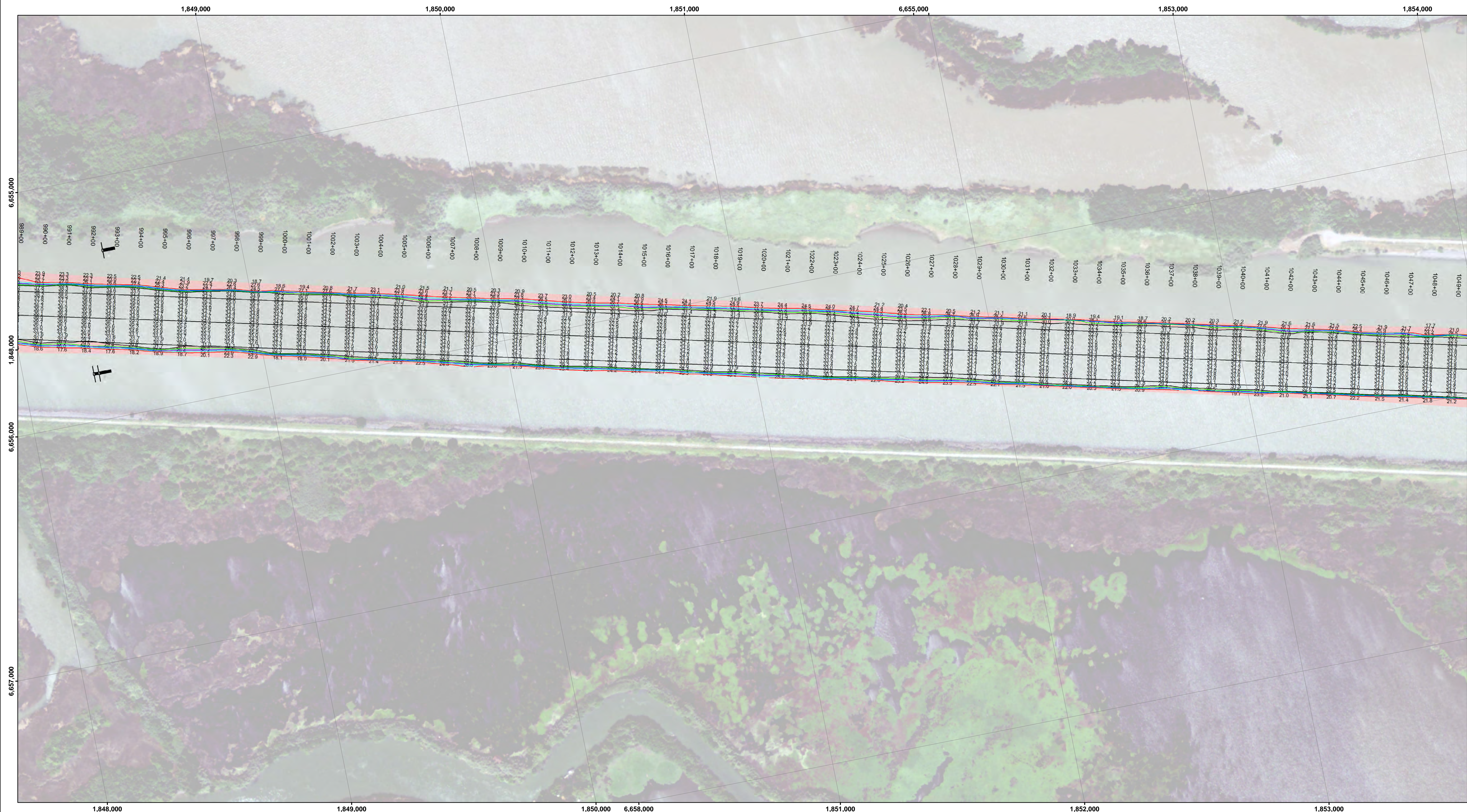


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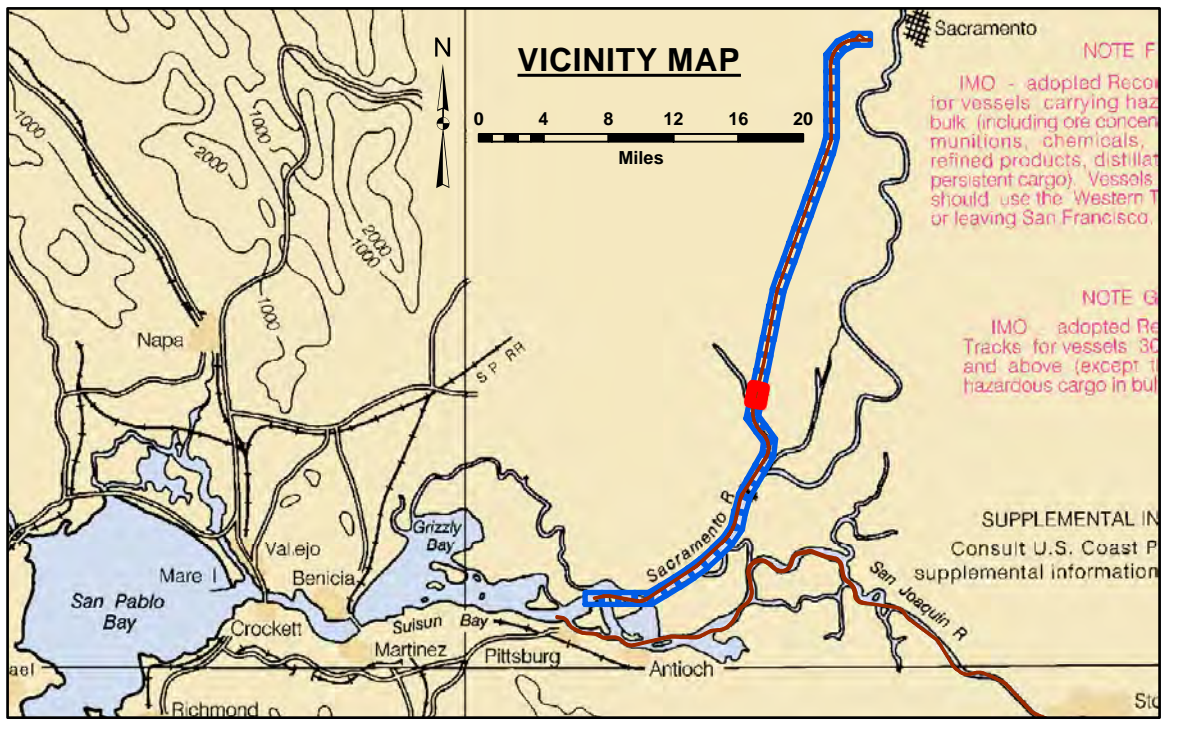
LOCATION: PORT OF WEST SACRAMENTO  
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 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
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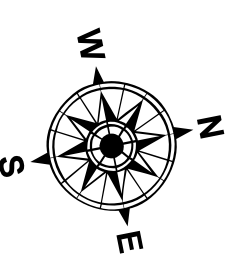
Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT Colonel, C.E., District Engineer	Chart Date: Jan 29, 2019
Supervised by: Hydro Survey Team Leader	Designed by: PDT
Plotted by: PDT	Checked by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	



0 400 800 1,200 Feet

**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



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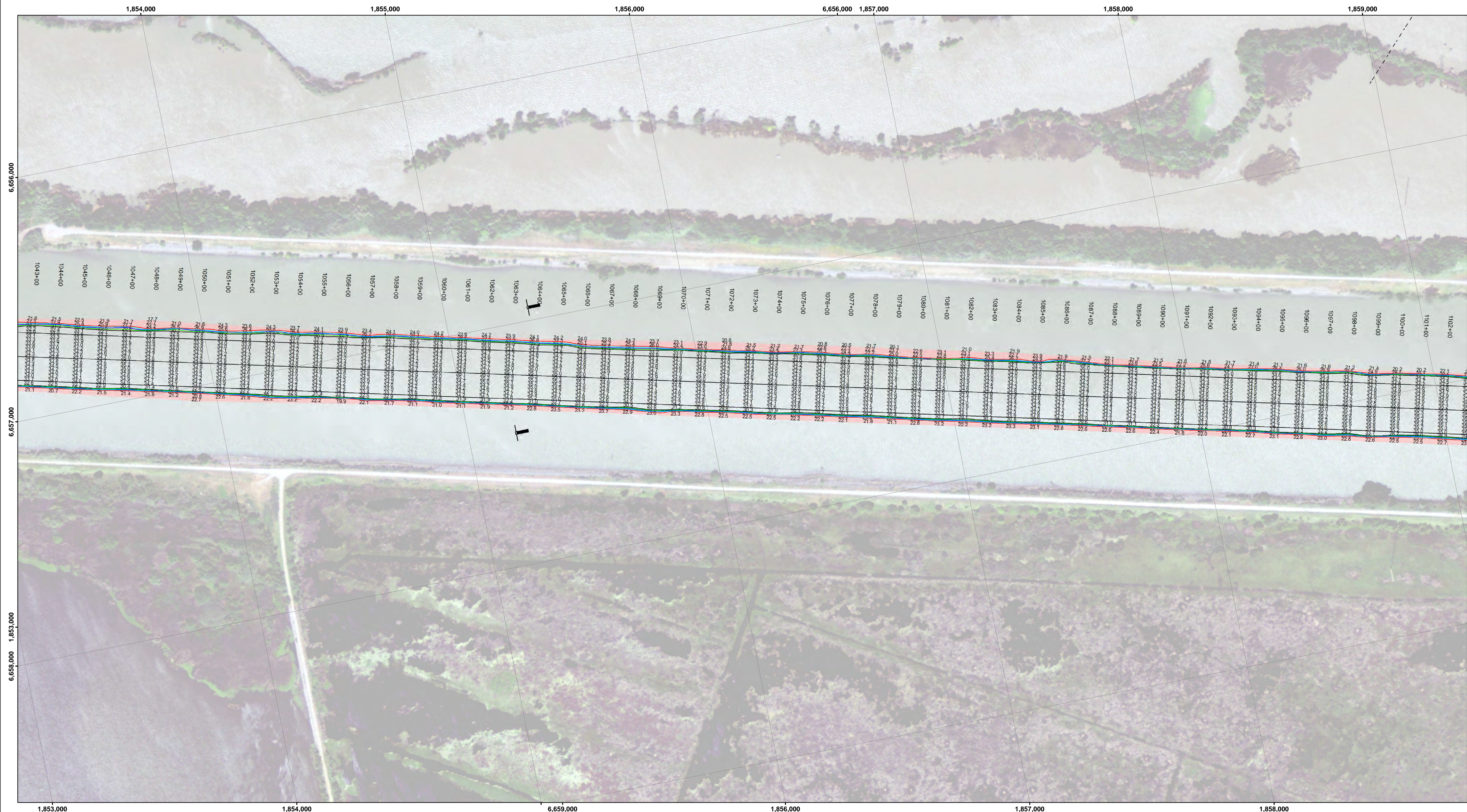
**CONTROLS:**  
 LOCATION: RIO VISTA  
 NOAA STATION: 9415316  
 BENCHMARK: 5316 B 1996 (NO PID)  
 TIDE GAUGE: NAIL @ 8.2 FT MLLW  
 METADATA: NAIL SET BY USACE 31 MARCH, 2014

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

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

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

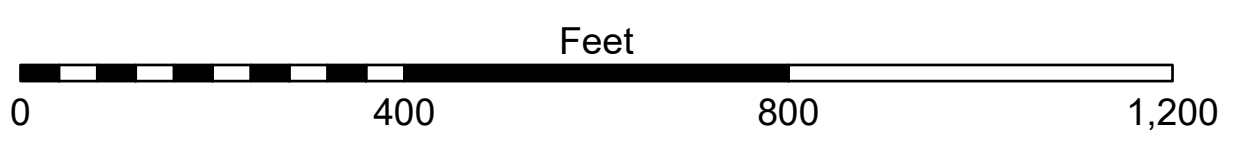
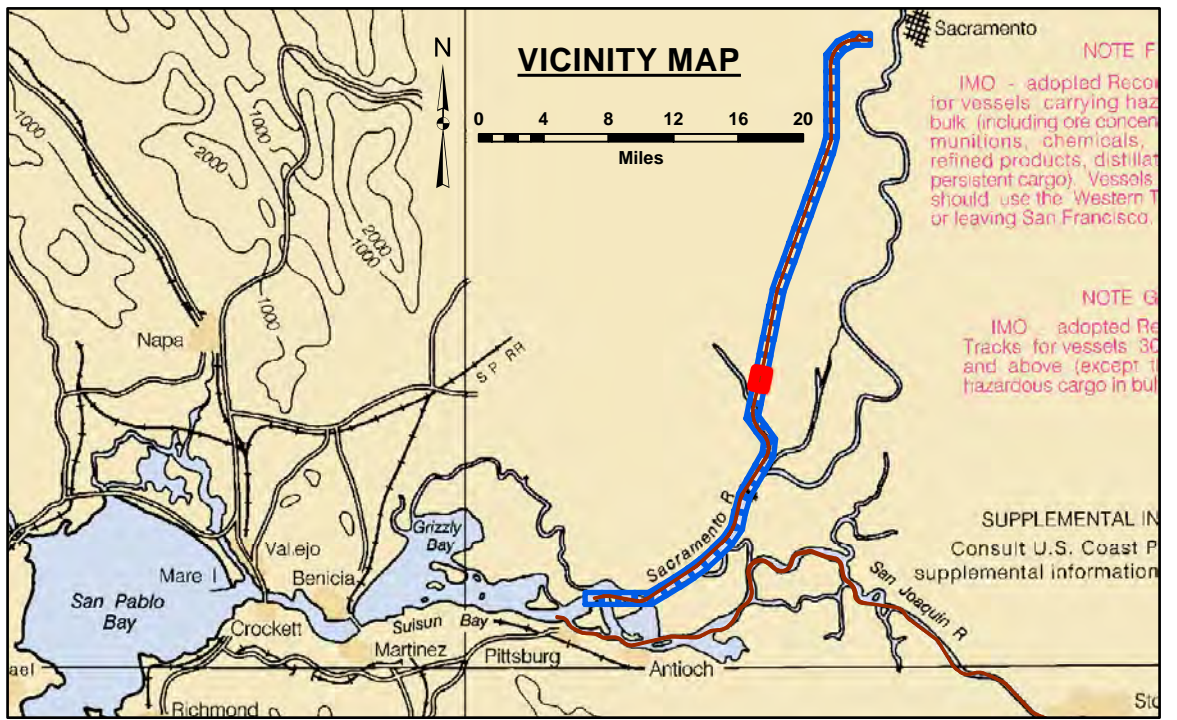
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**21 of 45**



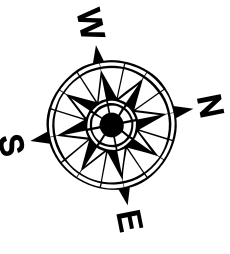
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Chart Date:	Jan 29, 2019
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
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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

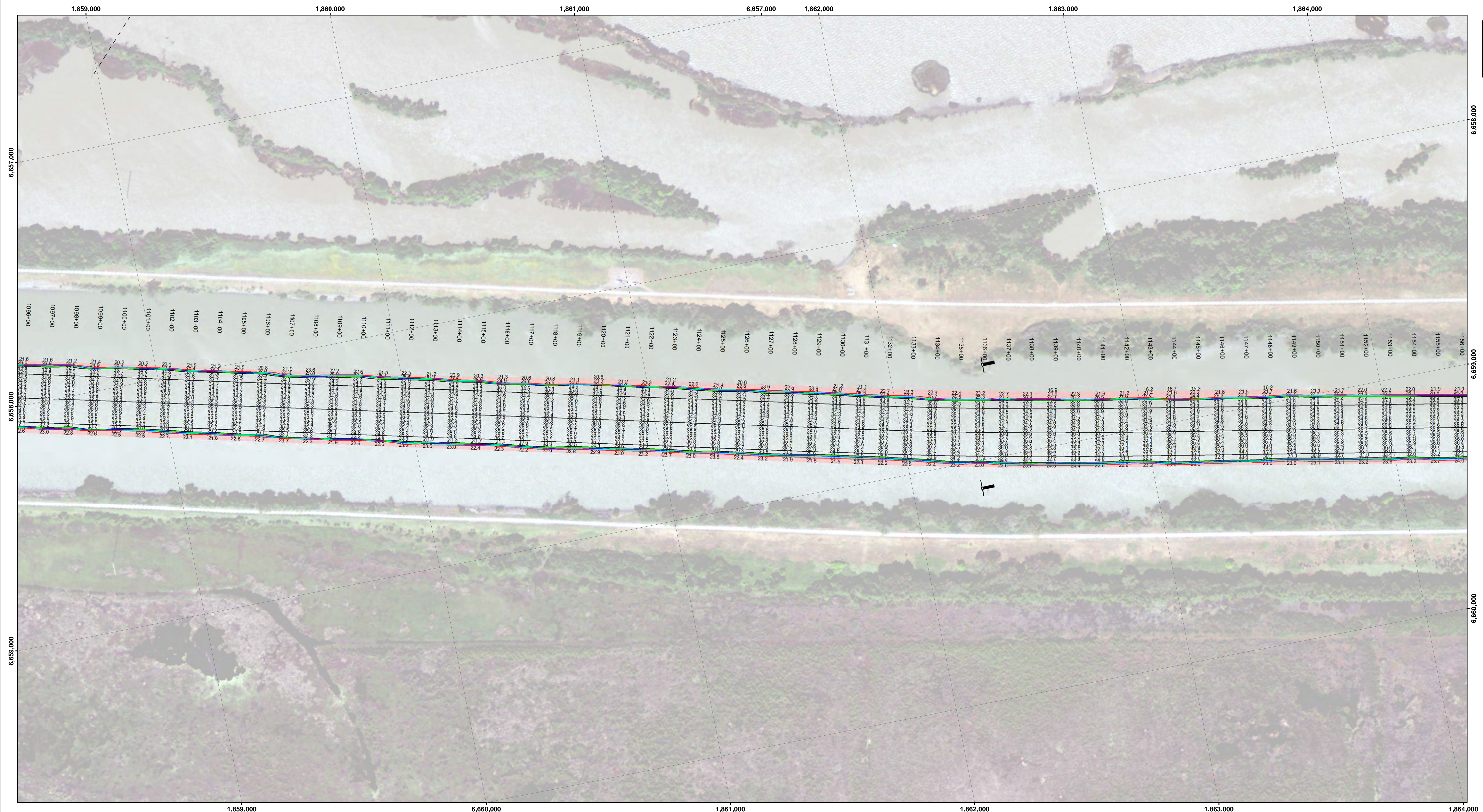
**LOCATION: PORT OF WEST SACRAMENTO**  
NOAA STATION: 9416131  
BENCHMARK: POWS1 (NO PID)  
TIDE GAUGE: NAIL @ 10.0 FT MLLW  
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PROJECT DEPTH: -30'  
VERTICAL DATUM: MLLW  
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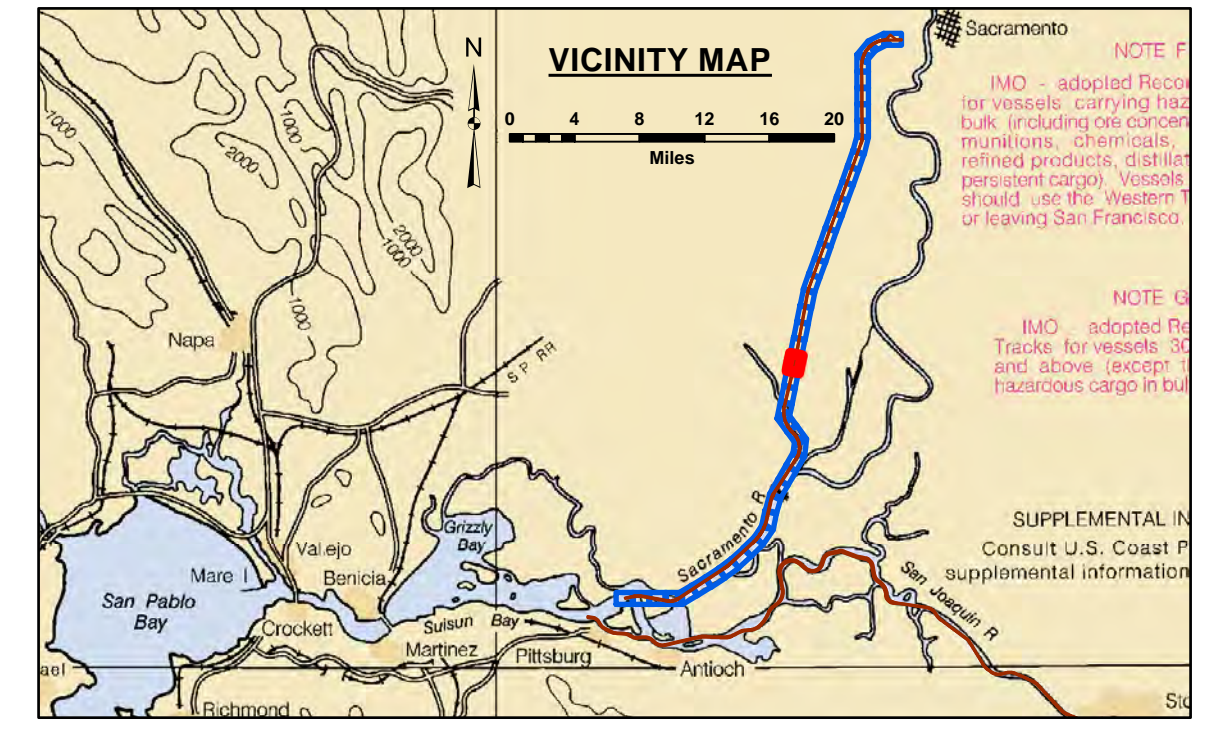
CALIFORNIA  
SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
CONDITION SURVEY  
16-21 JANUARY 2019

Sheet Reference Number  
**22 of 45**



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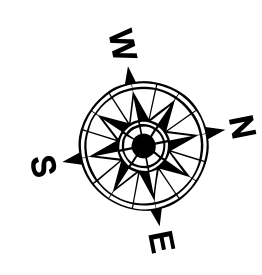
Chart Date:	Jan 29, 2019
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT



0 400 800 1,200 Feet

**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
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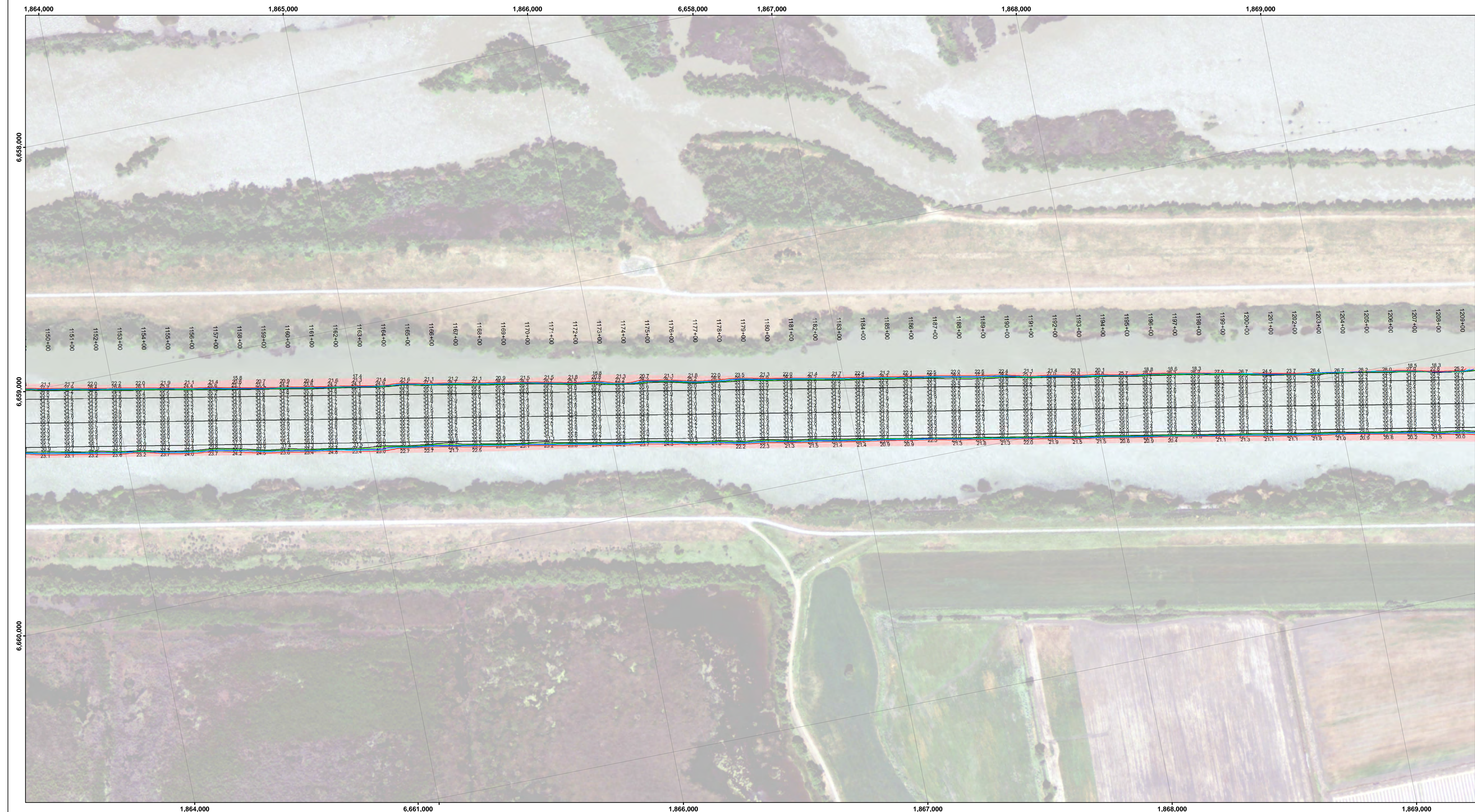
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 LOCATION: RIO VISTA  
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LOCATION: PORT OF WEST SACRAMENTO  
 NOAA STATION: 9416131  
 BENCHMARK: POWS1 (NO PID)  
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CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**23 of 45**



**US Army Corps of Engineers District: CESP**

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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

**SAN JOAQUIN COUNTY**

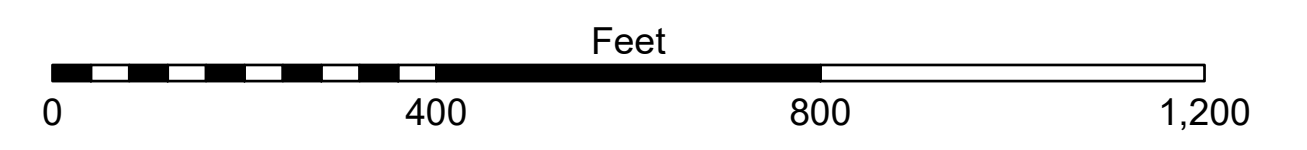
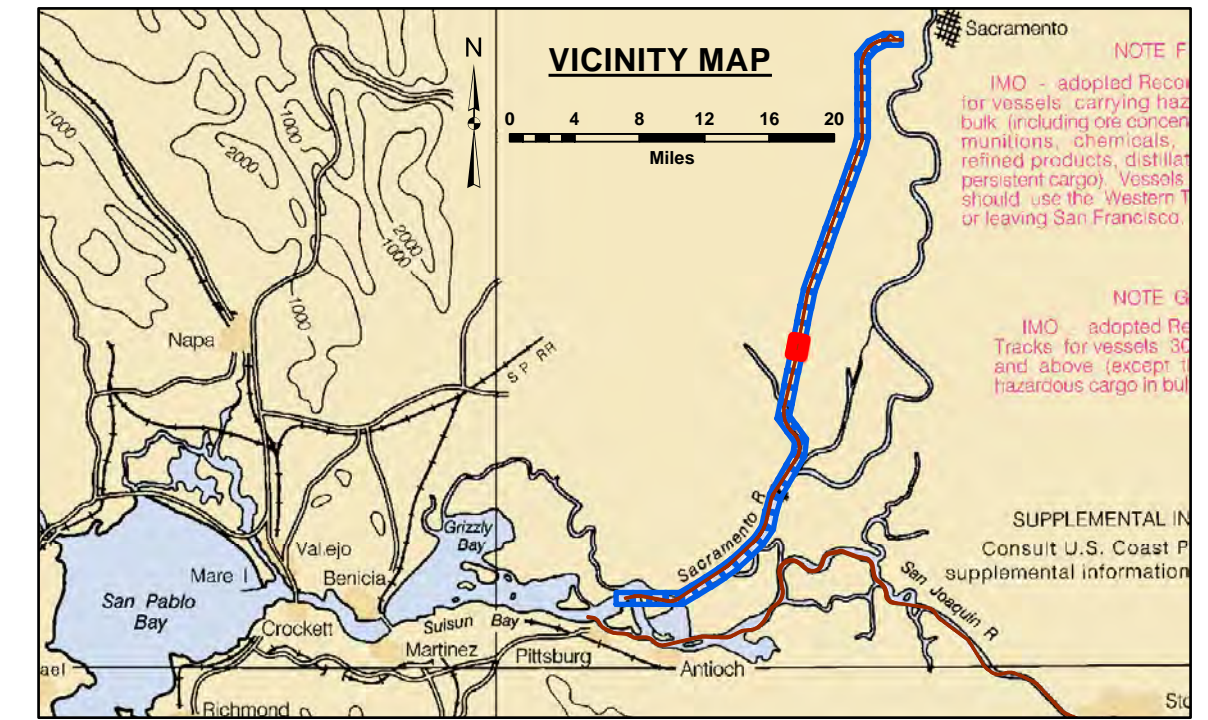
**SACRAMENTO RIVER**

**CONDITION SURVEY**

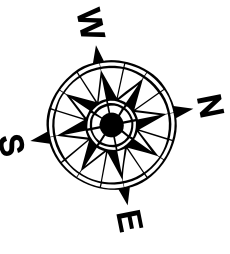
**16-21 JANUARY 2019**

**Sheet Reference Number**

**24 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



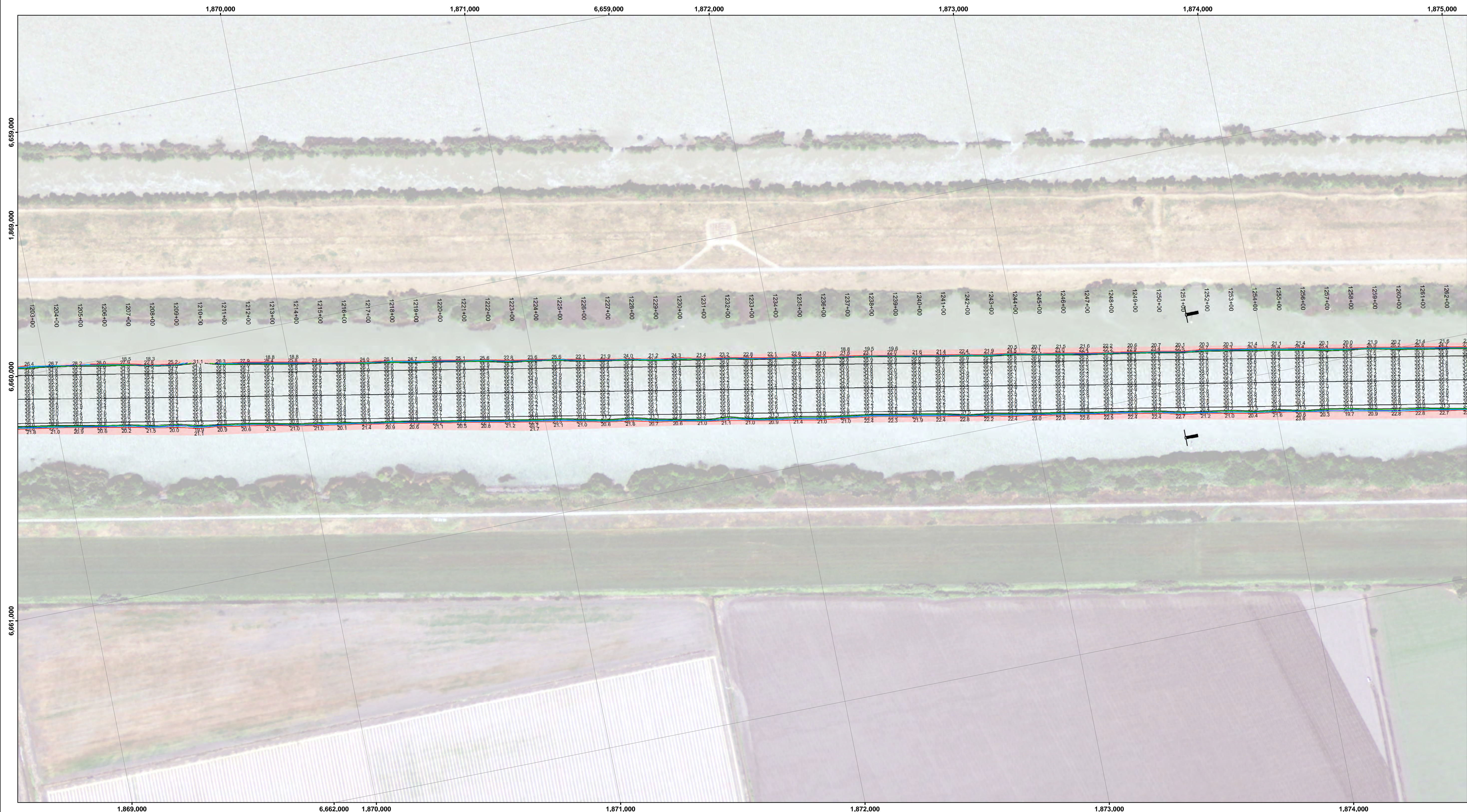
**NOTES:**  
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SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.  
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.  
NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE 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

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

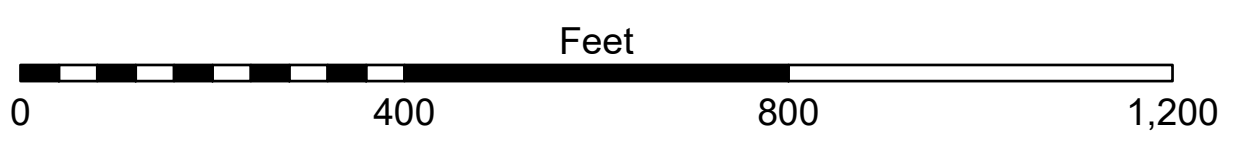
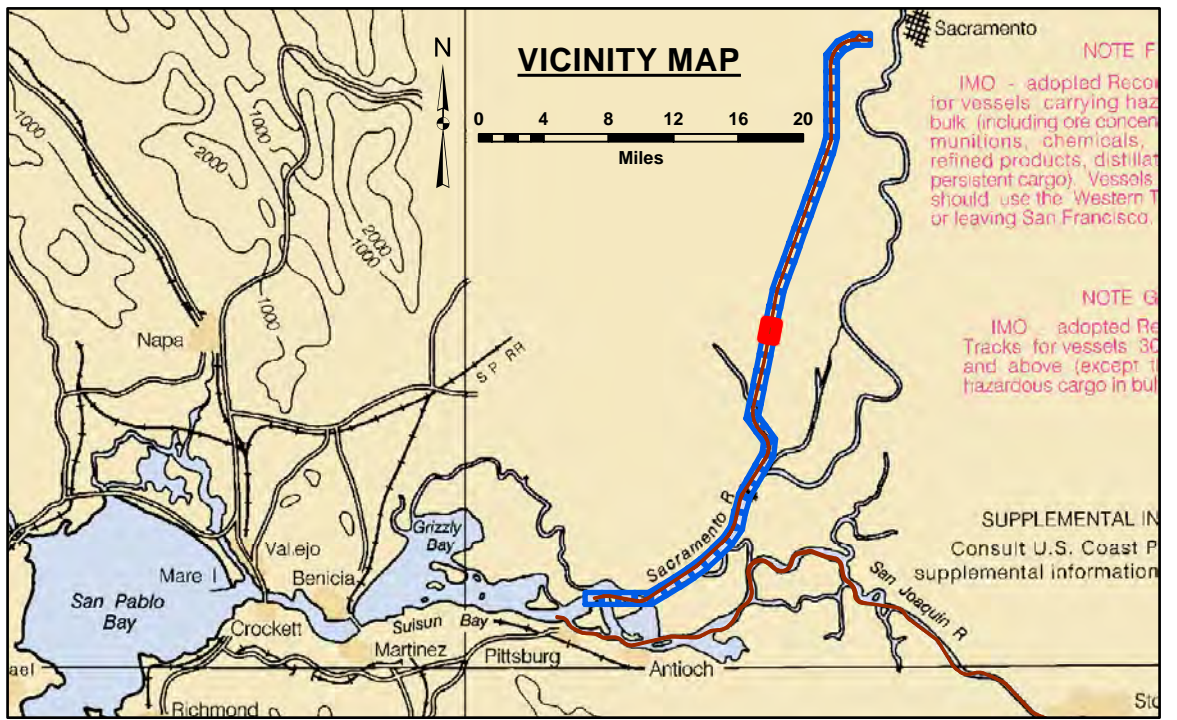




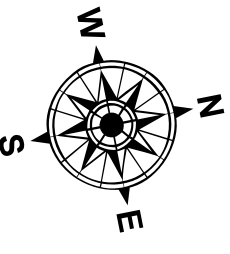
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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jan 29, 2019
Survised By: Hydro Survey Team Leader	Designed By: PDT
Plotted By: PDT	Drawn By: PDT
Checked By: PDT	
Approved: Chief, Hydro Survey 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



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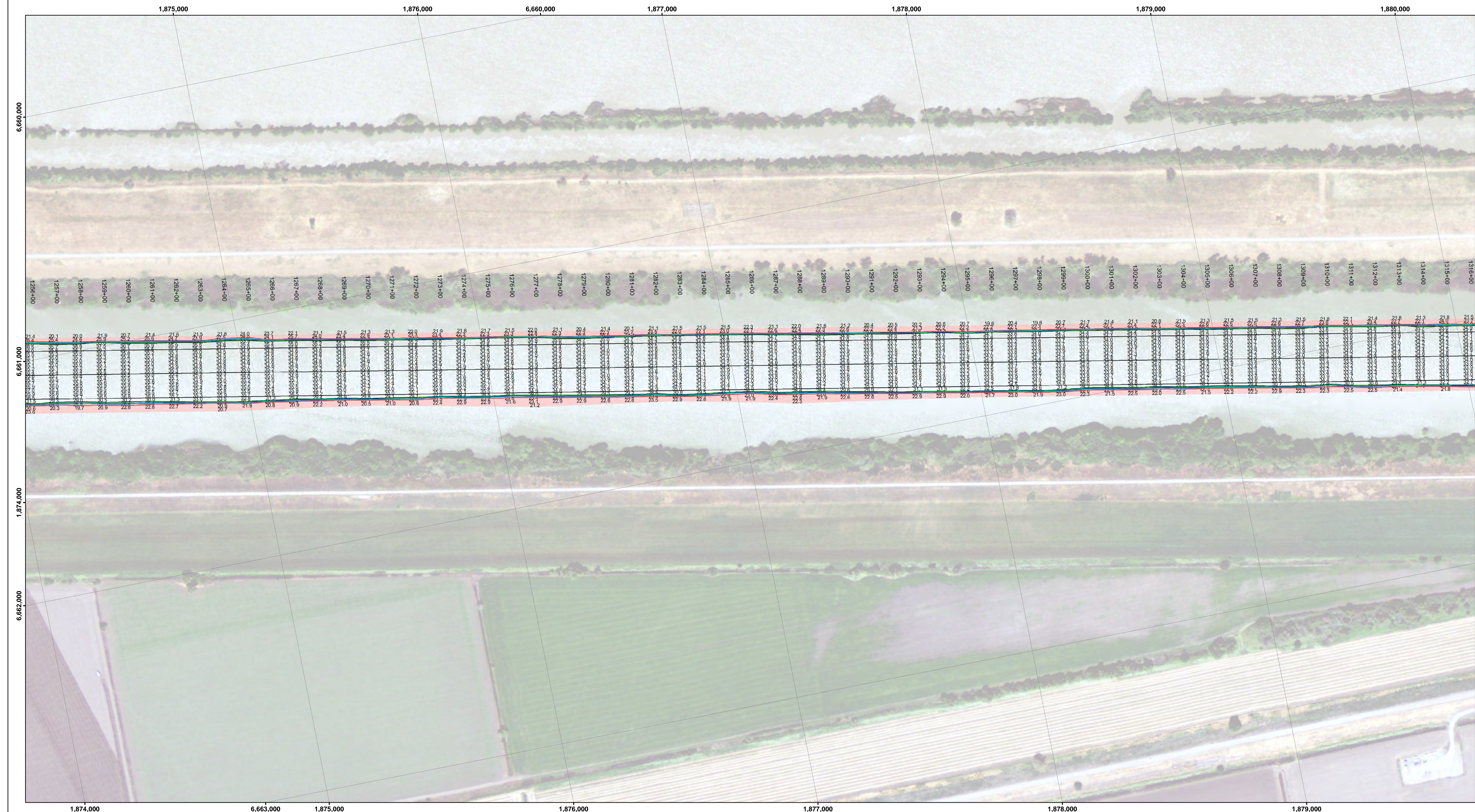
PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE II, CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

PROJECT DEPTH: -30'  
VERTICAL DATUM: MLLW  
THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

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CALIFORNIA  
SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
CONDITION SURVEY  
16-21 JANUARY 2019

Sheet Reference Number  
**25 of 45**



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Chart Date:	Jan 29, 2019
Designed by:	
Drawn by:	PDT
Surveyed By:	
Plotted By:	PDT
Checked By:	PDT
Approved:	
Chief, Construction Branch	

**CALIFORNIA**

**SAN JOAQUIN COUNTY**

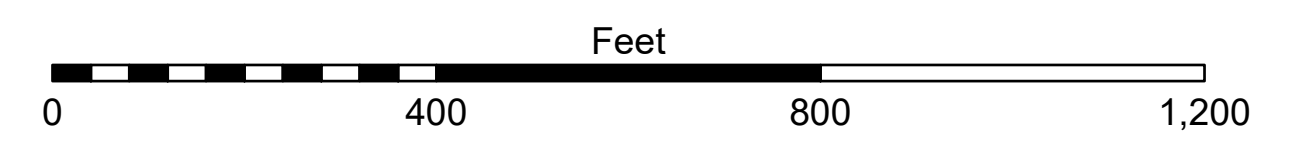
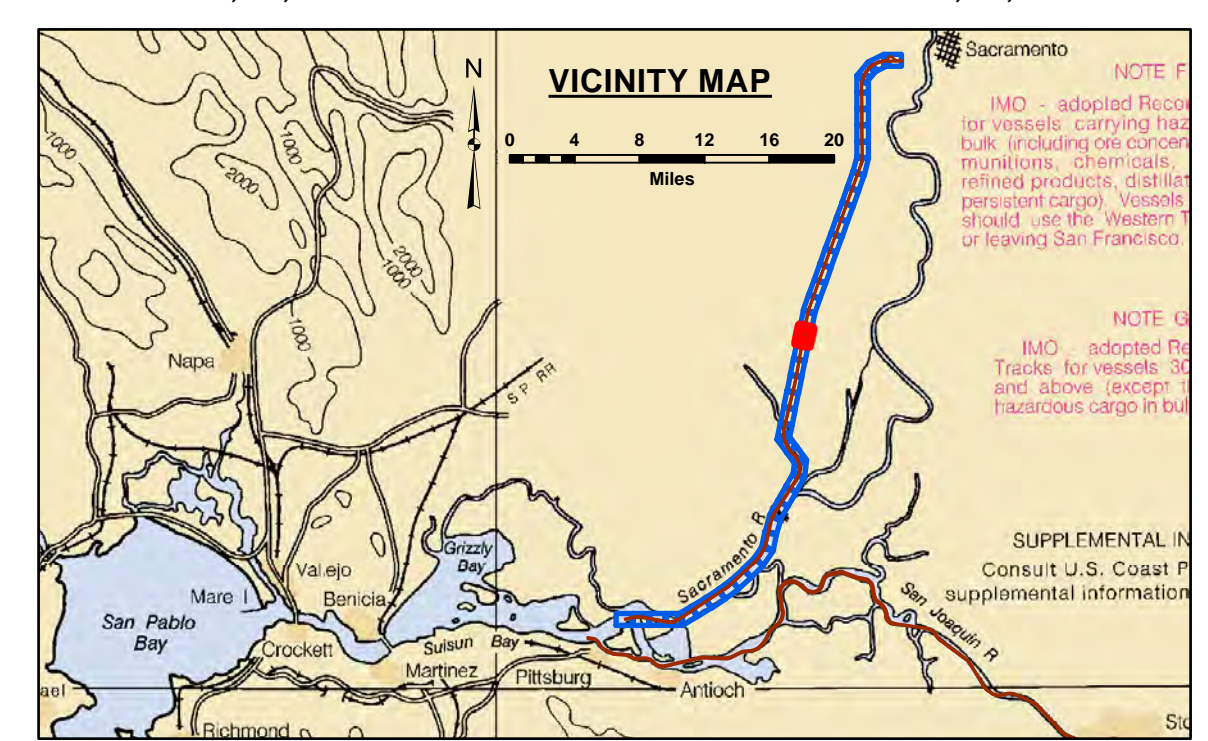
**SACRAMENTO RIVER**

**CONDITION SURVEY**

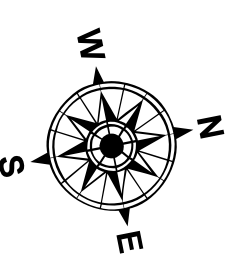
**16-21 JANUARY 2019**

**Sheet Reference Number**

**26 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



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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.

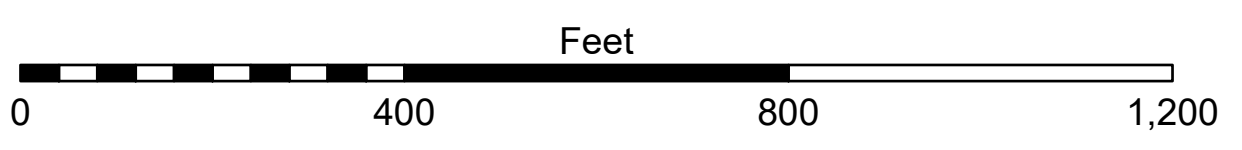
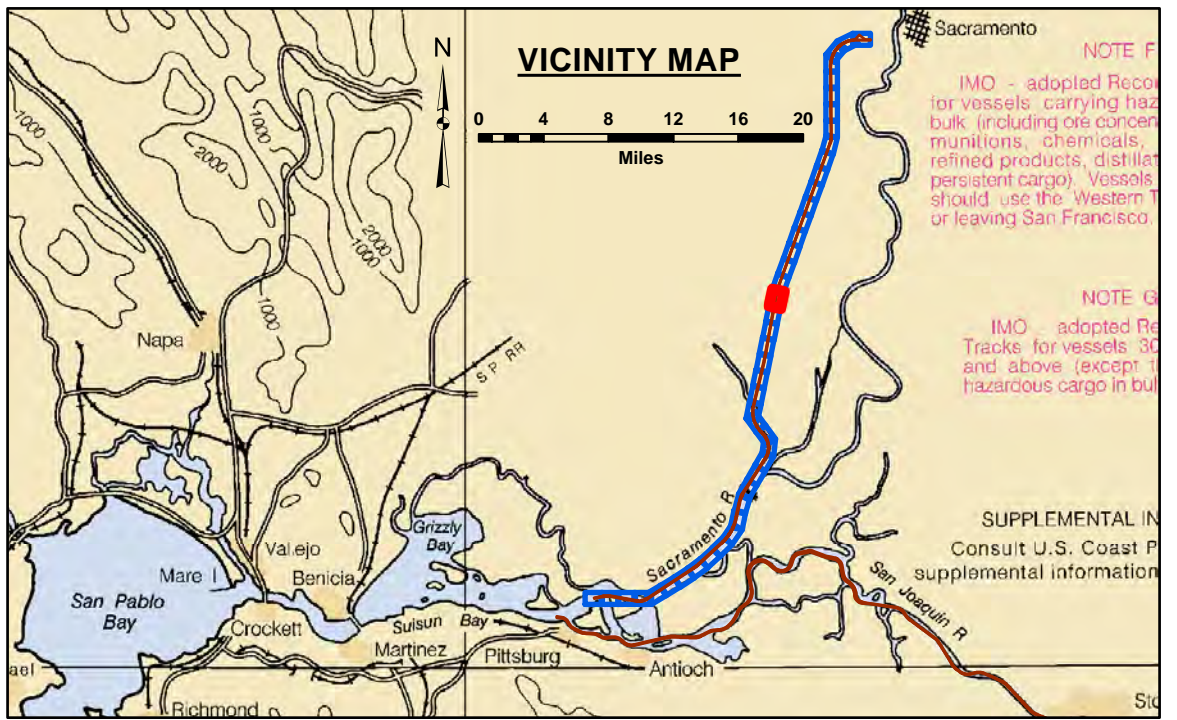


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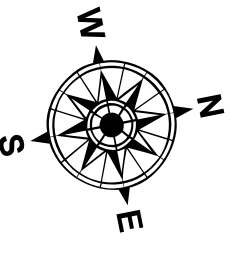
Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**27 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



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**CONTROLS:**  
 LOCATION: RIO VISTA  
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 TIDE GAUGE: NAIL @ 8.2 FT MLLW  
 METADATA: NAIL SET BY USACE 31 MARCH, 2014  
 LOCATION: PORT OF WEST SACRAMENTO  
 NOOA STATION: 9416131  
 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
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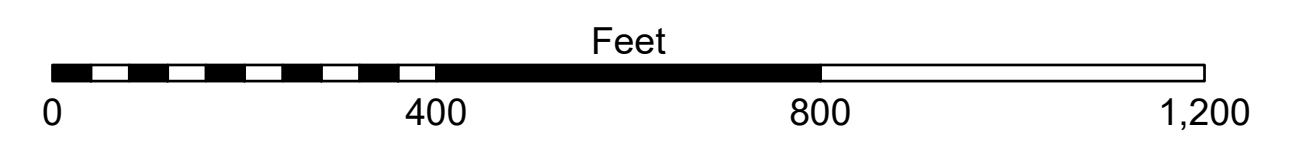
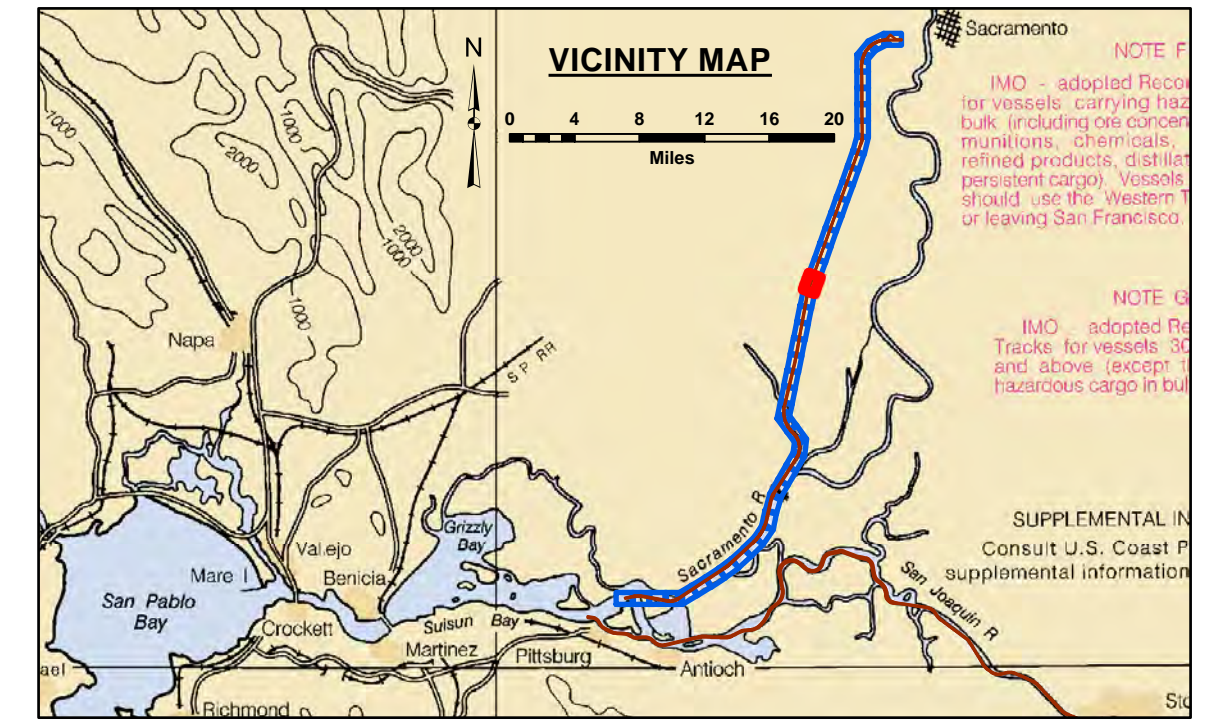
Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT

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

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

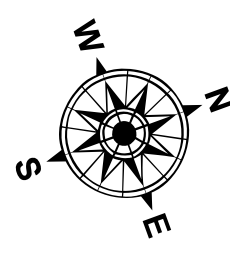
CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**28 of 45**



**LEGEND**

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General
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LOCATION: PORT OF WEST SACRAMENTO  
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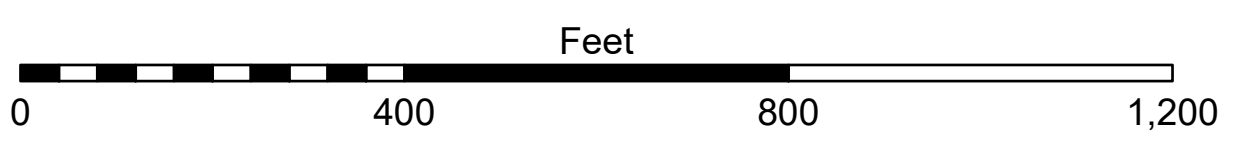
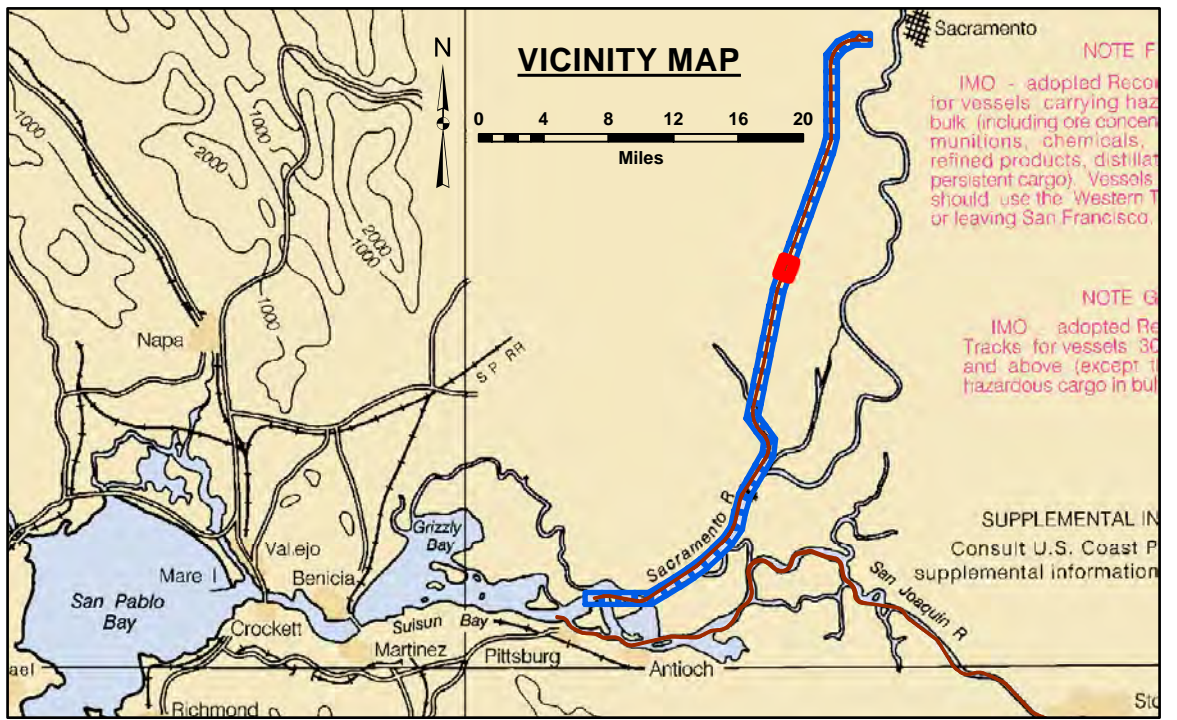


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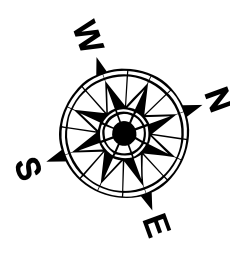
Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed by:	PDT
Plotted by:	PDT
Checked by:	PDT

**CALIFORNIA**  
**SAN JOAQUIN COUNTY**  
**SACRAMENTO RIVER**  
**CONDITION SURVEY**  
 16-21 JANUARY 2019

**Sheet Reference Number**  
**29 of 45**



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General
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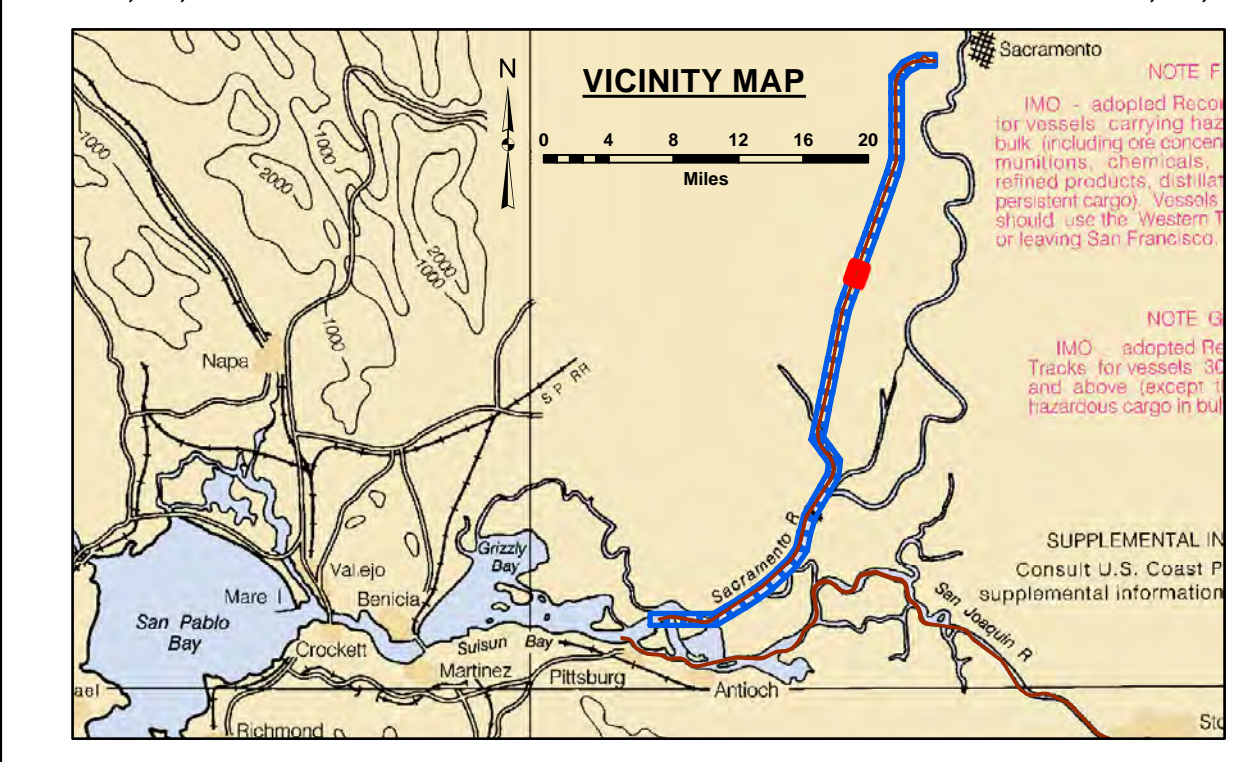


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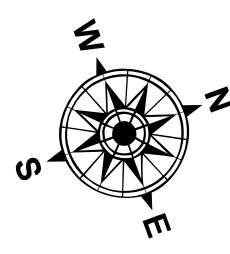
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**LEGEND**

--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
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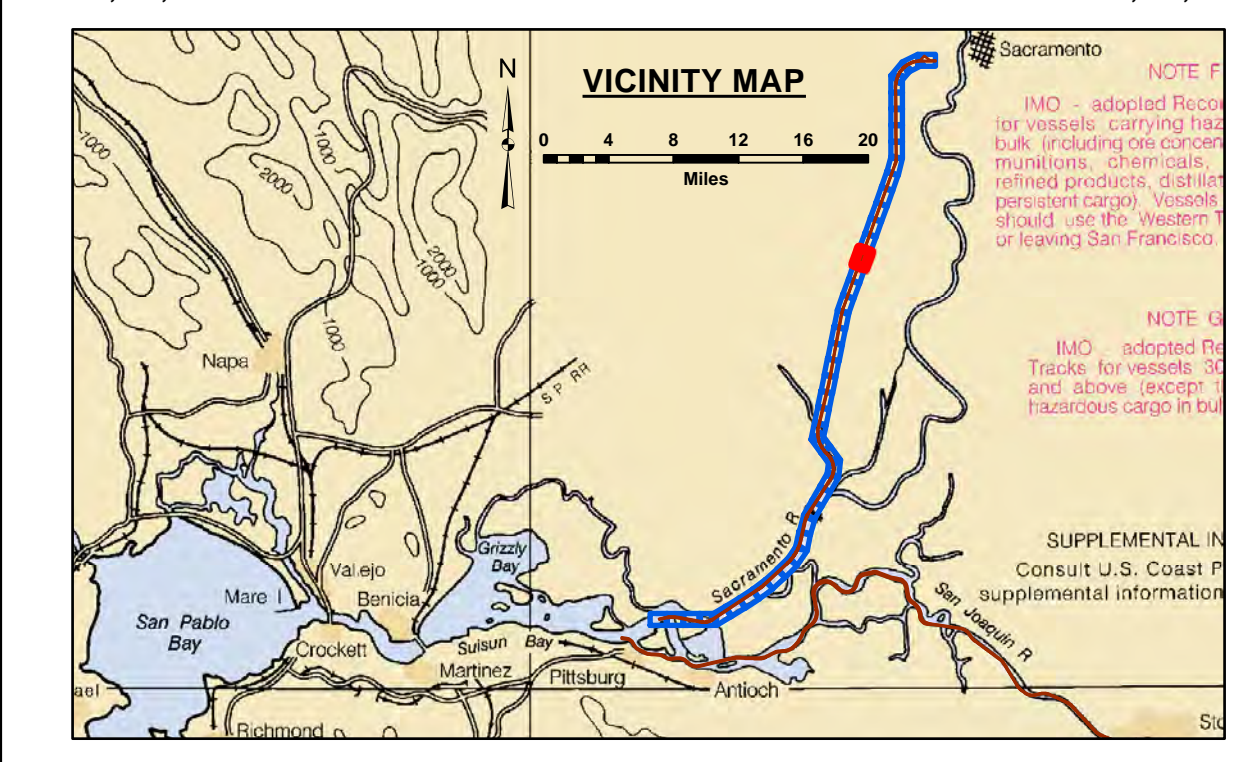
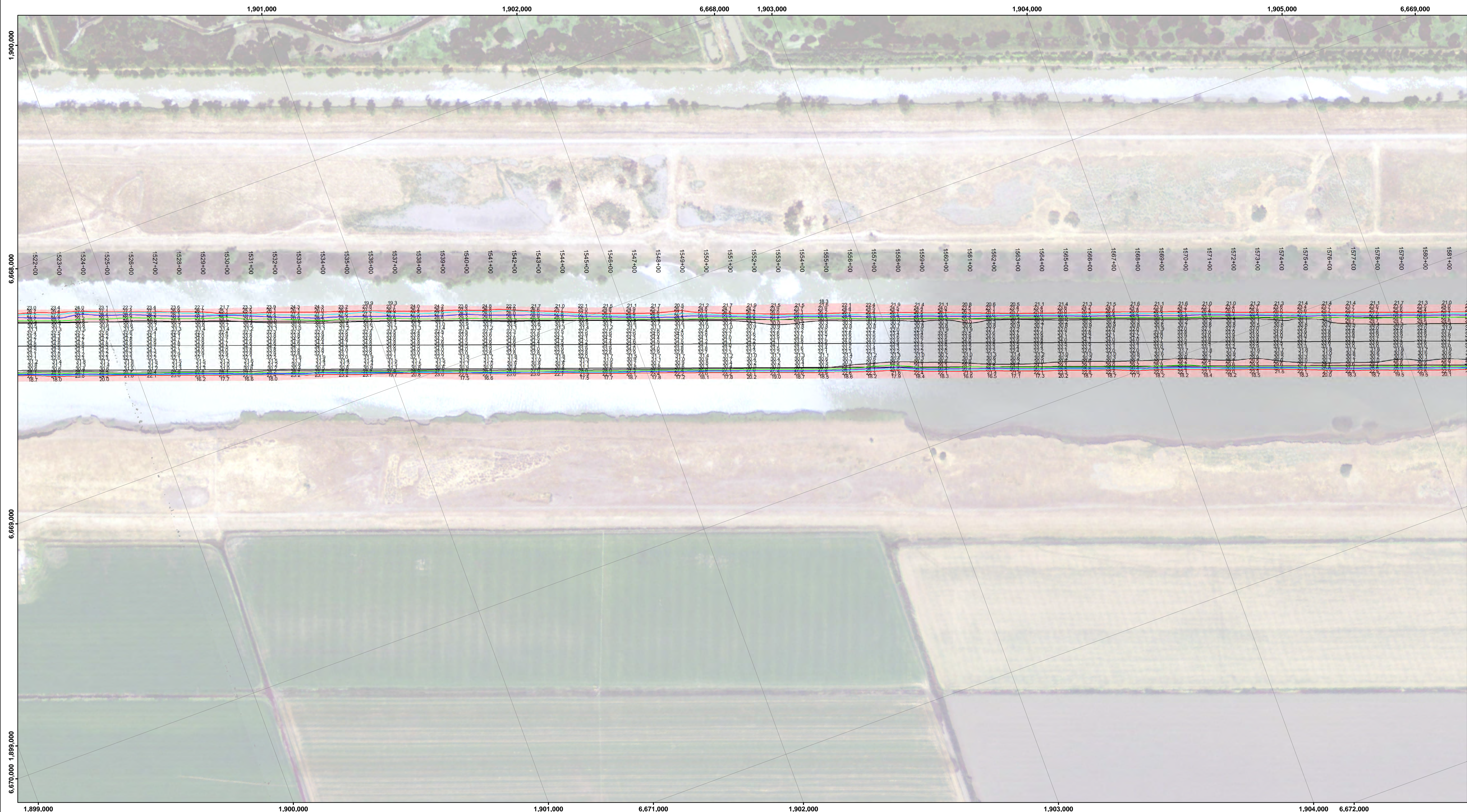


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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jan 29, 2019
Surveyed By: Hydro Survey Team Leader	Designed By: PDT
Plotted By: PDT	Checked By: PDT
Recommended: Chief, Hydro Survey Section	Drawn By: PDT
Approved: Chief, Construction Branch	

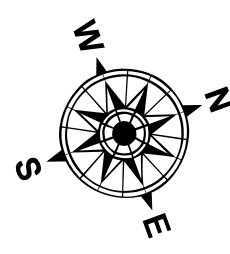
CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**30 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



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

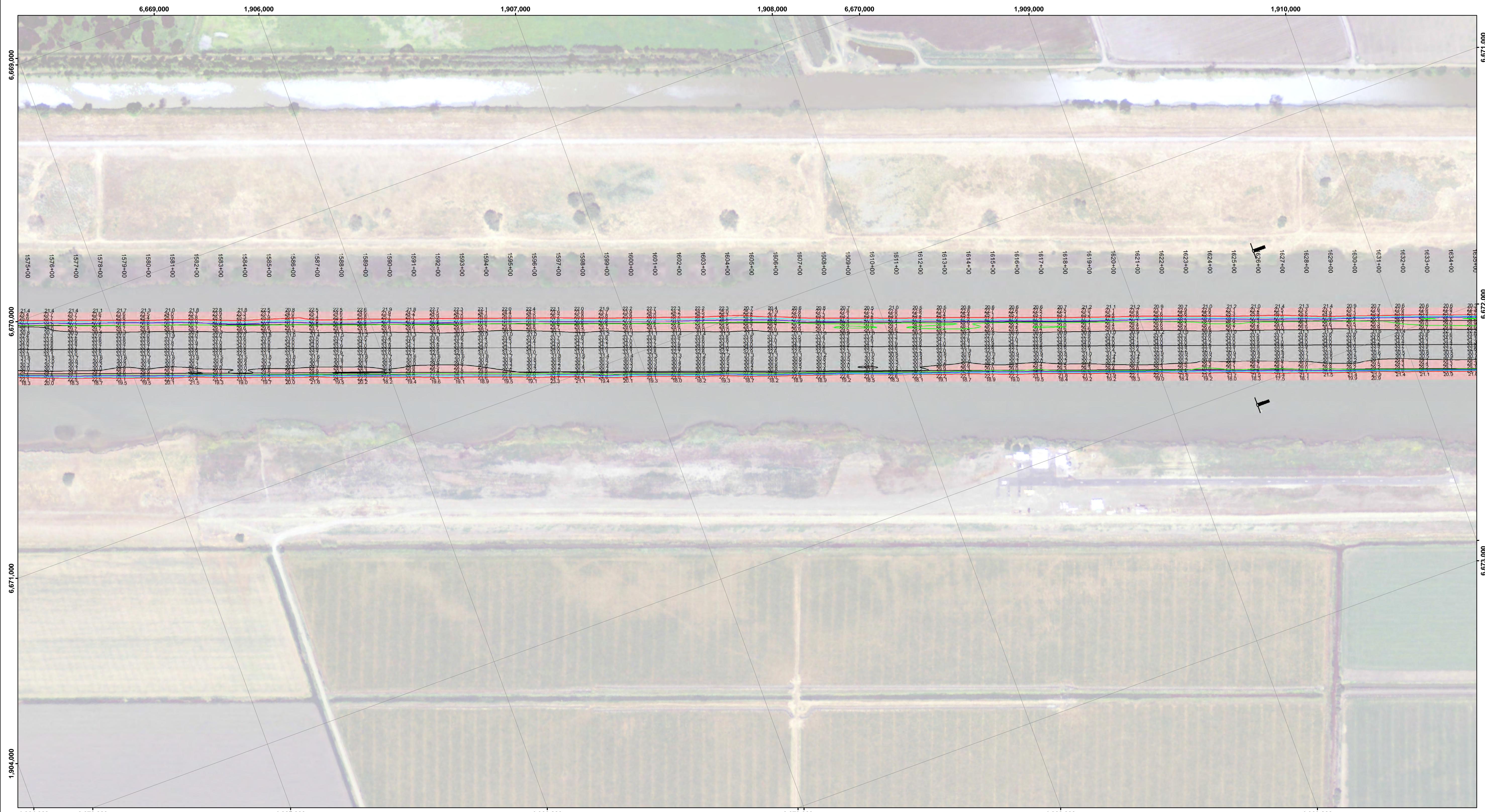


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Chart Date:	Jan 29, 2019
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**31 of 45**

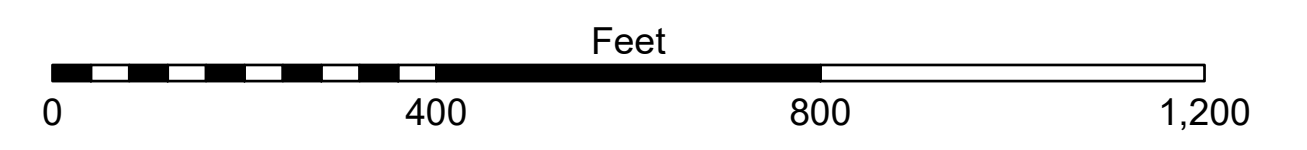
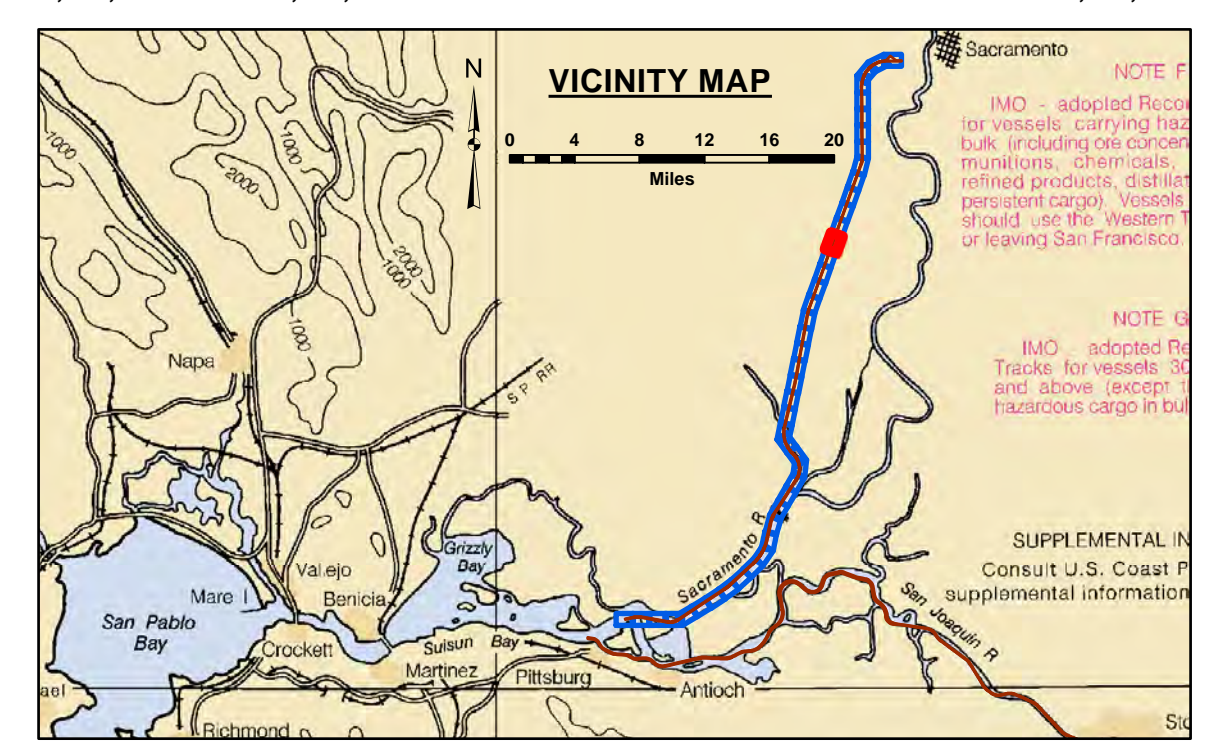


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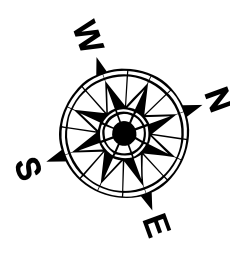
Chart Date:	Jan 29, 2019
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

**CALIFORNIA**  
**SAN JOAQUIN COUNTY**  
**SACRAMENTO RIVER**  
**CONDITION SURVEY**  
 16-21 JANUARY 2019

**Sheet Reference Number**  
**32 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



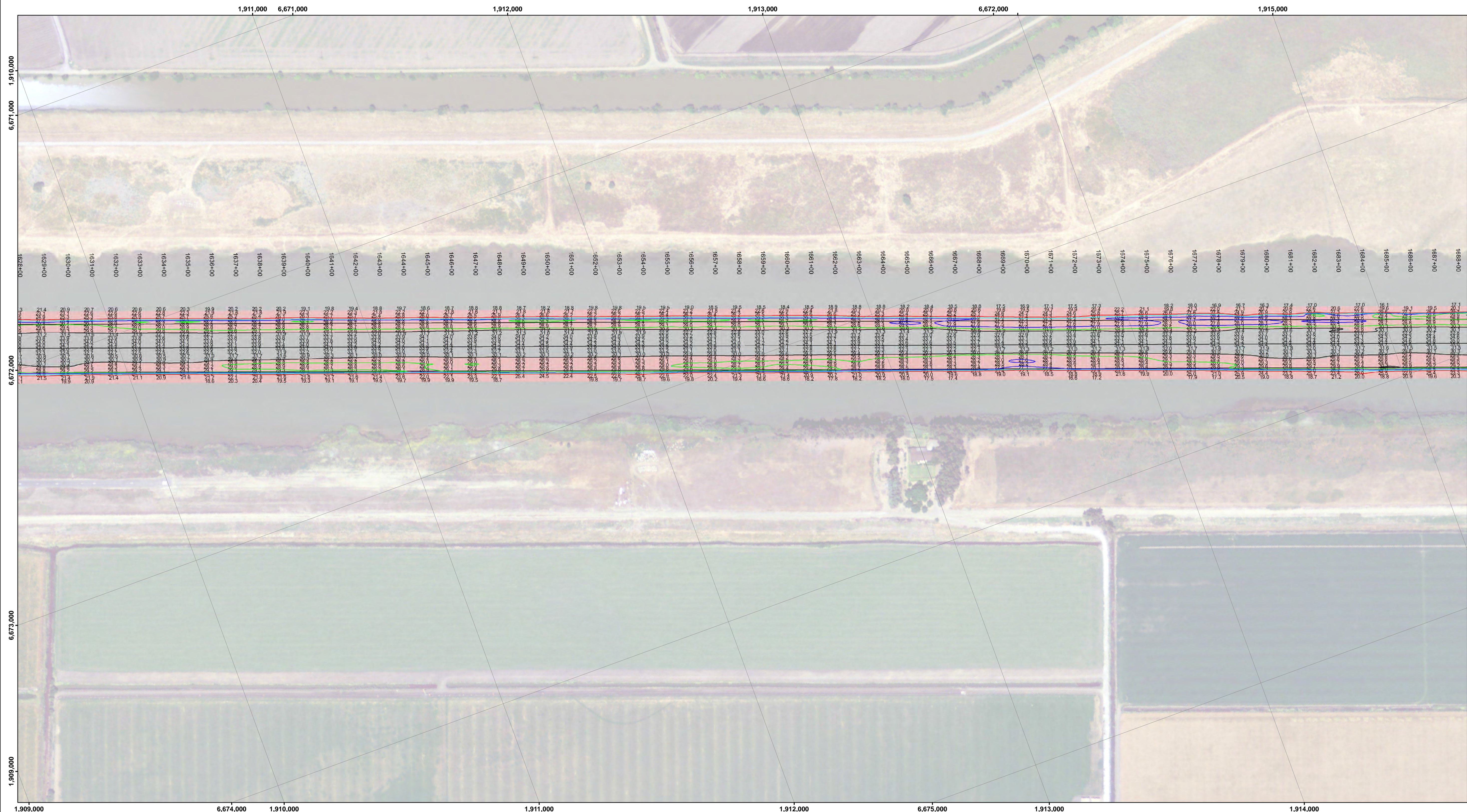
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 PROJECT DEPTH: -30'  
 VERTICAL DATUM: MLLW  
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**CONTROLS:**  
 LOCATION: RIO VISTA  
 NOAA STATION: 9415316  
 BENCHMARK: 5316 B 1996 (NO PID)  
 TIDE GAUGE: NAIL @ 8.2 FT MLLW  
 METADATA: NAIL 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  
 METADATA: NAIL SET BY USACE 8 APRIL, 2014

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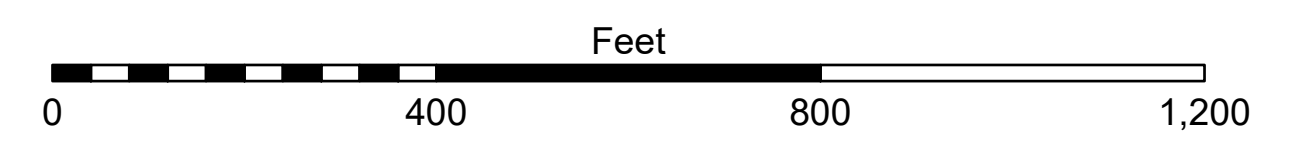
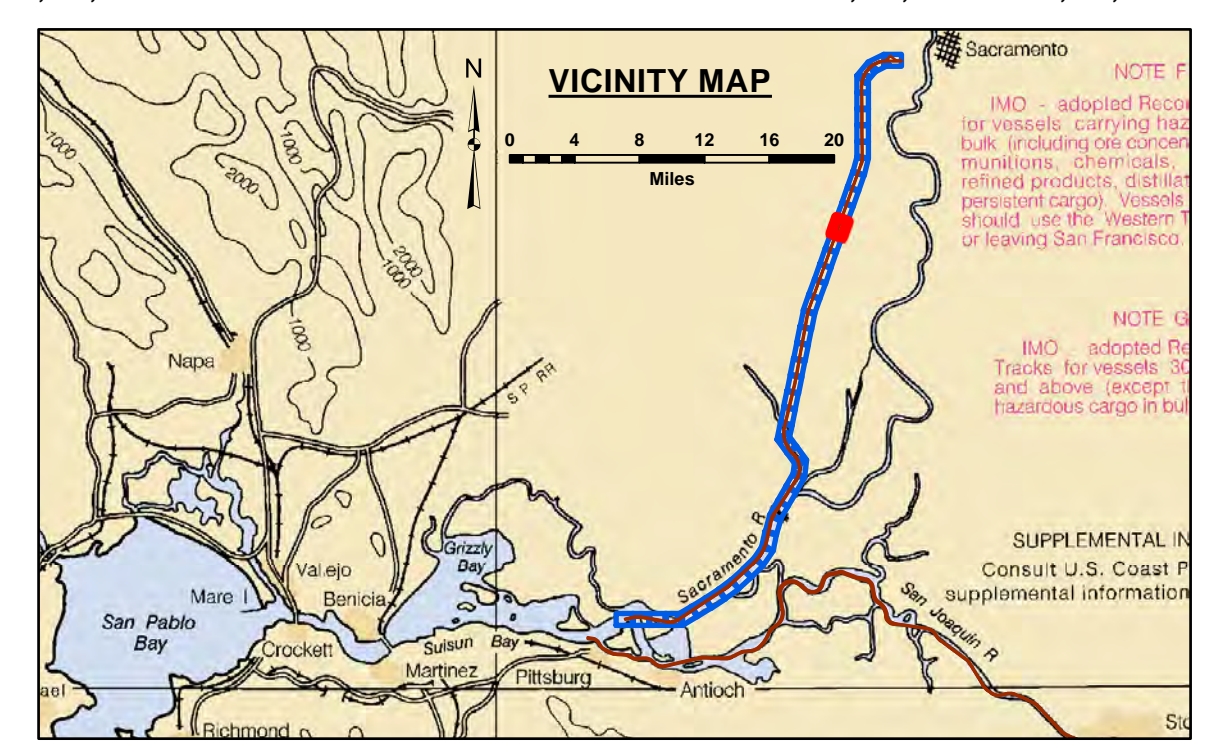
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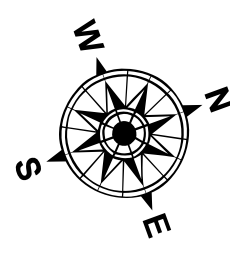
Chart Date:	Jan 29, 2019
Surveyed By:	LT TRAVIS J. RAYFIELD
Plotted By:	PDT
Checked By:	PDT
Designed by:	PDT
Drawn by:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet Reference Number  
**33 of 45**



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
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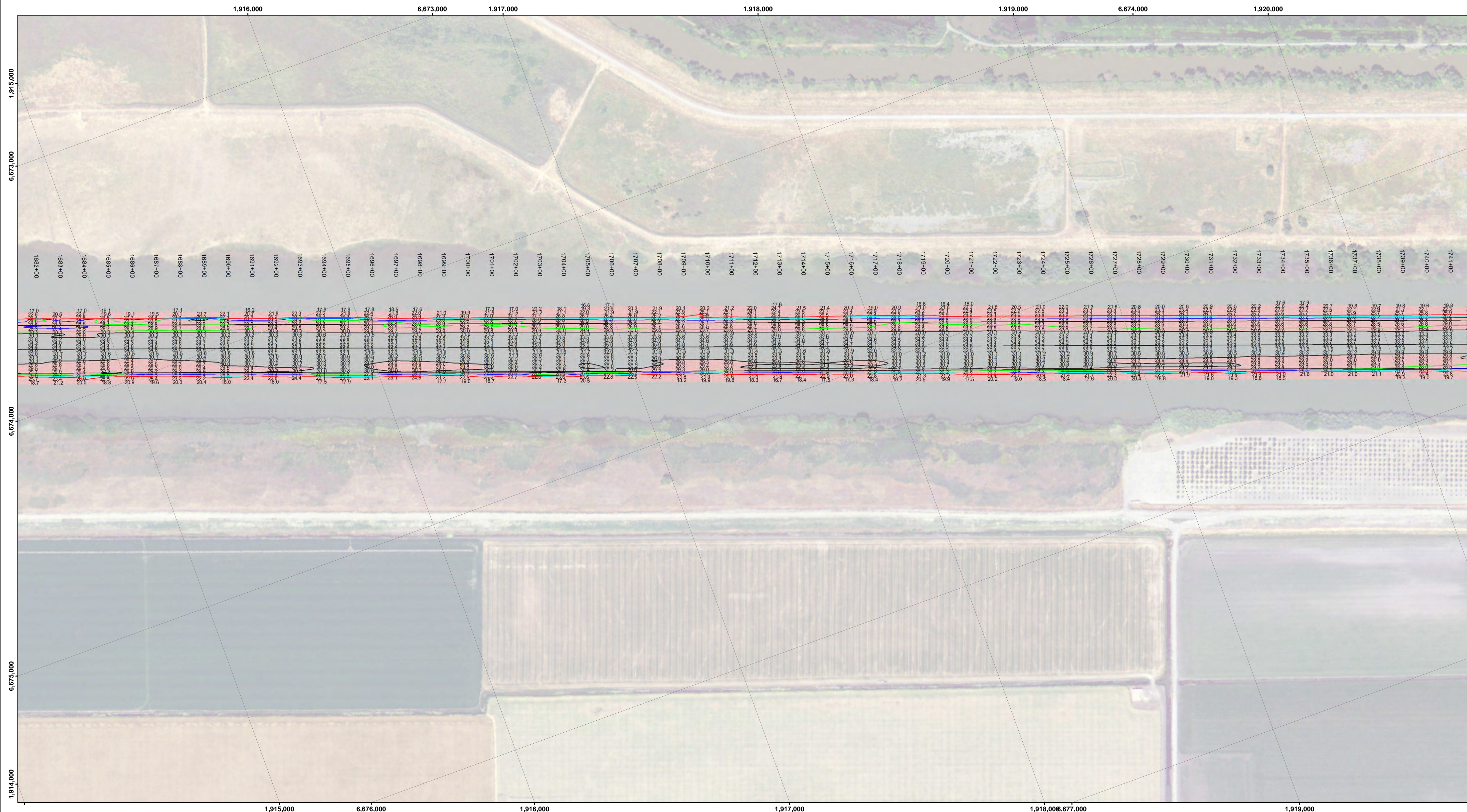


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 BENCHMARK: POWS1 (NO PID)  
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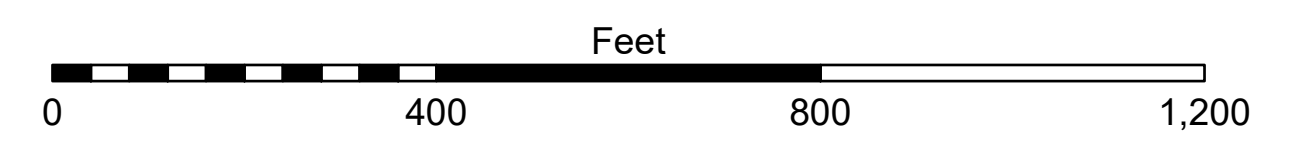
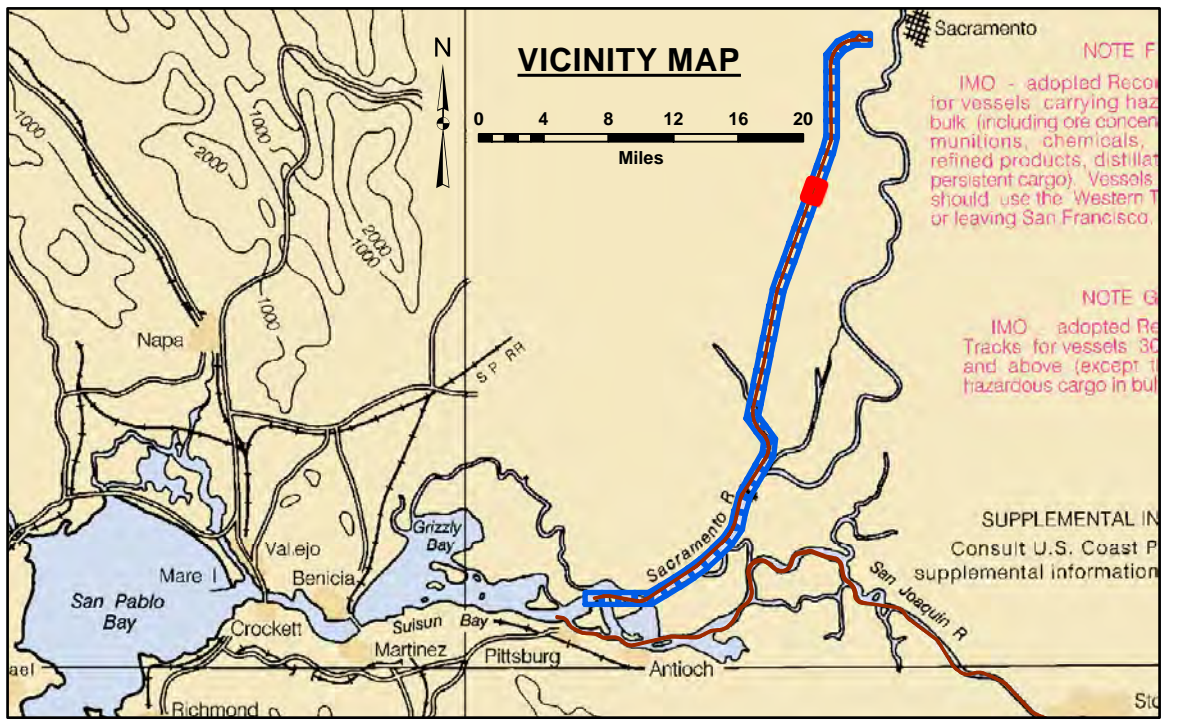


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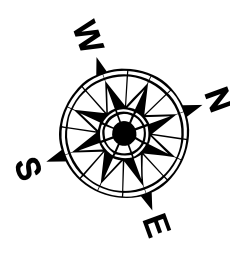
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
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- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy
— Contour Line	✶ Wrecks-Submerged	◇ Green Navigation Buoy

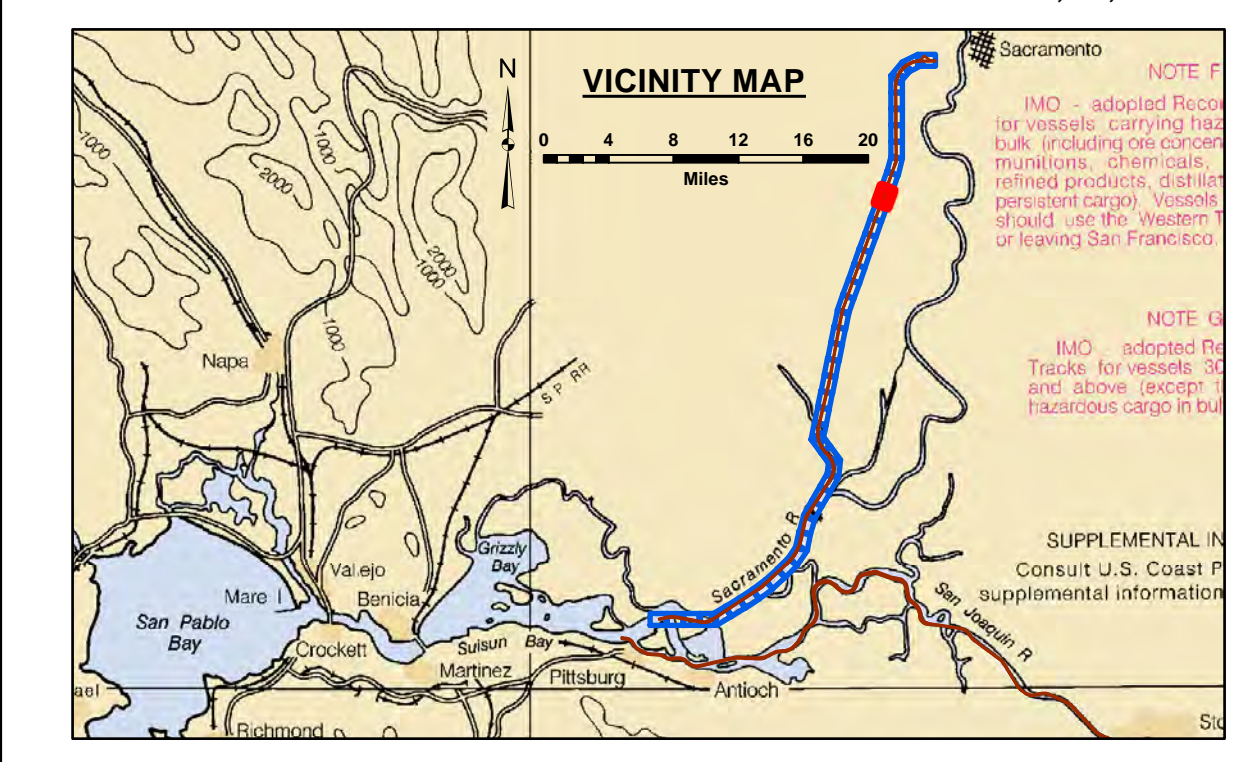
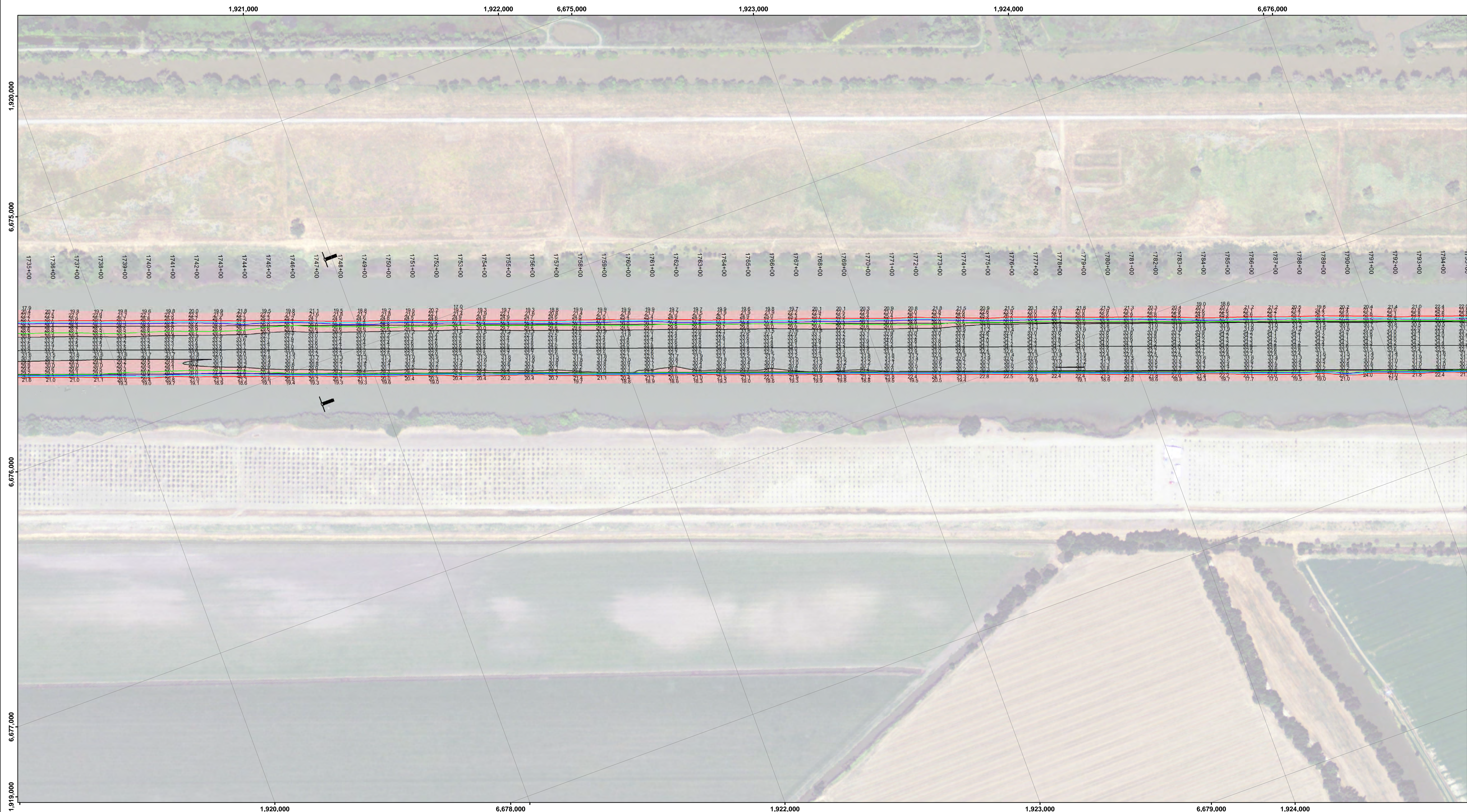


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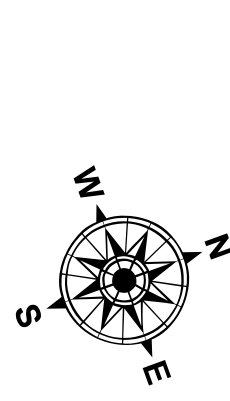
LOCATION: PORT OF WEST SACRAMENTO  
 NOAA STATION: 9416131  
 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
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Feet  
0 400 800 1,200

LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
⋯ Cable Submarine	⊠ Anchorage Area	⊥ Beacon, General
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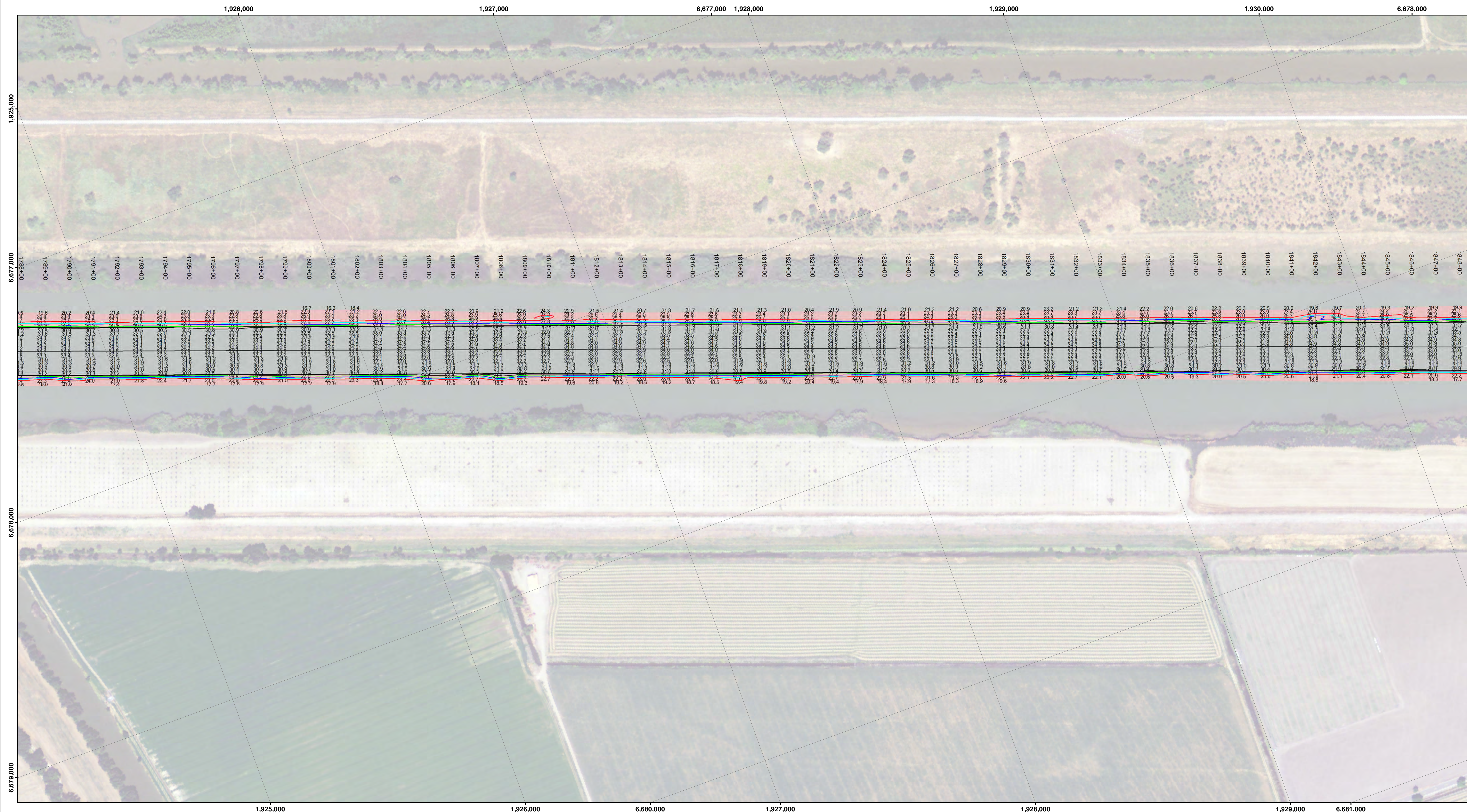


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Chart Date:	Jan 29, 2019
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

CALIFORNIA  
SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
CONDITION SURVEY  
16-21 JANUARY 2019

Sheet Reference Number  
**35 of 45**



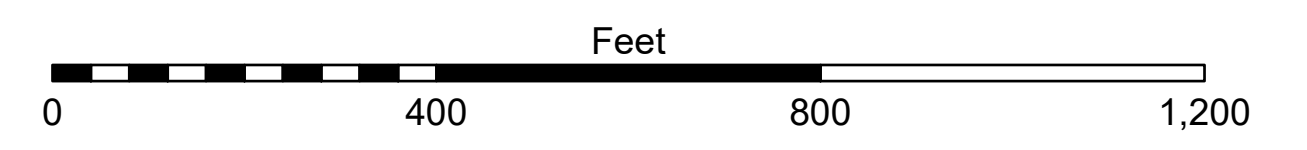
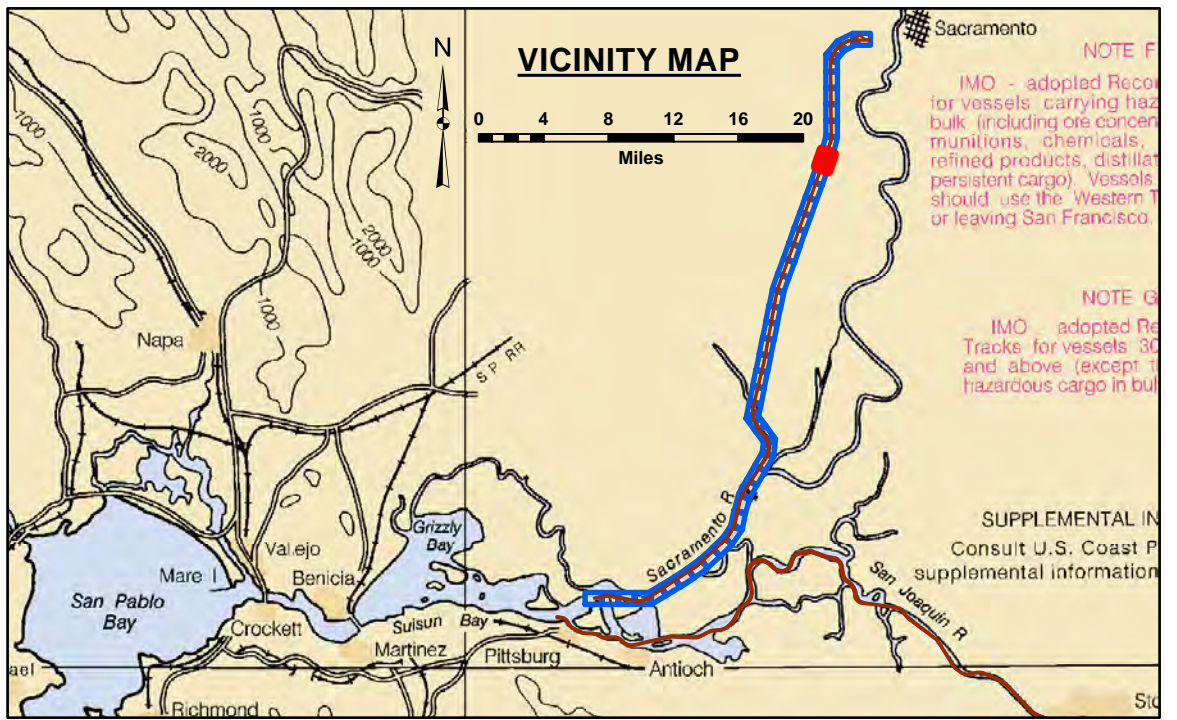
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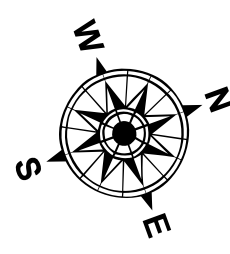
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Chart Date:	Jan 29, 2019
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER
Plotted By:	PDT
Checked By:	PDT
Designed by:	
Drawn by:	PDT

CALIFORNIA  
SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
CONDITION SURVEY  
16-21 JANUARY 2019



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
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BENCHMARK: 5316 B 1996 (NO PID)  
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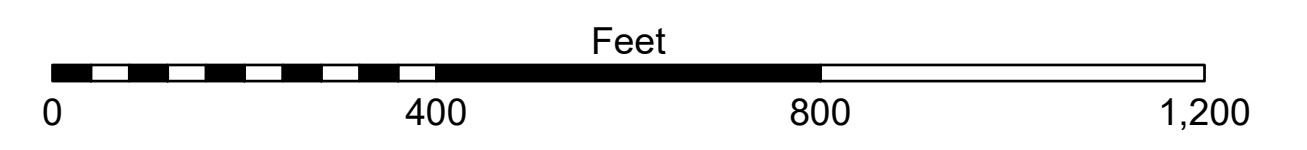
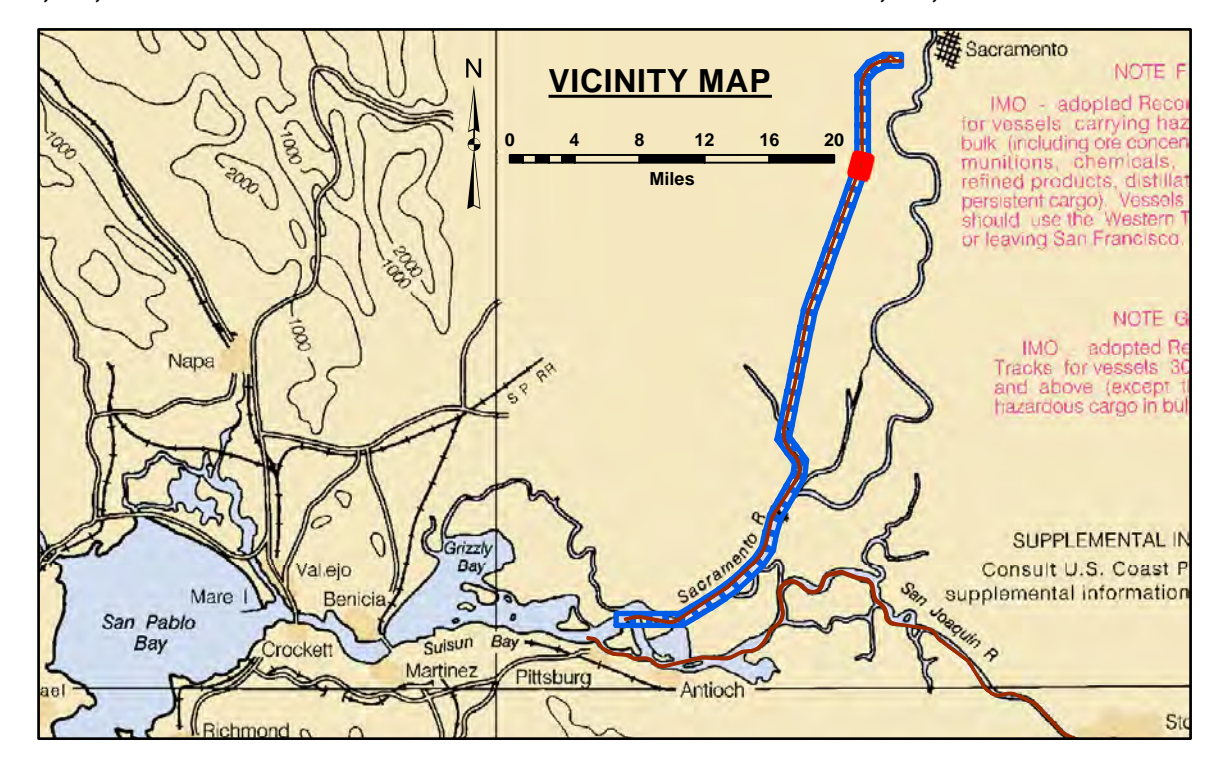


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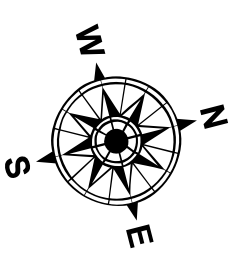
Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT

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

**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019  
 Sheet Reference Number  
**37 of 45**

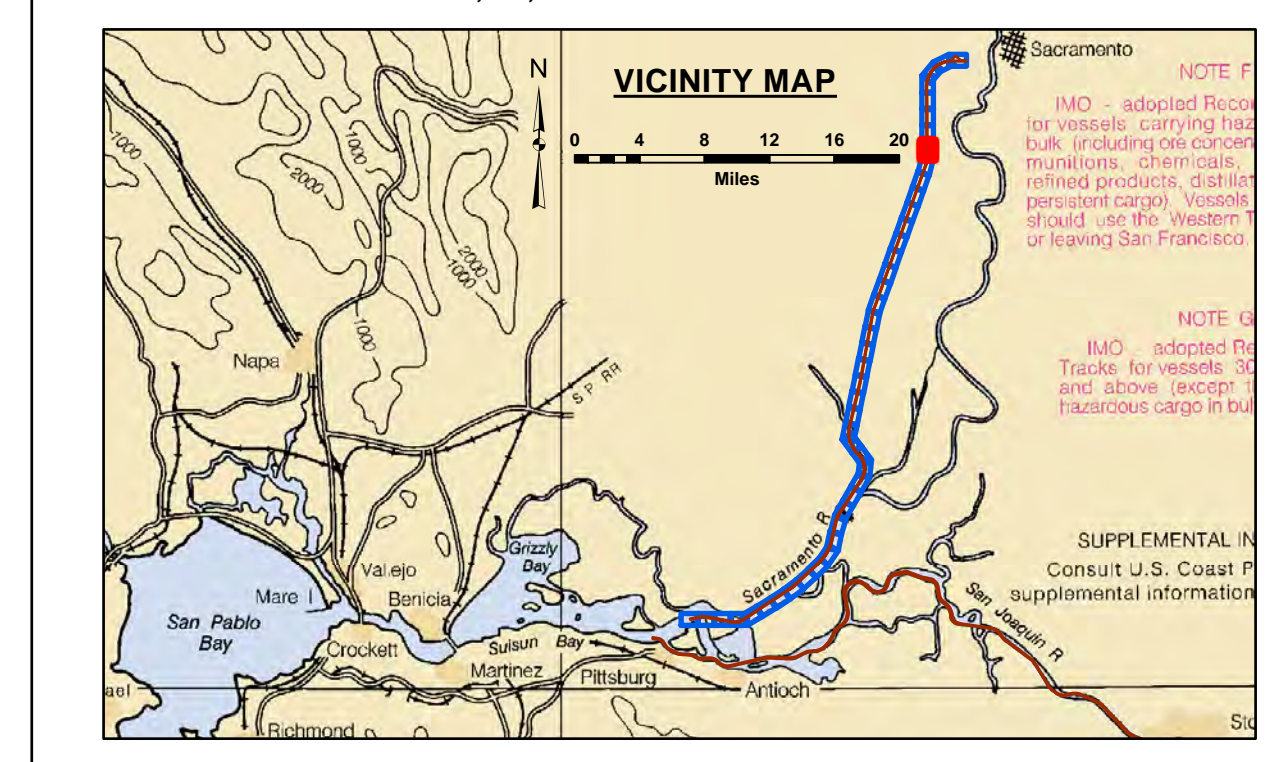
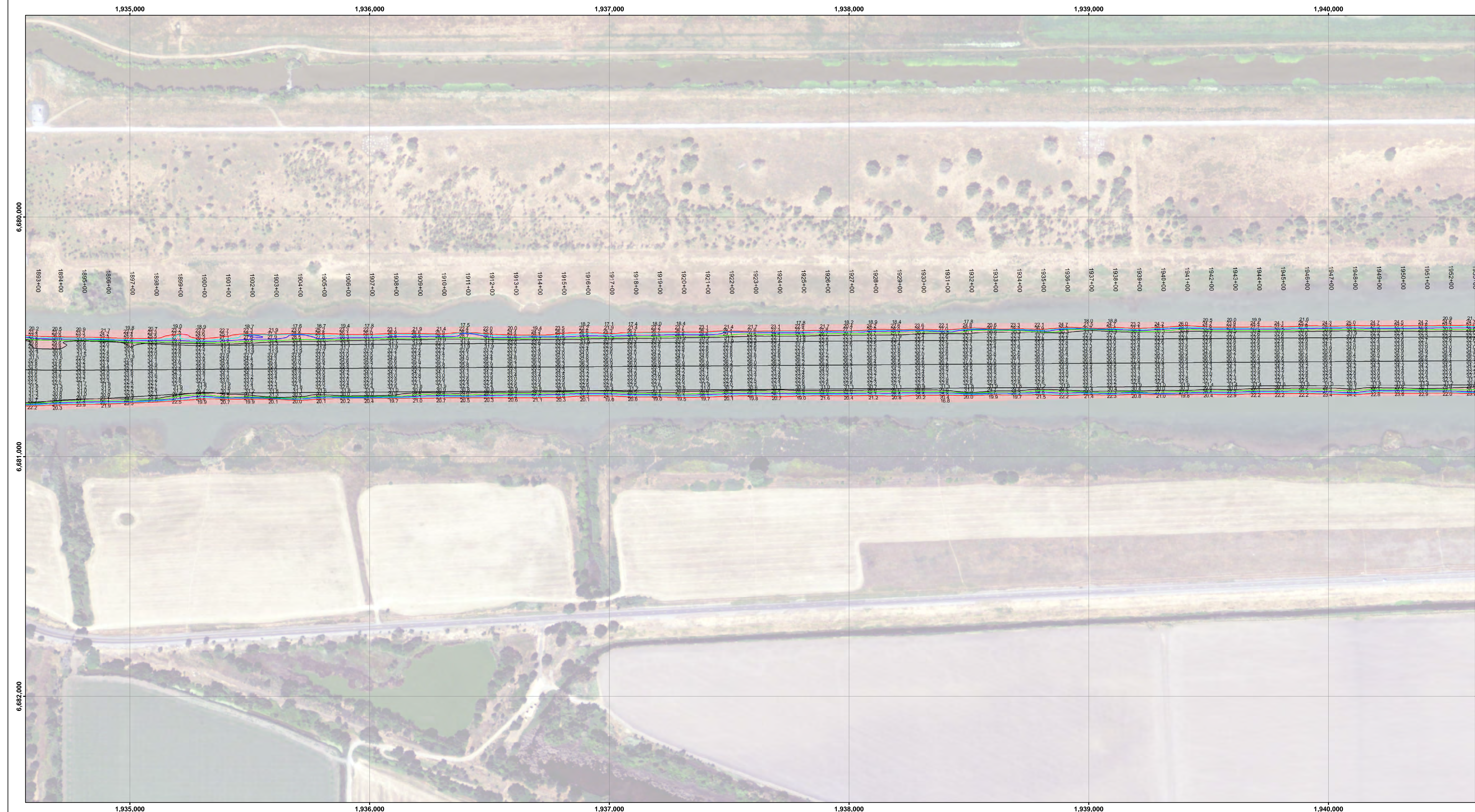


LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
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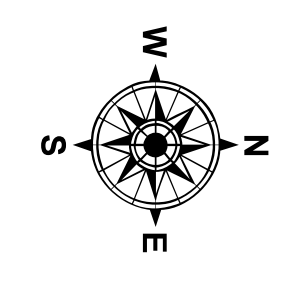
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 PROJECT DEPTH: -30'  
 VERTICAL DATUM: MLLW  
 THE LOCATION OF NAVIGATION AIDS ARE BASED ON AND PROVIDED BY THE U.S. COAST GUARD

**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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Feet  
0 400 800 1,200

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



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Chart Date:	Jan 29, 2019
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT
Drawn By:	PDT

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

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

CALIFORNIA  
SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
CONDITION SURVEY  
16-21 JANUARY 2019

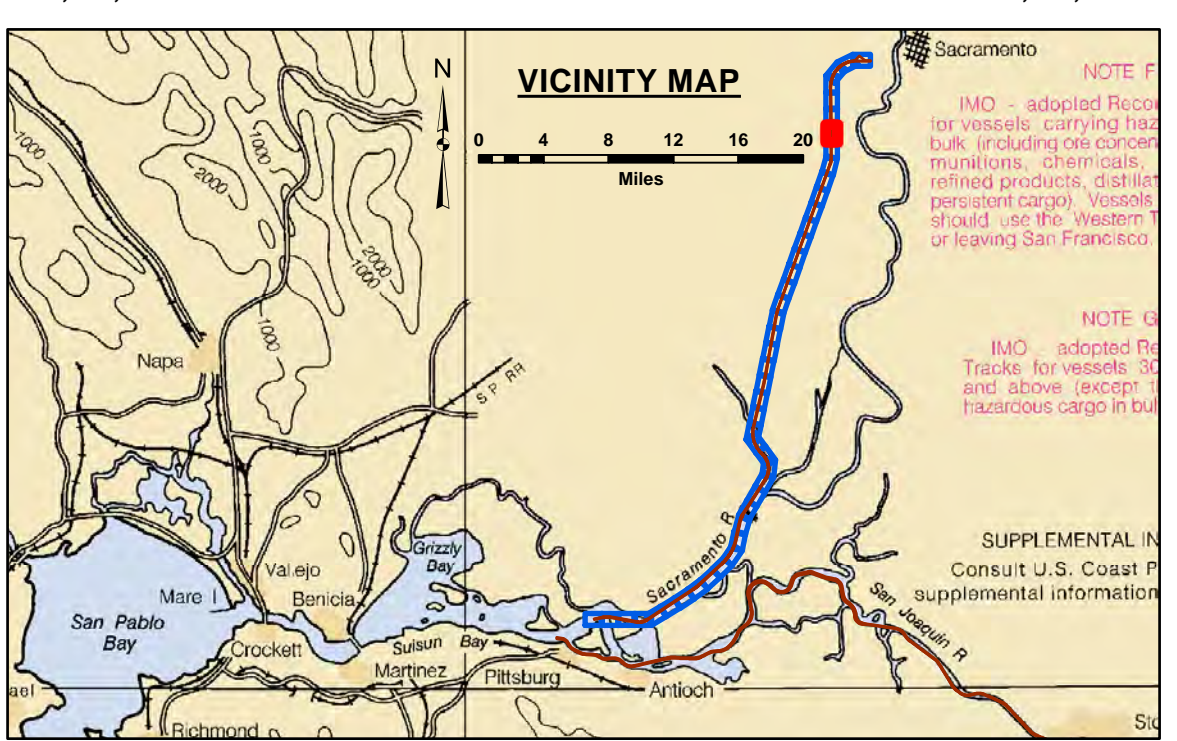
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Reference  
Number  
**38 of 45**



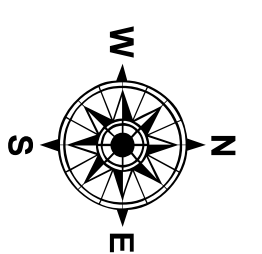
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Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019



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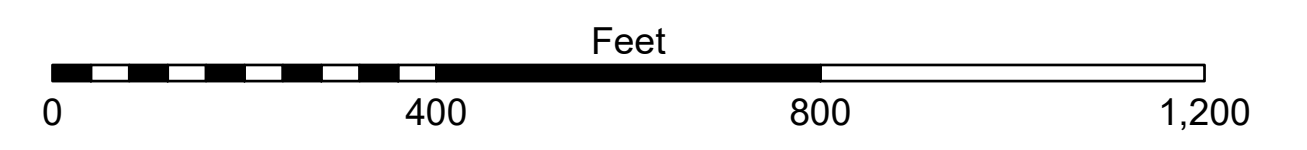
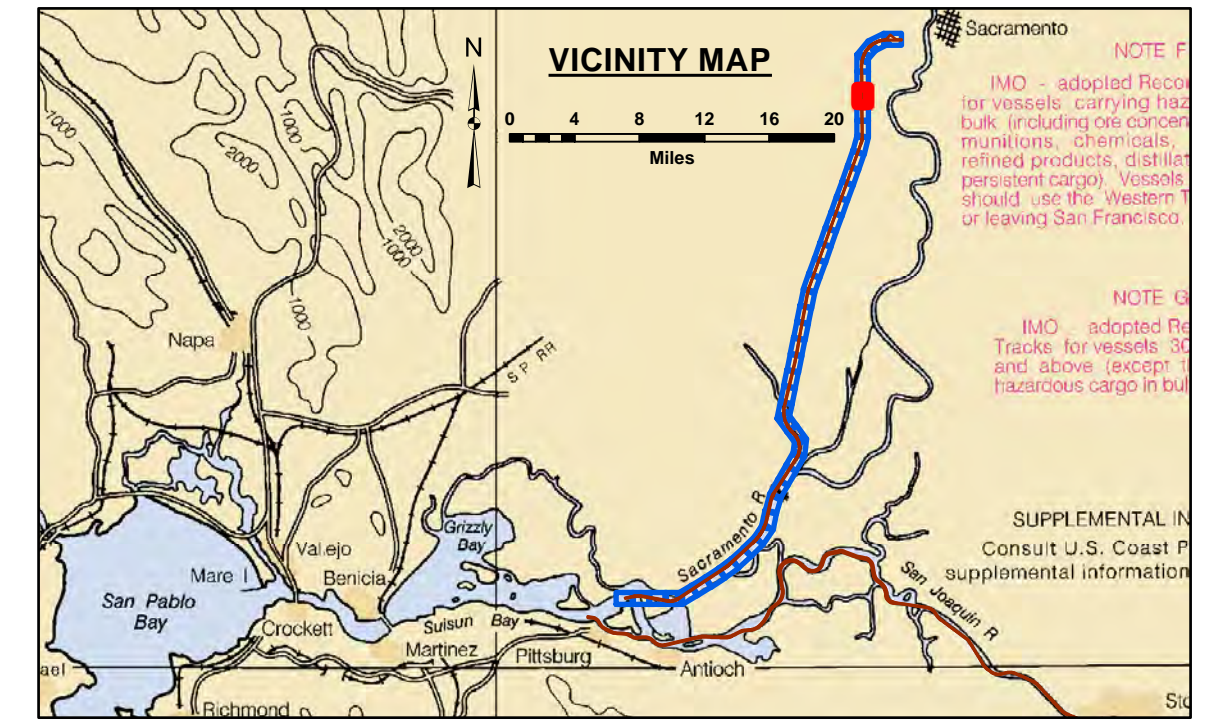


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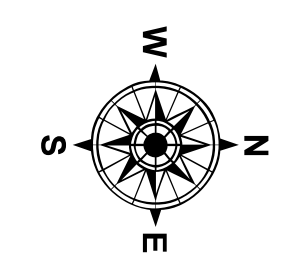
Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed By:	Travis J. Rayfield
Plotted By:	PDT
Recommended:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

Sheet  
 Reference  
 Number  
**40 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



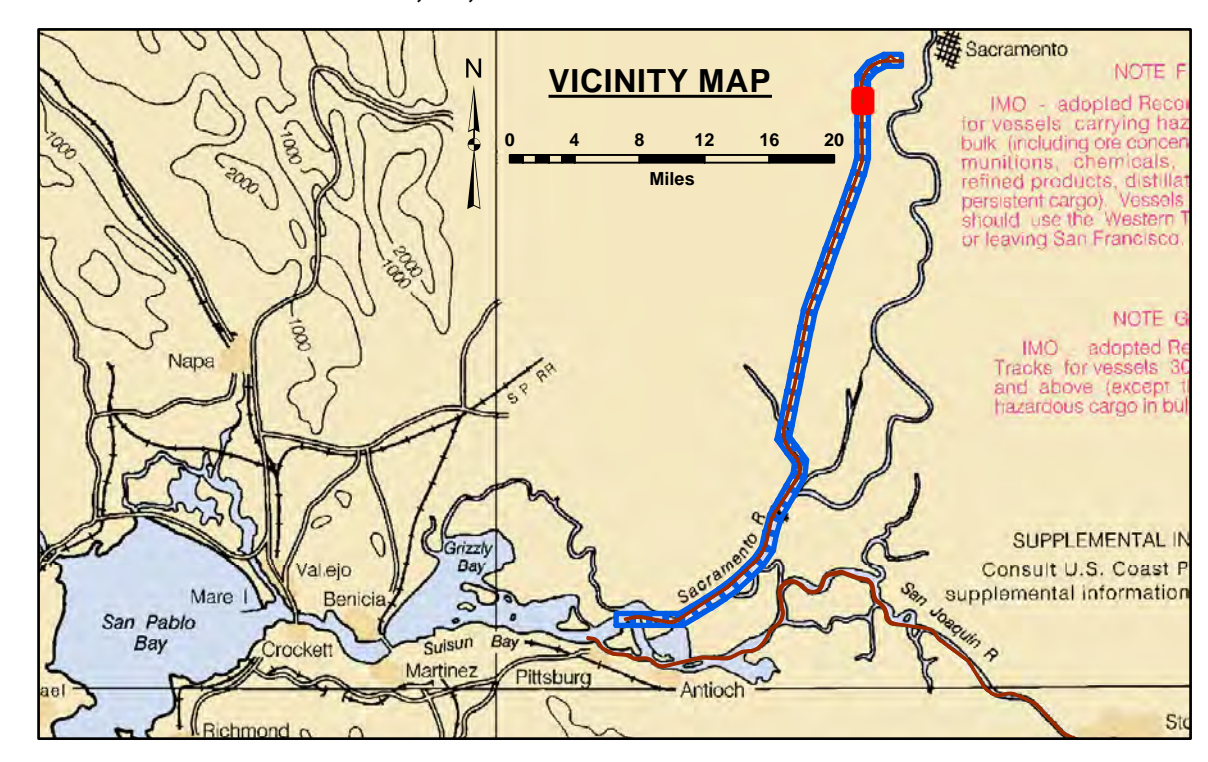
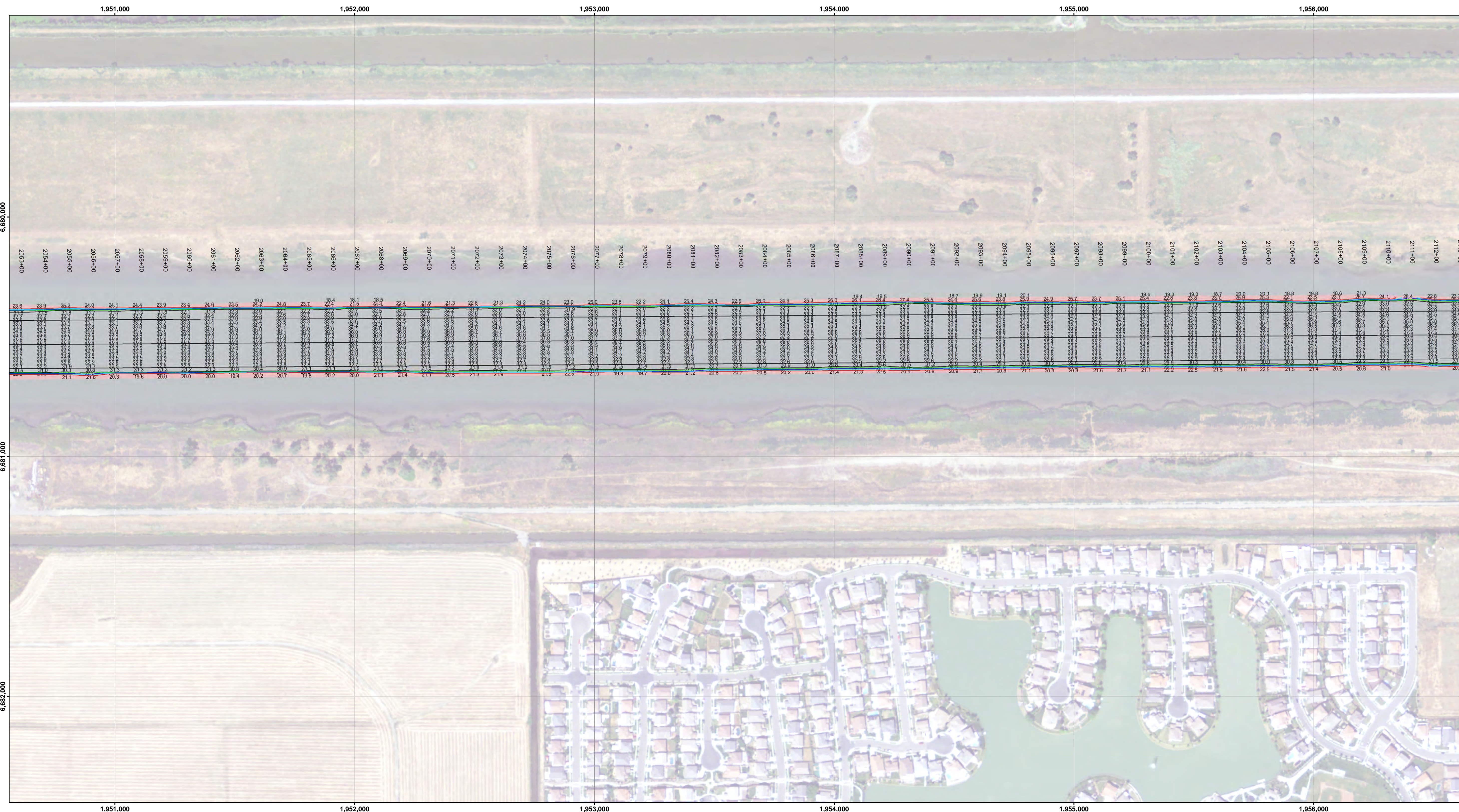
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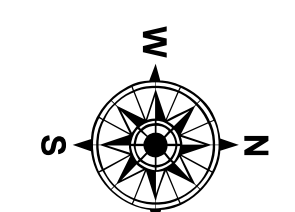
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**LEGEND**

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— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
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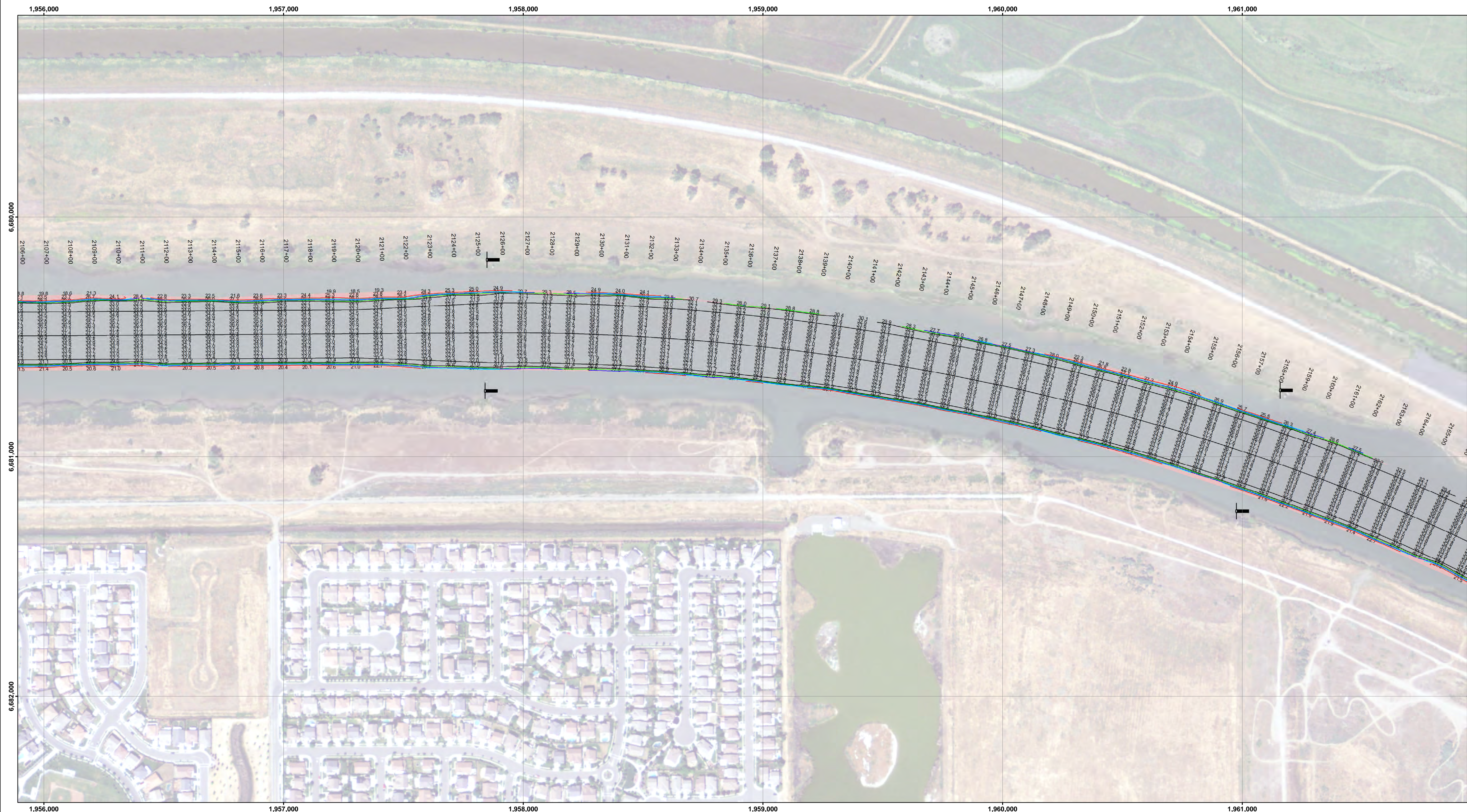
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Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed By:	TRAVIS J. RAYFIELD LT COLONEL, C.E., DISTRICT ENGINEER
Plotted By:	Hydro Survey Team Leader
Recommended:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

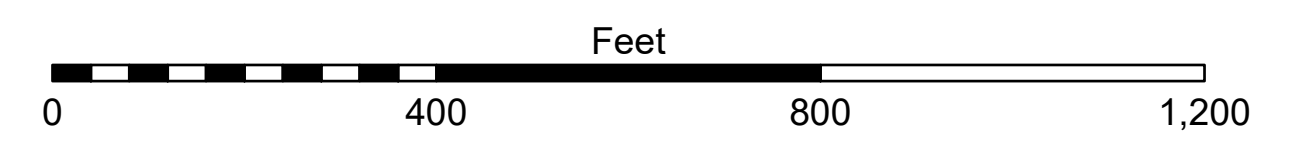
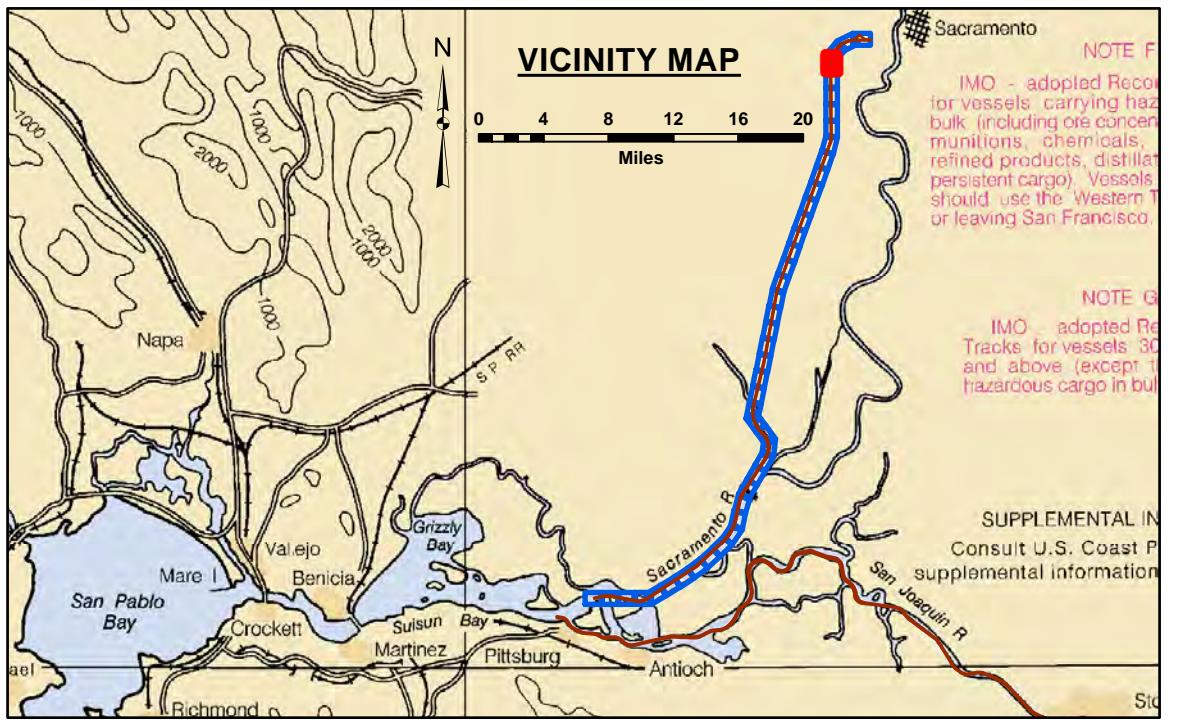
Sheet Reference Number  
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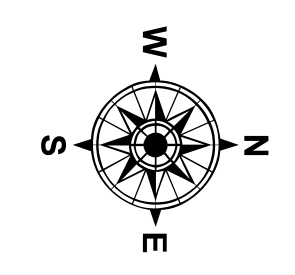
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Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
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Approved:	Chief, Construction Branch

CALIFORNIA  
 SAN JOAQUIN COUNTY  
**SACRAMENTO RIVER**  
 CONDITION SURVEY  
 16-21 JANUARY 2019

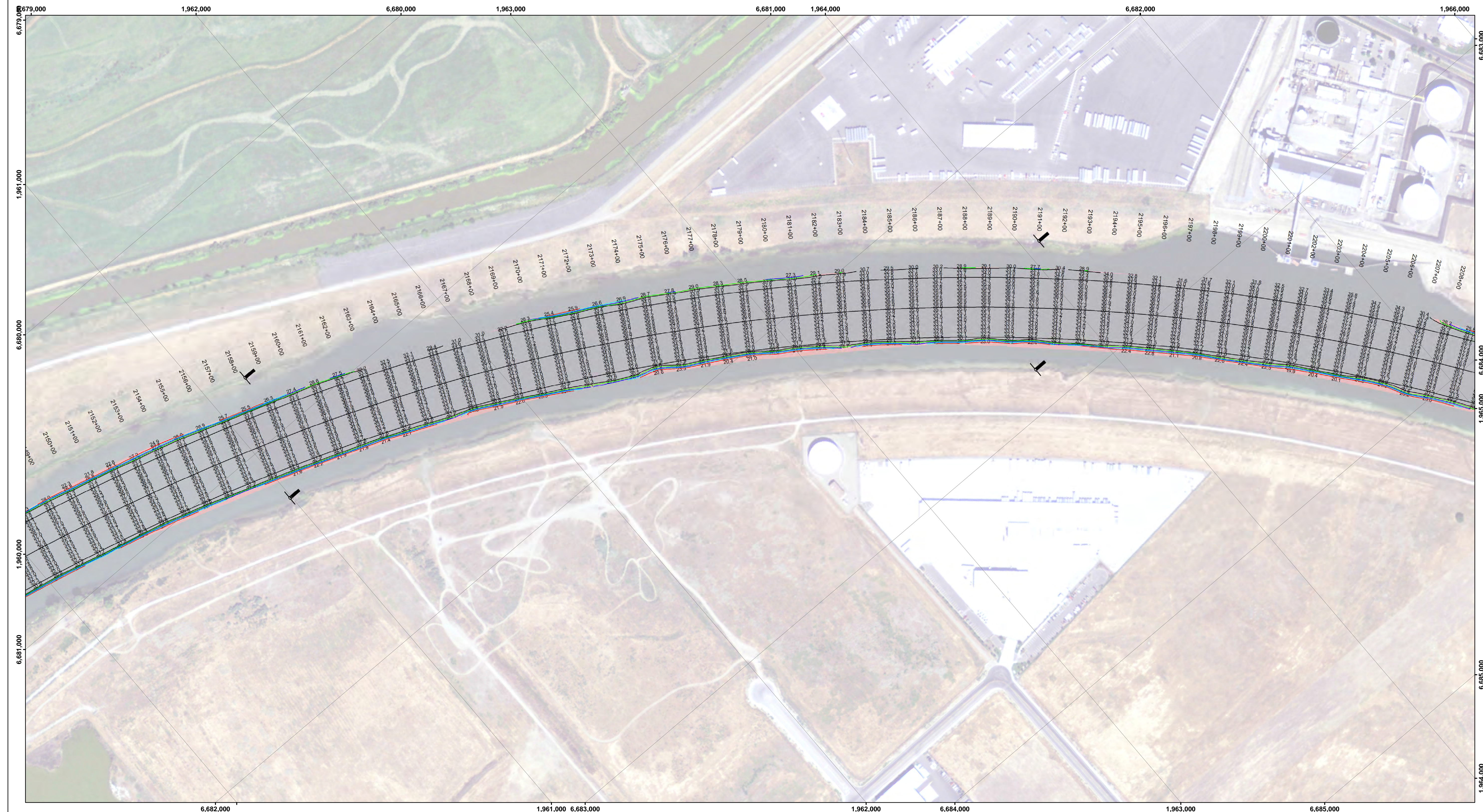


LEGEND		
--- Federal Navigation Channel	▨ Cable Area	■ Shoaling Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
..... Cable Submarine	⊘ Anchorage Area	⊥ Beacon, General
- - - Cable Overhead	⊗ Obstruction Point	◆ Red Navigation Buoy
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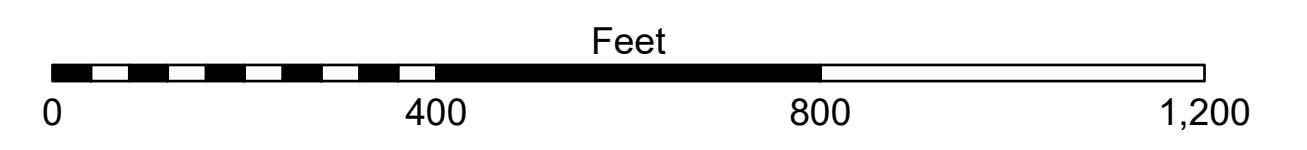
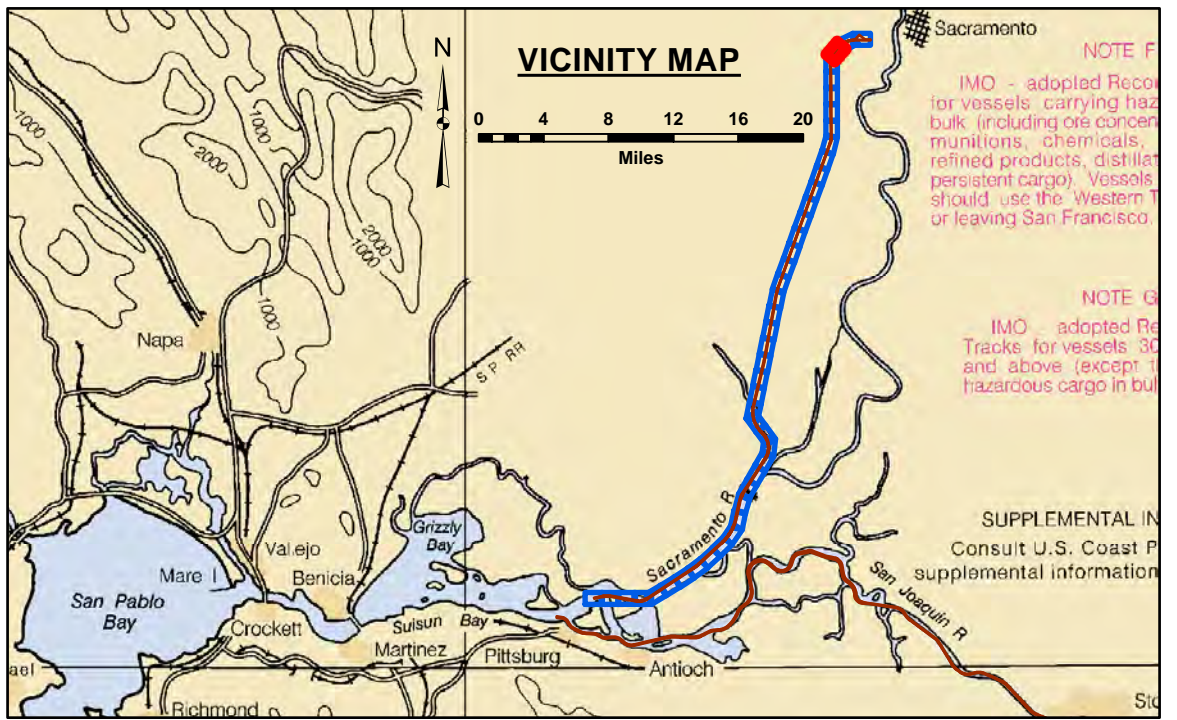
**CONTROLS:**  
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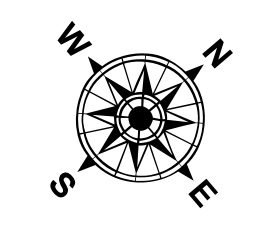
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Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT Colonel, C.E., District Engineer	Chart Date: Jan 29, 2019
Surveyed By: _____	Designed by: _____
Plotted By: PDT	Drawn by: PDT
Recommended: Chief, Hydro Survey Section	Checked by: PDT
Approved: Chief, Construction Branch	

CALIFORNIA  
 SAN JOAQUIN COUNTY  
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 16-21 JANUARY 2019



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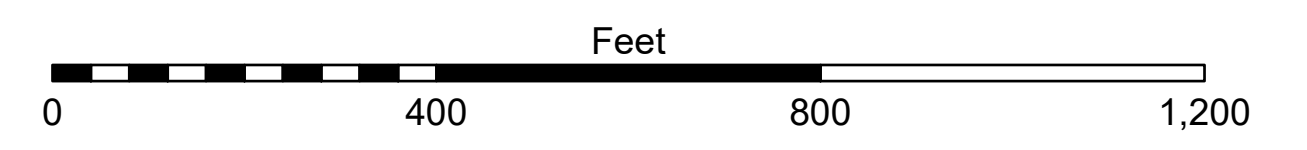
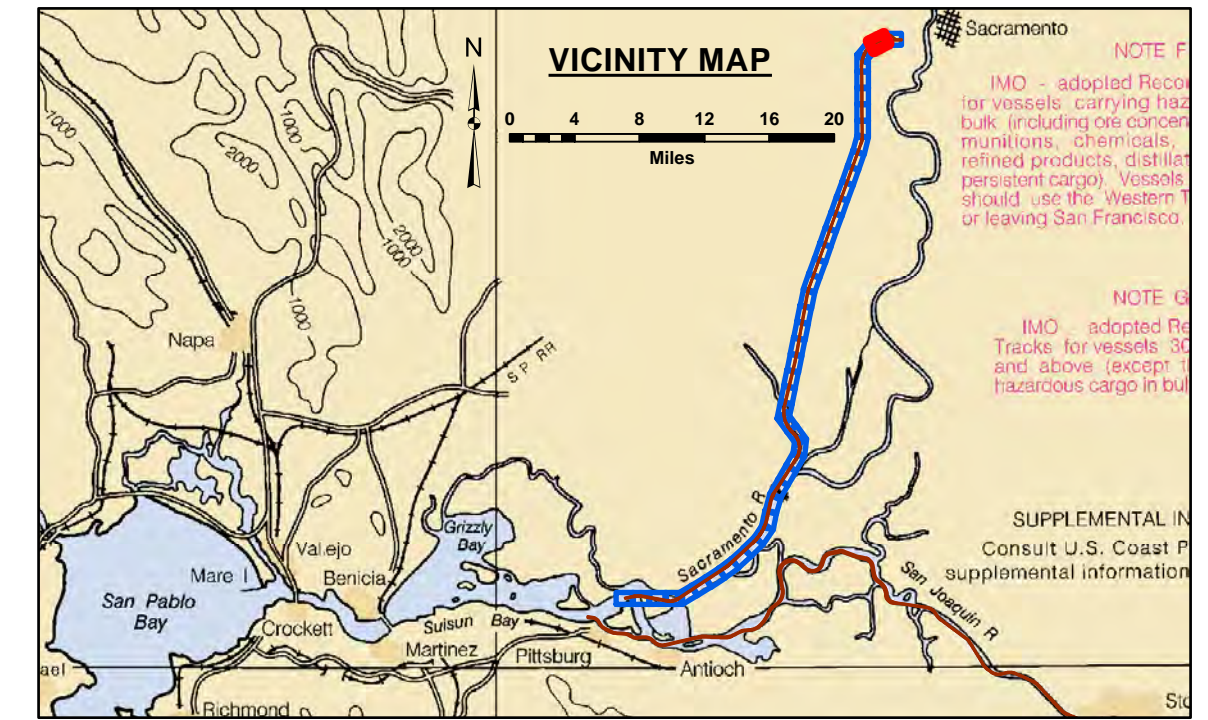
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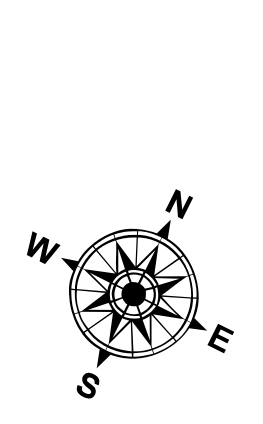
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CALIFORNIA  
 SAN JOAQUIN COUNTY  
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 CONDITION SURVEY  
 16-21 JANUARY 2019

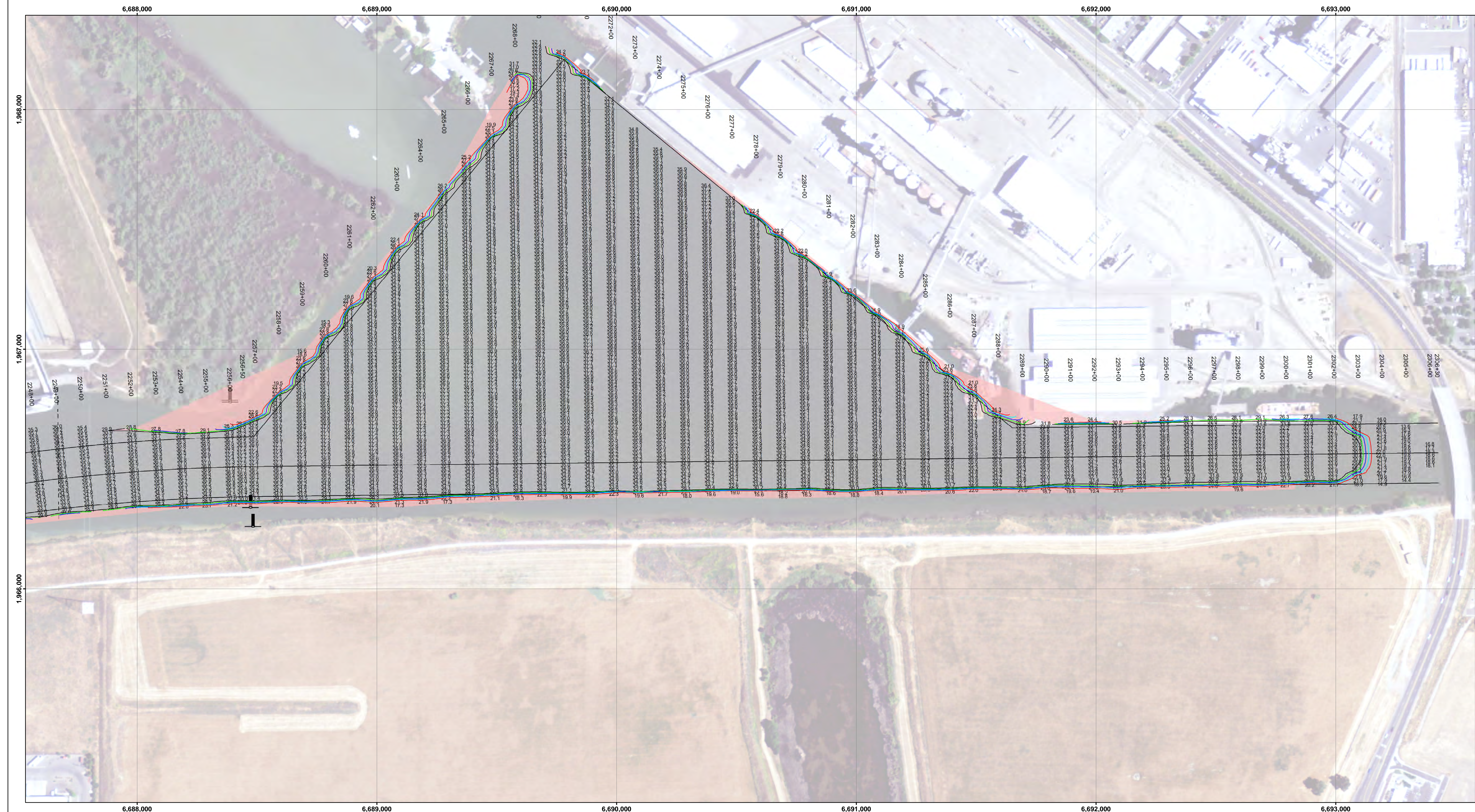


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 BENCHMARK: POWS1 (NO PID)  
 TIDE GAUGE: NAIL @ 10.0 FT MLLW  
 METADATA: NAIL SET BY USACE 8 APRIL, 2014  
 ALL HORIZONTAL POSITIONS AND MLLW ELEVATIONS WERE POST-PROCESSED USING PUBLIC GPS REFERENCE STATIONS IN THE AREA.



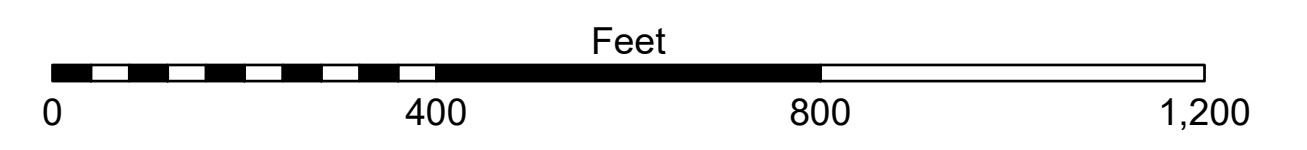
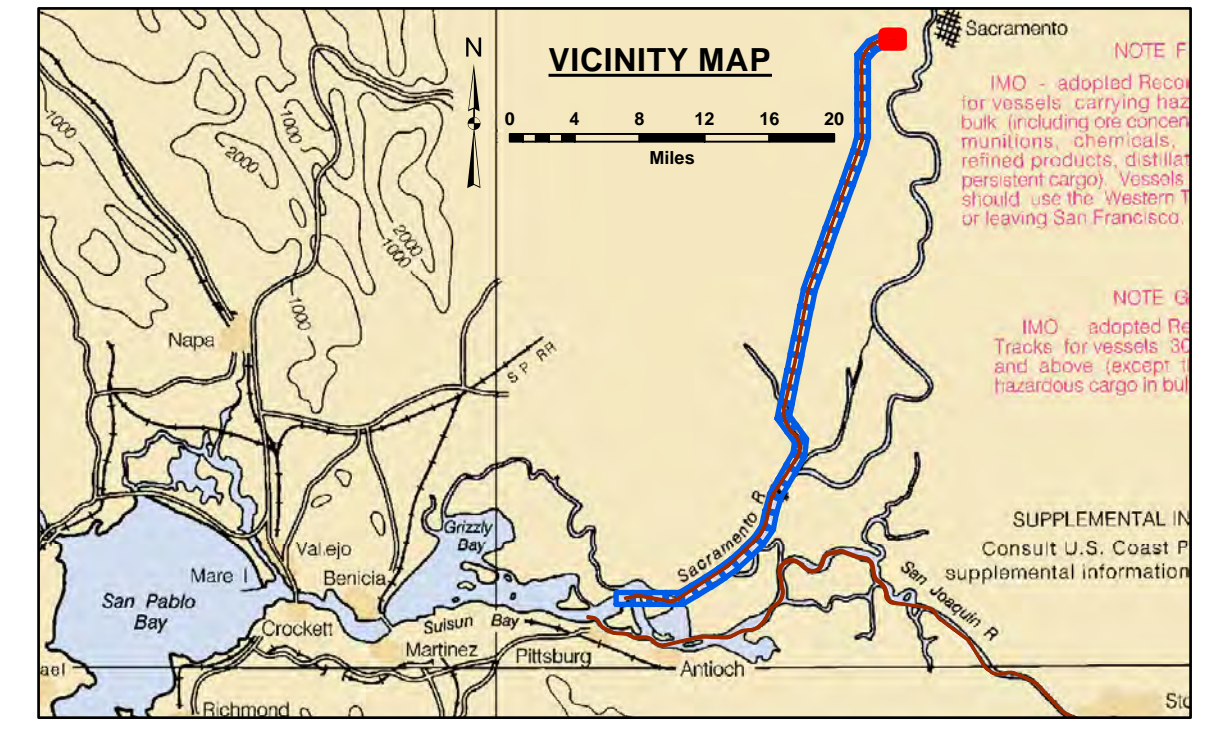
**DISCLAIMER**  
 The data represents the results of data collection for a specific US Army Corps of Engineers project. It is not intended for use in any other application. The user is responsible for the results of any application of the data for other than its intended purpose.

**ACCESS RESTRICTIONS**  
 The United States Government Lunsdale does not warrant the accuracy, completeness, or implied accuracy of the data. The user is responsible for the results of any application of the data for other than its intended purpose. The United States Government Lunsdale does not warrant the accuracy, completeness, or implied accuracy of the data. The user is responsible for the results of any application of the data for other than its intended purpose.

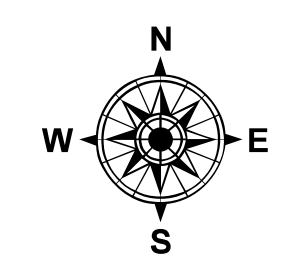
Chart Date:	Jan 29, 2019
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	PDT
Plotted By:	PDT
Checked By:	PDT

**CALIFORNIA**  
**SAN JOAQUIN COUNTY**  
**SACRAMENTO RIVER**  
**CONDITION SURVEY**  
 16-21 JANUARY 2019

**Sheet Reference Number**  
**45 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



**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  
 NOOA 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  
 NOOA 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.