

5001a

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

DEC 22 1934

Acc. No. ....

Form 504  
Rev. Dec. 1933  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } Sheet No. 5001a  
~~Hydrographic~~ }

State California

LOCALITY

Sacramento River

Rio Vista to Georgiana Slough

1934

CHIEF OF PARTY

L.P. Raynor

5001a

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

DEC 15 1934

REG. NO. 5001A

TOPOGRAPHIC TITLE SHEET

Acc. No. \_\_\_\_\_

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

-Field-No. \_\_\_\_\_

REGISTER NO. 5001 A      5001A

State California \_\_\_\_\_

General locality Sacramento River \_\_\_\_\_

Locality Rio Vista to Georgiana Slough \_\_\_\_\_

Scale \_\_\_\_\_ Date of survey \_\_\_\_\_, 19 \_\_\_\_\_

Vessel \_\_\_\_\_

Chief of Party \_\_\_\_\_

Surveyed by \_\_\_\_\_

Inked by \_\_\_\_\_

Heights in feet above \_\_\_\_\_ to ground to tops of trees

Contour, Approximate contour, Form line interval \_\_\_\_\_ feet

Instructions dated \_\_\_\_\_, 19 \_\_\_\_\_

Remarks: Corrections and additions applied to original \_\_\_\_\_

survey. For additional data see Descriptive Report. \_\_\_\_\_

Descriptive Report to Accompany  
Air Photo Topographic Compilation No. T - 5001 - A  
(to be included in report T-5001)

Rio Vista to Georgiana Slough, Sacramento River, California.

This sheet contains corrections (shown in red) to the original survey of this area, T-5001.

Sources of Information:

Hydrographic survey #6006 by L. P. Raynor, 1934; plane table revision sheets 31a and 33a (Air Photo Section files) and descriptive report, (included in this report); sheet #71 (Air Photo Section files); original celluloid T-5001; photographs ss468-477, ss414-399, ss381-398.

Compilation:

Errors mentioned in H-6006 were included in the plane table revision.

The plane table revision corrections (31a and 33a) were applied by D. H. Benson and checked by H. C. Olsen.

*D. H. Benson*

*Henry C. Olsen*

Sheet #71 contained a few additional names.

Remarks in addition to Revision Report:

The correction in the southeast corner of the sheet consisted of a general westward shift. The photographs were replotted with the additional control and indicated that there was a "swing" in the original plot at this point. The "swing" confined itself to this sheet, however.

U.S.E. #7 ( $38^{\circ}-08\frac{1}{2}'$ ,  $121^{\circ}-41'$ ) was found to be in error by about nine meters. Attention is called to the fact that the compiler of T-5001 found an error in this station of about 110 meters in longitude and the location on the compilation was a photo-plot location.

Triangulation station Isleton 1931 was plotted wrong by about ten meters. The original celluloid was examined and it was found that the correct location was pricked and apparently used in the radial plot but the erroneous location was enclosed by the symbol.

The plane table party discovered an error of 16 meters in the projection of the eastern half of T-5001 (33a), most of the error being between Long.  $121^{\circ}-37'$  and  $121^{\circ}-38'$ . The projection was revised by the field, holding to the extreme eastern meridian,  $121^{\circ}-35'$ . A check up was made to determine the source of this error, the results of which indicated that the error occurred in printing the aluminum revision sheet from the press plate, the press plate being correct. The process of printing aluminum sheets necessitates a rubber blanket taking the impression from the press plate and impressing it upon the aluminum sheet. Apparently due to uneven pressure this blanket stretched while printing the east half revision sheet.

Respectfully submitted

*Frank G. Erskine*

September 11, 1934.

Frank G. Erskine.

DEC 15 1934

Acc. No. \_\_\_\_\_

## DESCRIPTIVE REPORT

to accompany

REVISION OF PORTIONS OF TOPOGRAPHIC SHEETS No. 5001

E. & W.  
(33a) (31a)

## AUTHORITY, DATES:

The authority for the work is contained in the Director's Letter 22 LE 1990, third paragraph, Supplemental instructions of September 2, 1933, and the Director's Letter 22 MG 1990 (17), March 16, 1934.

## GENERAL NOTES, 5001-E.

In comparing the tracing of the U.S.E. blue print with the air-photo compilation, the section of the Sacramento River in the vicinity of Isleton was questioned. The tracing of the blue print forwarded from Washington showed no specific discrepancies so a general planetable revision was undertaken in the area between the Isleton transmission towers and the Isleton drawbridge.

The field work was done by John C. Bliss, Observer, on May 28, 29, 31, and June 1, 1934.

## 5001-W.

On the Sacramento River, in the vicinity of Rio Vista, various differences were discovered between the U.S.E. tracings and the air-photo compilation. Therefore, a planetable revision was made of the area between the U.S. Engineer's Yard and the Rio Vista Bridge on the west side of the Sacramento River and of the area between Grand Island Navigation Beacon and Duck Island on the East side.

The field work was done by Earl M. Buckingham, Surveyor, on May 25 and 26, 1934, and by John C. Bliss, Surveyor, on June 4, 5, 6, 7, and 8, 1934.

## METHODS, CONTROL, ETC.

The field work was done by planetable traverse using a standard U.S.C. & G.S. planetable outfit and an aluminum sheet containing the air-photo compilation, scale 1:10,000. In checking the projection as shown in blue on sheet 5001-E, a considerable error (5 to 6 meters) was discovered in the distance between meridians  $121^{\circ} 37'$  and  $121^{\circ} 38'$  along parallel  $38^{\circ} 09'$ . Therefore, a new projection was made, based upon Longitude  $121^{\circ} 35'$  and Latitude  $38^{\circ} 09'$ . The new projection was made by Earl M. Buckingham, Surveyor, and checked by S. S. Whitehead, Draftsman.

Triangulation stations were replotted using the new projection. In replotting these points an error of ten meters was discovered in the original plotting of Isleton (1931) as shown in blue on Sheet #5001-E.

These replotted points, Isleton N.E.T.T. (1931), Isleton S.W.T.T. (1931), Isleton (1931), Isleton Tank (1931), and Grand (1931), were used for control in this revision. Their geographic positions are shown on an affixed sheet.

FIELD WORK, SHEET #5001-E.

The field work was started at triangulation station Isleton (1931). Using Isleton Tank (1931) as an orientation point, a traverse about one-half mile long was run toward Isleton N.E.T.T. (1931). A check of the shoreline and of the island immediately offshore showed the air-photo compilation to be very good. A few minor errors due to overhanging trees were discovered and corrected. The traverse was checked into Isleton N.E.T.T. (1931) with a closing error of about two meters.

While occupying Isleton (1931) a traverse point was set across the Sacramento River in the vicinity of the Libby Cannery. Upon completing the first traverse, this point was occupied and a traverse run toward Isleton S.W.T.T. (1931). The buildings immediately east of the Libby Cannery were checked and those shown were remarkably accurate. Two additional buildings and a tank and windmill were located. The Libby, McNeil, and Libby Buildings were checked and found correct. Two additional buildings on the highway in front of the cannery were located. The cannery dock was also checked and found correct. A concrete facing on the levee in this vicinity was not shown on the aerial compilation. This facing was noted in the revision. The shoreline checked the aerial compilation very closely, and a wharf near Isleton S.W.T.T. was checked and found as shown. The traverse was checked into Isleton S.W.T.T. (1931) with a closing error of about two meters.

Reoccupying the traverse point near the Libby Cannery, a traverse about one and three-quarter miles long was run to the Isleton Drawbridge. The shoreline followed the aerial compilation very closely and a check on U.S.E. point #105 showed it to be within a meter of the point shown in blue on the air-photo compilation.

The Associated Oil Dock was found to be correct as shown. Two buildings and two tanks not shown were located. The major buildings near the water front in Isleton were found to be as shown. The Isleton Wharf was also found to be as shown on the aerial compilation. A small section of the shoreline about 50 meters east of the Isleton Wharf was found to be in error about six meters. This was corrected.

At the Isleton Cannery the buildings and the docks were checked and found as shown on the aerial compilation. A water tank in front of the main cannery building was located, as it was not shown on the air-photo compilation. Immediately east of the Isleton Cannery about 100 meters of piling, not shown on the aerial compilation, was located. U.S.E. point #13 was found and a check shot taken on it. It was found to check within a meter the point shown in blue on the air photo compilation.

The Bayside Canning Company buildings were checked and found as shown. Some piling in the vicinity of the cannery docks was located. The Southern Pacific Wharf was checked and found to be as shown with the exception of a new addition on the east end. The addition was located on the aerial compilation. The traverse was continued to the Isleton Drawbridge where U.S.E. points #14 & #15 at opposite ends of the bridge were found to check within two meters.

During the progress of the traverse on the south bank of the Sacramento River, the north shoreline was rodded out by boat. It was found to agree reasonably well with the air-photo compilation, the only differences occurring where the shoreline was hidden by overhanging trees. With the exception of the small section near the Isleton Wharf, the south shoreline practically coincided with the air-photo compilation. Various small sections of piling not shown on the aerial compilation were located.

Due to the good check on the U.S.E. points on the Isleton Bridge and the fact that all triangulation points visible agreed, the final traverse position was considered correct and the traverse closed.

FIELD WORK, SHEET #5001-W.

Starting at triangulation station Rio Vista (1931), a short traverse was run to the U.S.E. Yard where the buildings were checked. All buildings shown on the air-photo compilation were found to be in error. Several existing buildings were not shown. The buildings shown were relocated and those not shown were located on the sheet. The traverse was checked back to triangulation station Rio Vista (1931) and closed flat.

Reoccupying Rio Vista (1931), a traverse about one mile long was run north toward Rio Vista Drawbridge. Several small piers and pile dolphins not shown on the aerial compilation were located. The highwater line closely followed the aerial compilation. The large wharf south of the Standard Oil Wharf was found to be slightly in error as to shape and was corrected.

The Standard Oil Wharf was found to be in error in position and was corrected. The Standard Oil office building at the wharf was also located. The Shell Oil Co. Wharf was found to be in error both in shape and position. Apparently an oil barge, tied up at the wharf at the time of the photograph, was mistaken for the wharf. The new location is shown on the sheet.

The Rio Vista Municipal Docks were found to be substantially as shown with the exception of the size of the buildings. These were changed to fit. A new landing and warehouse were discovered about 110 meters south of the Rio Vista Bridge. These were located. A check shot was taken on the west approach of the bridge and it was found to agree with the aerial compilation. The traverse was checked by a planetable three-point fix and no discernible error was discovered.

Picking up at a planetable three-point fix set by Earl M. Buckingham, Surveyor, about 660 meters south of the east approach of Rio Vista Drawbridge, the traverse started by Mr. Buckingham was continued south. The highwater line of the small slough between Duck Island and Brannan Island was found to be in error about five meters on each shoreline. The highwater line of the slough was changed and a wooden bridge and landing, not shown on the aerial compilation, were located.

At a convenient location a traverse point was set on the river shore of Duck Island and the traverse continued south. The small tule islands shown offshore from Duck Island were discovered to

no longer exist, being connected to the main island by a heavy tule growth and debris. At a point about the middle of Duck Island a break was discovered through which water from the river runs at high tide.

The shoreline of Duck Island was found to be receding in several places due to the action of the wind and waves on the river side. It was found to have receded about 25 meters at the south end of the island since the aerial photographs were taken. The large building shown at the south end of the island was relocated, it having been moved to keep it from washing away.

A large boat hulk laying off the south end of Duck Island was located. It was not shown on the aerial compilation.

The pile bulkhead running south along the river bank from Duck Island was rodded and found to check the aerial compilation. The state highway on top of the levee was found to be inconsistent, varying away from the aerial compilation as much as six meters in spots and checking in others. All errors were corrected.

A check shot on U.S.E. point #7 showed it to be in error about nine meters. This discrepancy may be due to an error in the plotting of the U.S.E. point. The traverse was closed by a planetable three-point fix with an error of about two meters.

Starting at a traverse point set by Earl M. Buckingham, Surveyor, from triangulation point, Fork (1931), a traverse about one-half mile long was run toward Isleton. The buildings questioned on the U.S.E. tracing were found to be in error and corrected. Several additional buildings were located in the two groups of structures checked.

The highwater line on Grand Island was found to have been changed considerably by the placement of rock rip-rap from Grand Island Navigation Beacon to a point about 730 meters east. The change amounted to as much as 12 meters in places. The line of the rock fill was located and designated as the new highwater line on the air-photo compilation. Rock rip-rap has also been placed on the south shore of the Sacramento River. Any changes thus made in the air-photo compilation were noted. The traverse was checked by a planetable three-point fix and found correct to a meter.

The U.S.E. tracing showed a difference in the shape of the Del Monte Cannery Building from that shown on the air-photo compilation. Obtaining a position by offsetting from the Del Monte Tank (1931), the building was checked and found to be substantially as shown on the aerial compilation, with the exception of a small jog on the front of the building. This jog is shown on the air-photo compilation but does not actually exist.

#### MISCELLANEOUS, SHEET #5001-E.

The air-photo compilation on this sheet was the best encountered thus far. It was the first sheet on which the positions of the buildings agreed with their actual location.

MISCELLANEOUS, SHEET #5001-W.

The compilation of highwater on this sheet was very good. The only large differences occurring where changes had been made since the photograph was taken. The buildings were in error in most cases, conforming to the results thus far encountered, with the exception of Sheet #5001-E.

*John C. Bliss*  
John C. Bliss  
Surveyor.

*Approved 7/2/34*  
*L. S. Raymond*  
*Chief of Party*



SHEET 5001-East  
TRIANGULATION STATIONS USED FOR CONTROL

Station	Latitude			D.M.	Longitude			D.P.
	°	'	"		°	'	"	
Isleton S.W. Transmission Tower, 1931	38	09	58.530	1804.7	121	37	41.251	1004.2
Isleton N.E. Transmission Tower, 1931	38	10	10.100	311.4	121	37	36.118	879.2
Isleton, 1931	38	09	57.266	1765.7	121	37	09.406	229.0
Isleton Muni- cipal Water Tank, 1931	38	09	43.339	1336.3	121	36	25.639	624.2
Grand, 1931	38	10	55.497	1711.1	121	35	12.144	295.6
Three-point N.W. Bouldin, 1933	38	07	42.883	1322.1	121	34	22.843	702.4
Three-point Denicke Ldg. 1934.	38	07	06.264	193.0	121	35	08.603	209.5
Windmill, Denicke Ldg. (M.W. 1)	38	07		193.0	121	35		209.5

(527.9)

(758.3)

(1657.0)

(1252.1)

(1645.2)

(1216.2)

~~208.4~~

204.8

FGE

204.8

SHEET 5001-WEST  
TRIANGULATION STATIONS USED FOR CONTROL

Station	Latitude			D.M.	Longitude			D.P.
	°	'	"		°	'	"	
496C(Trans- mission Tower)	38	07	47.89	(573.3) 1476.7	121	40	26.36	(819.3) 642.0
Rio Vista, 1931	38	08	55.036	1635.2	121	41	28.461	693.0
Pier No. 6 U.S.G.S.	38	08	57.40	1769.8	121	41	35.60	866.8
Rio Vista East Municipal Water Tank, 1931	38	09	17.997	554.9	121	41	47.166	1148.4
Rio Vista West Municipal Water Tank, 1931	38	09	17.767	547.8	121	41	47.719	1161.8
Rio Vista St. Joseph's Catho- lic Church Spire	38	09	24.645	759.9	121	41	37.345	909.2
Del Monte Water Tank, 1931	38	09	47.469	1463.6	121	41	01.261	30.7
Junction Point Light, 1931	38	10	38.450	1185.5	121	40	09.333	227.2
Fork, 1931	38	10	17.467	538.6	121	39	58.430	1422.3
Grand Id. Navi- gation Beacon, 1931.	38	10	40.526	1249.5	121	39	45.736	1113.2

PLANETABLE POSITIONS SCALED FROM ALUMINUM SHEET T-5001-E

Signal	Latitude ° ' "	D.M.	Longitude ° ' "	D.P.
				(1284)✓ 177
GW 4-	38 07	(462)✓	121 35	
GE 3-	38 07	(361)✓	121 34	(34)✓
GW 3-	38 07	(392)✓	121 34	(166)✓
GE 2-	38 07	(297)✓	121 34	(398)✓
MW 10-	38 07	(292)✓	121 34	(602)✓
MW 12-	38 07	(184)✓	121 34	(920)✓
ME 9-	38 07	(362)✓	121 34	(1007)✓
MW 9-	38 07	(423)✓	121 34	(565)✓
ME 8-	38 07	(519)✓	121 34	(750)✓
<sup>MM</sup> MW 8-	38 07	(673)✓	121 34	(423)✓
ME 7-	38 07	(911)✓	121 34	(498)✓
MM 3-	38 07	(868)✓	121 34	(269)✓
MM 7-	38 07	(826)✓	121 34	(179)✓
ME 6-	38 07	(1111)✓	121 34	(399)✓
MM 6-	38 07	(1122)✓	121 34	(116)✓
				(1405)✓ 56
ME 5-	38 07	(1248)✓	121 35	
ME 5-	38 07	(1417)✓	121 34	(235)✓
MM 4	38 07	(1439)	121 35	(1343)✓ 119

## ADDITIONAL NOTES

SHEET NO. 5001

### MOUTH OF GEORGIANA SLOUGH (5001-E)

Because of the poor junction between sheets 5001 and 4686, a revision was made of that portion of the North Fork of the Mokelumne River lying on Sheet 5001, together with about one-half mile of Georgiana Slough.

The survey was begun at the theodolite three-point station at Denicke Landing, orienting on Isleton Tank. During the first day considerable difficulty was encountered in reading the rods in the high wind prevailing at that time, and during the afternoon a stiffening member was nailed to the back of each rod. The following day work was started at the theodolite three-point fix N.W.Bouldin, and carried southwest to a junction.

As the traverses failed to close by about 8 meters, a bare traverse was carried on to Denicke Landing, over the same setup points. The final distance to the triangulation station was found to be in error 6 meters, undoubtedly due to the flexure of the rod in the wind on the previous day. As the closure was now reduced to about 2 meters, this traverse was accepted and the first day's detail shifted accordingly.

The traverse up Georgiana Slough was carried to a junction with the photo-compilation, the final setup being checked by a graphical three-point on Isleton Tank, M.W.10, and M.W.1. The latter was located by theodolite and tape from the theodolite station at Denicke Landing.

No attempt was made to show all buildings around the "old" Golden State Cannery, although the most prominent ones were located.

### EAST BANK OF SACRAMENTO RIVER (5001-W)

Commencing at triangulation station Fork, 1931, and orienting on several other stations visible therefrom, a traverse was run south along the east bank of the river to the point mentioned by Mr. Bliss, about 660 meters south of the Rio Vista Bridge. Frequent graphical three-points were taken enroute, and at no point was the indicated closure greater than 3 meters.

With the exception of the localities which showed obvious evidence of either erosion or construction of riprap, the shoreline was found to check quite well. Near station "Fork" a line of riprap has been placed about 20 meters off the old shoreline, and the area backfilled with dredger spoil. The offlying berm about 800 meters southwest of Fork seems to have suffered considerably from erosion, even though it is protected by a submerged riprap of considerable width.

A slight change was made in the location of the Rio Vista Bridge, which, however, is not greatly in excess of the possible errors of planetable traverse. No attempt was made to relocate the drawspan, which is a double lift bascule.

While several changes were necessary in the location and size of buildings, it is believed that they are at least no worse than on adjoining sheets.

*Earl M. Buckingham*  
Earl M. Buckingham  
Surveyor, U.S.C. & G.S.

*Approved S. P. Raymond*  
*Chief of Party*

*7/2/31*

NAMES; There are no charts covering the area of this project except chart 5534 at the junction of the Sacramento and San Joaquin Rivers. The following maps filed as Blueprints were furnished by the field party with corrections made from field examination to show the names in local use and have been used in making the corrections to compilations on this project.

Capt. Leathers Map (1931)--SP-- 2:708

U.S.G.S. Quadrangle Maps. --25702 to 25707

(See also chart letter No. 698 (1932))

Name lists are now being prepared under Mr. Bacon's Direction and will be attached at the back of the descriptive reports when completed. Any changes in names indicated by the name lists will be applied to the compilations at the next printing.

*Frank G. Luskine*

November 26, 1934

*Applied to drawing of Chart 5527  
Jan 8, 1935 - JFW*