

10424

orig

Diag. Cht. No. 6157 Insert

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. Ph-63 Office No. T-10424

LOCALITY

State Washington

General locality Columbia River

Locality Wallula

1957

CHIEF OF PARTY

V. Ralph Sobieralski
Portland Photogrammetric Office

LIBRARY & ARCHIVES

DATE **JUN 6 1960**

COMM-DC 61300

10424

DESCRIPTIVE REPORT - DATA RECORD

T - 10424

Project No. (II): Ph-63 Quadrangle Name (IV):

Field Office (II): Pasco, Washington

Chief of Party: V. Ralph Sobieralski

Unit Chief: R. B. Melby

Photogrammetric Office (III): Portland, Oregon

Officer-in-Charge: V. Ralph Sobieralski

Instructions dated (II) (III): 20 March 1956
(Field & Office)

Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:15,000

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): None

Date received in Washington Office (IV):

AUG 21 1958

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 25 June 1959

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III):

~~Mean sea level except as follows:-~~

~~Elevations shown as (25) refer to mean high water.~~

~~Elevations shown as (2) refer to sounding datum.~~

~~i.e., mean low water or mean lower low water.~~

For the McNary Dam Reservoir the
elevations refer to Normal Pool
Level of 340 ft. above M.S.L.

Reference Station (III): BARREN (USE) 1942 (WASH)

Lat.: 46° 05' 34.478"
1064.5m(788.0m)

Long.: 118° 58' 34.146"
733.5m(555.4m)

Adjusted X
Unadjusted

Plane Coordinates (IV):

State:

Zone:

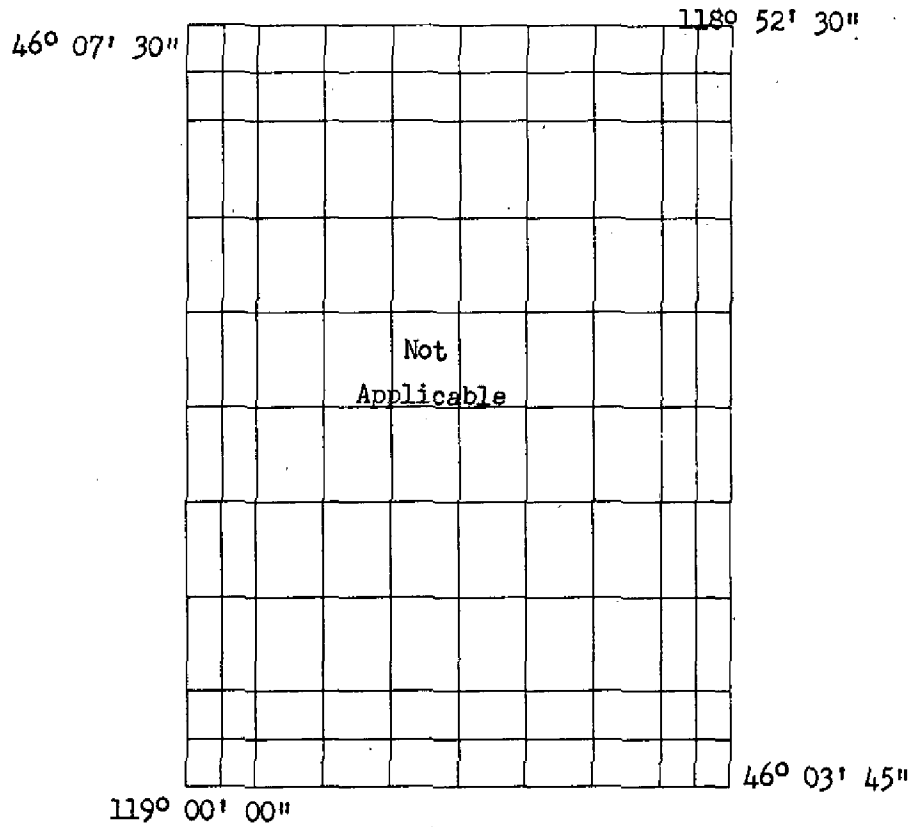
Y=

X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office,
or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

DESCRIPTIVE REPORT - DATA RECORD



Areas contoured by various personnel
(Show name within area)
(II) (III)

DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II): R. B. Melby

Date: Summer 1957

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location): Spot locations at intricate places were made in the field. For the most part the shoreline at normal pool level of 340 ft. above M.S.L. was delineated in the field from photographs taken on 9-26-54 when the pool was at that level.

Projection and Grids ruled by (IV):

Date:

Projection and Grids checked by (IV):

Date:

Control plotted by (III): J. L. Harris

Date: April 1957

Control checked by (III): J. E. Deal

Date: April 1957

Radial Plot or Stereoscopic J. L. Harris
Control extension by (III):

Date: 30 April 1957

Planimetry
Stereoscopic Instrument compilation (III):
Contours

Date:

Date:

Manuscript delineated by (III): L. L. Graves, Compilation
L. L. Graves, Scribing
C. C. Harris, Stick-up

Date: 11 June 1957
19 June 1957
16 Sept. 1957

Photogrammetric Office Review by (III): J. E. Deal

Date: October 1957

Elevations on Manuscript
checked by (II) (III):

Date:

-5-
DESCRIPTIVE REPORT - DATA RECORD

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

Camera (kind or source) (III): C&GS - 9 lens - focal length 8.25 inches

Number	Date	PHOTOGRAPHS (III)		Scale	Water Level of Pool
		Time			Stage of Tide
46187 & 46188	9-26-54	13:47		1:15,000	340 ft. above M.S.L.
46194	"	14:10		"	"
46206 & 46207	"	14:29		"	"
54394 & 54395	6-11-56	08:28		"	340.4 ft. "

Tide (III):

Reference Station: Not applicable

Subordinate Station:

Subordinate Station:

Washington Office Review by (IV):

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Ratio of Ranges	Mean Range	Spring Range

Date:

Date:

Date:

Date:

Land Area (Sq. Statute Miles) (III): 22

Shoreline (More than 200 meters to opposite shore) (III): 10

Shoreline (Less than 200 meters to opposite shore) (III): None

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): 11

Recovered: 7

Identified: 5

Number of BMs searched for (II):

Recovered:

Identified:

Number of Recoverable Photo Stations established (III): 7

Number of Temporary Photo Hydro Stations established (III): 3*

Remarks:

* These stations have topo. names and are of topo. station accuracy. Forms 524 were not submitted in accordance with letter clarifying instructions.

Summary
to accompany shoreline manuscript T-10424

This is one of eighteen shoreline surveys of Project PH-63 (27020). The group of surveys covers a portion of the upper Columbia River effected by the McNary Dam and extends from Oregon into the State of Washington. The specific area covered by subject survey is of Wallula and vicinity, Washington.

Instructions for the project of March 1956 were sent to the Portland Photogrammetric Office. The field work-recovery and establishment of control and field inspection-was done during the summer of 1957; the radial plot and compilation also in 1957 from nine-lens aerial photography of Sept. 1954 and June 1956. The roughly compiled manuscript was later scribed by the same field office and an acceptable medium for the reproduction of file copy submitted to the Washington Office in Aug. 1958.

There is only one previous survey (from 1915) of subject area and this has become obsolete (see Wallula, Wash., 1:125000, U. S. Geological Survey, Ed. of 1918).

A cronar film positive at the compilation scale of 1:1500 and the Descriptive Report will be registered and filed in the Bureau Archives.

June 1959

FIELD INSPECTION REPORT

(1957 Season)

Map Manuscripts T-10386, T-10421 thru T-10424

and T-11317

Project Ph-63

2. Areal Field Inspection:

The field inspection of this portion of the project was inspected on nine-lens photographs furnished by the Coast and Geodetic Survey. While some of the prints lack the desired amount of contrast, the photographs were of sufficient clarity to interpret and denote the images of the physical features. The inspection of the photographs was conducted from a motor vehicle when possible and by small boat or on foot where vehicular travel was unfeasible.

The area can be considered semi-arid. Near the northern limits of the project area, some of the land is under cultivation, watered by an extensive irrigation system.

The Columbia River flows southward through the area. Near the town of Umatilla, Oregon, is McNary Dam that impounds the Columbia River to form a reservoir. This reservoir will be referred to as McNary Pool, as an official name has not been designated for this feature. The area is served by a heavy duty two lane highway (U.S. 395/410) that extends north-south paralleling the Columbia River along its east shore. Three railroads, the Union Pacific Railroad, the Spokane, Portland and Seattle Railway and the Northern Pacific Railway operate through the area.

Tug and barge traffic as well as pleasure craft ply the waters of McNary Pool. Portions of the pool serve as State Game Range and Wildlife Management Areas.

Sacajawea State Park, situated on the east shore of McNary Pool at the mouth of the Snake River, near the town of Pasco is the only state park in the area. City parks in Pasco and Kennewick have been denoted on field photographs.

3. Horizontal Control:

Five new supplemental, horizontal control stations were established by triangulation methods, stations DRIFT 1957, TARGHE 1957 and WALLULA DEPOT, U.P.R.R. ELEVATED TANK 1957. These stations were necessary to fulfill photogrammetric requirements.

Drift Station, Targhe Station, Wallula Depot Station, Elevated Tank Station

water not normally influenced by McNary Pool are denoted as ponds.

From the mouth of the Walla Walla River northward, the area east of the Columbia River (McNary Pool) is gentle, rolling, uncultivated lands, except near the community of Burbank Heights, where an irrigation project makes mixed farming possible. On the west side of McNary Pool, opposite the mouth of the Walla Walla River, the precipitous bluffs meet the Pool; proceeding northward the bluffs slowly recede from the Pool's edge and give way to gentle, rolling lands, that northward from the vicinity of Hovey are cultivated. Water necessary for cultivation is supplied by an irrigation system.

There are few piers, wharves or landings along the Pool. At Wallula Depot, there is a basin with wharves; at East Pasco on the Snake River upstream from the mouth are small wharves serving the petroleum and aqua ammonia storage tank sites. There are two chemical plants on the west side of the Pool south of Kennewick. Grain elevators are located at Pasco and Kennewick with facilities to load or unload river barges or railroad cars.

There are five railroad bridges, three highway bridges and two power line crossings in the area. Clearances of the features will be described under Item 12, Other Interior Features.

8. Offshore Features:

Except for a few small islands and rocks, the area appears relatively free of offshore features.

9. Landmarks and Aids:

Significant land marks for nautical charts will be described on form 567.

A system of lighted fixed aids, floating aids and daybeacons have been erected and are being maintained along the Columbia River (McNary Pool). The fixed aids were located by either photogrammetric, triangulation or traverse methods.

10. Boundaries, Monuments and Lines:

Only one state, Washington, is involved in this area.

The boundaries of Sacajawea State Park were not determined as the limits of the park was not marked by recoverable monuments. The three involved counties, Benton, Franklin and Walla Walla, share common boundaries formed by the Columbia and Snake Rivers.

11. Other Control:

Twenty one marked, recoverable topographic stations and twenty three un-monumented, recoverable photo-topo stations were established. All of the above stations are along the shores of the Columbia or Snake Rivers. One Corps of Engineers triangulation station and eleven Corps of Engineers Sedimentation Range stations were recovered to serve for control of hydrographic surveys in the delta of the Walla Walla River.

The following are the marked, recoverable topographic stations established.

T-10386 - None

T-10421 - BM I 2 RESKT, OVER, SACAJAWEA LIGHT, SPAN,
APEX, KERR RADIO STATION MAST, CROW

T-10422 - DAYBEACON, JUNCTION LIGHT

T-10423 - BARE, ITEM, WORK, RANGE 1 FRONT LIGHT, RANGE
1 REAR LIGHT

T-10424 - RANGE 2 FRONT LIGHT, RANGE 2 REAR LIGHT, TEAL,
B 336-2, CARP, HOVER LIGHT, GRIP

T-11317 - None

The names of the un-monumented photo-topo stations will be listed under Notes to the Hydrographer.

12. Other Interior Features:

Highway and roads were classified on field photographs as described under section 5411, Topographic Manual. Railroads were denoted on the field photographs.

Clearances for bridges and power line crossings are listed below;

Snake River Railroad Bridge, swing bridge

Horizontal clearance, 152 feet
Vertical clearance - open 67.5 feet
closed 13.5 feet

Snake River Highway Bridge, fixed span

Horizontal clearance, 426 feet
Vertical clearance, 62 feet

Old Russo-Mannewick Highway Bridge, fixed span

Horizontal clearance, 451 feet

Vertical clearance, 22 feet

Northern Pacific Railway Bridge, over Columbia River,
lift span

Horizontal clearance, 293 feet

Vertical clearance - open, 68 feet

closed, 15.8 feet

Union Pacific Railroad Bridge, over Columbia River,
swing bridge

Horizontal clearance, 122 feet

Vertical clearance - open, 68 feet

closed, 11 feet

Railroad Bridge, near south end of Burbank Slough,
fixed span

Horizontal clearance, 33 feet

Vertical clearance 10.8 feet

Highway Bridge, near south end of Burbank Slough,
fixed span

Horizontal clearance, 17.8 feet

Vertical clearance, 13 feet

Railroad Bridge, near Zanger Junction, over Walla Walla
River, fixed span

Horizontal clearance, 92 feet

Vertical clearance, 49 feet

Power Line Crossing, over Columbia River near Sacajawea
State Park

Vertical clearance, 103 feet

Power Line Crossing over Columbia River at Clover Island

Vertical clearance, 52 feet

Approved:

Respectfully submitted:

W. Ralph Sobieralski
Lieut. Col. G-3
Officer-in-Charge

Robert B. Melby
Carto. Survey Aid
Unit Chief

PHOTOGRAMMETRIC PLOT REPORT

Radial Plot "B"

Map Manuscripts T-10424, T-10425,

T-10386, T-11317 and T-11318

Project Ph-63

21. Area Covered:

This radial plot covers the shorelines of the Columbia River to an interior depth of about 3 miles, from the Washington-Oregon boundary upstream to Attalia, and the shorelines of the Walla Walla River to an interior depth of one mile, from the Columbia River upstream to the Northern Pacific Railroad bridge. It comprises map manuscripts T-10424, T-10425, T-10386, T-11317 and T-11318.

22. Method:

The control extension was accomplished by the hand templet radial line plot method using acetate, templets made from nine-inch photographs taken in 1954 and 1956. Photographs were prepared by the usual methods and master calibration templets No. 43497 and No. 48340 were used respectively for the 1954 and 1956 photography when correcting for transforming errors and paper distortion. Refer to letter, 73-mkl dated 9 August 1956, Subject: "Compilation - Projects 27260, Charleston, S. C. and 27020, Upper Columbia River, Oregon", relative to the use of calibration templet No. 48340 (1955) for 1956 photography.

For each of the five manuscripts in this radial plot a polyconic projection was furnished of the respective areas ruled on 2' x 3' sheets of Mylar material. Each of the polyconic projections for T-10424 and T-10425 covered 3 minutes 45 seconds of latitude and 7 minutes 30 seconds of longitude. For T-10386, T-11317 and T-11318 each covered 3 minutes 45 seconds of latitude and longitude. The Lambert State grids of Oregon and Washington were also ruled on T-10424 and T-10425. For T-10386, T-11317 and T-11318 the Lambert State grid of Washington only was added. The horizontal control stations falling on each of the respective manuscripts were plotted and verified. The five sheets were joined together by matching at the neat line junctions and then fastened with clear cellulose tape. The templets were oriented to the identified control directly on the joined work sheets and fastened with masking tape. After all templets were satisfactorily oriented and fastened the entire radial plot was turned face down and the locations of pass points and principal points were pricked and indicated by circles, on the reverse sides of the work sheets using Craftint No. 111 red plastic ink. The plot was then turned face

up and the templates were dismantled. The photogrammetric points falling in the margins at the junctions of adjoining sheets were transferred and then the joined work sheets were dismantled.

There were more than an adequate number of identified horizontal control stations available and all were satisfactorily held in this radial plot. The results were excellent and well within the limits of horizontal accuracy requirements.

23. Adequacy of Control:

The identification of horizontal control stations was satisfactory and more than an adequate number were available.

24. Supplemental Data:

There were topographic maps, compiled by the Corps of Engineers, U. S. Army, Walla Walla District, available which covered the area of this radial plot. These were not needed to supplement the identified horizontal control stations, but they were used during the compilation of planimetric details for verification of certain features for which state coordinate positions of the U. S. Engineers were available.

25. Photography:

The photography was adequate. The P.M.A. ratio prints were not needed to supplement the nine-lens photography.

Approved:

V. Ralph Sobieralski

V. Ralph Sobieralski
LCDR, C&GS
Officer-in-Charge

Respectfully submitted:

J. Edward Deal

J. Edward Deal
Cartographer
C&GS

SCALE FACTOR None

COMM-DC-57843

COMPILATION REPORT

Map Manuscript T-10424

Project Ph-63

31. Delineation:

The Compilation and drafting were accomplished as follows:

- (a) Graphic compilation in ink on work sheets having projections ruled in Washington.
- (b) Office review.
- (c) Transfer of compiled planimetry and projections to yellow coated scribe sheet by "Watercote" methods.
- (d) Scribing in negative of compiled details and projections.
- (e) Reproduction of scribed features on Van Dyke grained positive.
- (f) Stick-up of symbols and type.
- (g) Final office review and inspections by Officer-in-Charge.

32. Control:

Refer to Items 22 and 23 of the Photogrammetric Plot Report which is included in this Descriptive Report.

33. Supplemental Data:

This office was furnished a set of prints of a survey made by the Corps of Engineers, U. S. Army, Walla Walla District of an area behind the McNary Dam previous to flooding. Several points of planimetry that appear on T-10425 were located by triangulation ties during this survey and for these Lambert State Coordinates were furnished. They were plotted on the manuscript and found to be in excellent agreement with the graphically compiled planimetry.

Prints of this survey covering the area of T-10424 are submitted. They are drawings MDR-1-12/16, MDR-1-12/21 Sheet No. 17, MDR-1-12/17 Sheet No. 20 of McNary Lock and Dam, Columbia River, Oregon and Washington - Relocations and Section Corner Ties - Walla Walla District, Corps of Engineers, 1 November 1954.

34. Contours & Drainage:

Contours are not applicable. Drainage was delineated by field inspection and refined by office examination of the photographs supplemented by reference to the U. S. Geological Survey quadrangles of the area.

35. Shoreline and Alongshore Details:

The shoreline of the nine-lens photographs taken on 9-26-54 when the pool level was 340 feet above mean sea level has been shown. Except where clarification was needed no field inspection was made of the shoreline.

The approximate low-water line was compiled from Corps of Engineers, U. S. Army photographs taken on 13 October 1953 when the water level of the pool was about 324 feet above mean sea level.

36. Offshore Details:

None

37. Landmarks and Aids:

Forms 567 are submitted for these features.

38. Control for Future Surveys:

Seven Forms 524 for recoverable topographic stations located by photogrammetric methods are submitted.

Three photo-hydro stations of recoverable topographic station accuracy and marked by winged drill-holes, chiseled crossed, etc. were located.

These stations are listed under Item 49, "Notes to the Hydrographer".

39. Junctions:

Satisfactory junctions have been made with T-10423, T-10425, T-11317 and T-10386.

40. Horizontal and Vertical Accuracy:

There are no areas believed to be of sub-normal horizontal accuracy. Vertical accuracy is not applicable.

46. Comparison with Existing Maps:

The U. S. Geological Survey quadrangle maps of the area are

obsolete for comparison with this shoreline manuscript because they were made previous to the flooding of the McNary Pool.

47. Comparison with Nautical Charts:

There are no nautical charts of the area. Recent hydrographic surveys by the Corps of Engineers were not available for comparison purposes.

Approved:

V. Ralph Sobieralski

V. Ralph Sobieralski
LCDR, C&GS
Officer-in-Charge

Respectfully submitted:

J. Edward Deal

J. Edward Deal
Cartographer
C&GS

T-1042x

18

48. Geographic Names:

The geographic names shown on this manuscript are not final. They were obtained from the geographic name inspection made by the field unit. The verified and recommended names shown are:

Attalia
Badger Island
Columbia River
Hover
Wallula
Wallula Depot
Wallula State Park
Walla Walla River

Part of ~~Walla~~ Walla Walla

Lake Wallula (Decision of 1958)

Names approved 5-14-59
L. Heck

19

49. Notes to the Hydrographer:

The shoreline on this manuscript shown with a full line is at a water level of 340 feet above M.S.L. or normal pool level.

The approximate low-water pool level at 325 feet above M.S.L. is shown with a dotted line and was compiled from single lens and photographs taken in 1953 by Corps of Engineers when the pool level was 324⁷ feet.

Form 524 are submitted for recoverable topographic stations namely:

Range 2 Front Light 1957
Range 2 Rear Light 1957
Hover Light 1957
CARP 1957
TEAL 1957
ALIA 1957
B-336-2 1957

Photo-hydro stations located with recoverable topographic station accuracy and for which Forms 524 were not required are:

Name	Photo No.	Description
TOPO No. 14	46207	Center small silver colored switch house 6' x 10' x 8' high.
TOPO No. 119	46187	Drill hole in 6 ft. boulder, 12 ft. above pool level, "Topo 119" painted on boulder.
TOPO No. 120	46188	Center of cupola on Riverview School-house.

Review Report of
Shoreline Manuscript T-10424
June 1959

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

There are no registered topographic surveys of subject area.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

WALLULA, WASH., 1:125000, Edition of 1918,
U. S. Geological Survey

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

None!

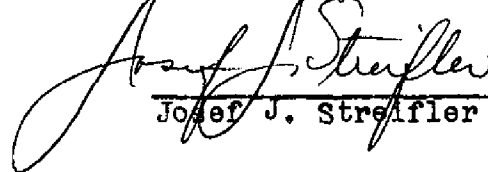
65. COMPARISON WITH NAUTICAL CHARTS:

None.'


66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

T-10424 has been compiled in accordance with project instructions and meets the requirements of adequacy and accuracy.

Reviewed by:



Josef J. Streifler

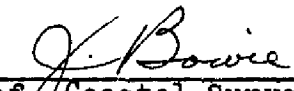
Approved by:


Chief, Review & Drafting Section
Photogrammetry Division


Chief, Photogrammetry Division

26 May 60


Chief, Nautical Chart Branch
Charts Division


Chief, Coastal Surveys Division

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR FLOTTING AIDS~~ FOR CHARTS

TO BE CHARTED
TO BE CHARTED

STRIKE OUT ONE

Pasco, Washington

61-45

I recommend that the following objects which have ~~(have not)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(be charted)~~ the charts indicated.

The positions given have been checked after listing by

V. Ralph Soblewiski, Chief of Party.

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* TABULATE SECONDS AND METERS

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED

STRIKE OUT ONE

Pasco, Washington

May 19 57

I recommend that the following objects which have ~~been~~ been inspected from seaward to determine their value as landmarks be charted on ~~(the charts)~~ the charts indicated.

The positions given have been checked after listing by J. E. Deal

V. Ralph Soderlask Chief of Party.

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

* TABULATE SECONDS AND METERS

NAUTICAL CHARTS BRANCH

SURVEY NO. T-10424

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.