Form 604
Rev. June 1941
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT
Air Photographic | Sheet No. T-5914
Plane Table
Hydrographic

LOCALITY
State Florida
General locality East Coast
Locality St. Lucie Canal

Photo's Taken January 9, 1940

CHIEF OF PARTY
Lieut. Comdr. Kenneth G. Crosby
app. to Ch. 1289  5/12/43  1943
The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Sheet
REG. No. T-5914

REG. NO.

State Florida

General Locality Florida East Coast

Locality St. Lucie Canal

Scale 1:10,000 Photos

Date of survey January 9, 1940

Party

Chief of party Lieut. Comdr. Kenneth G. Crosby

Field Inspected by: G. E. Varnadoe, Prnc. Photo. Aid & Lieut. J. T. Thurmond

Inked by William H. Shearouse, Prin. Photo. Aid

Heights in feet above ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated April 3, 1940

Remarks:
### SUPPLEMENTARY SURVEYS

<table>
<thead>
<tr>
<th>Control Surveys</th>
<th>Date</th>
<th>Hours</th>
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<tbody>
<tr>
<td>WRS-JEH</td>
<td>March &amp; Apr.</td>
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### FIELD INVESTIGATION

<table>
<thead>
<tr>
<th>Preparation of Photographs</th>
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<tr>
<td>CR-PMF</td>
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<tr>
<td>Field Work</td>
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<td>27</td>
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<tr>
<td>Linking Notes</td>
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<td>Coast Pilot Notes</td>
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<tr>
<td>Geographic Name Reports</td>
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<td>4</td>
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<td>Land Marks for Charts</td>
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<td>4</td>
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<td>Description Cards</td>
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<td>32</td>
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<td>Recovery Notes</td>
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### MAIN RADIAL PLOT

<table>
<thead>
<tr>
<th>Scale Plot</th>
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<tr>
<td>JEH</td>
<td>March</td>
<td>1</td>
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<tr>
<td>Projection on Base Sheet</td>
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<tr>
<td>Projection on Survey Sheet</td>
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<tr>
<td>Control Plotted</td>
<td>KGC</td>
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<tr>
<td>Control Checked</td>
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<td>4</td>
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<tr>
<td>Control Trans. to Base Sheet</td>
<td>KGC</td>
<td>4</td>
</tr>
<tr>
<td>Transfer Checked</td>
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<td>4</td>
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<tr>
<td>Control Picked on Photograph</td>
<td>JEH</td>
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<tr>
<td>Control Checked on Photograph</td>
<td>RD</td>
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<tr>
<td>Hydro &amp; Topo. Stations Picked</td>
<td>WRS</td>
<td>6</td>
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<tr>
<td>Radial Points Picked</td>
<td>WRS</td>
<td>6</td>
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<tr>
<td>Adjacent Centers Picked</td>
<td>JEH-CAJP</td>
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<tr>
<td>Templates</td>
<td>CAJP</td>
<td>3</td>
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<td>Radial Plot</td>
<td>KGC-WRS-JEH</td>
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<td>Radial Points Transferred</td>
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<tr>
<td>Transfer Checked</td>
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<td>B &amp; T Stations: Scaled &amp; Checked</td>
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<td>Additional Radial Points</td>
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### DETAILING

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<td>Smooth Draft</td>
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### COMPILATION

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<tr>
<td>Descriptive Report</td>
<td>WRS</td>
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<td>Field Review</td>
<td>JHRS</td>
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<td>Total</td>
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<td>.12</td>
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Total time spent on Sheet: 222 hours.
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<tr>
<th>No.</th>
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<tr>
<td>4570</td>
<td>11:50</td>
<td>No Tide</td>
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<tr>
<td>4571</td>
<td>11:51</td>
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<tr>
<td>4572</td>
<td>11:52</td>
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The area surveyed was not tide.

Surveyed by Surveyor J.H. W.S. (for I.C.1506.5)...

Area

<table>
<thead>
<tr>
<th>Scale of Photograph</th>
<th>10,000</th>
<th>991</th>
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<tbody>
<tr>
<td>Scale of Survey Sheet</td>
<td>1:10,000</td>
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**Statistics**

- Area (land) ........................................ 13.0 Square statute miles
- Shoreline (more than 200 ft. from opposite shore) ... 0 Statute miles
- Shoreline (breaks) .................................... 8.5 Statute miles
- Roads, streets, trails, and railroads ................ 10.4 Statute miles

**Reference Station**

- Station: Indian, 1985
- Date: N.A. 1987

- Latitude: 27° 01' 35.35" (1964,5 m)
- Longitude: 90° 25' 03.56" (92,4 m)

**F10 E Zone**

- \( x = 689,602.38 \)
- \( y = 979,196.73 \)
DESCRIPTIVE REPORT
TO ACCOMPANY
SHEET    T-5914

GENERAL

This sheet was compiled in accordance with "Instructions for Drafting Air Photographic Surveys, Project E. T. 242", dated April 3, 1940.

The general locality of the area covered by this sheet is Florida East Coast, in the immediate vicinity of the St. Lucie Canal near Indian-town, Florida.

The terrain on both sides of the canal is flat land being covered with numerous ponds, intermittent ponds and flooded areas. The vegetation is pine, brush, palmetto, palm, and grass. There are a few marshy areas. The western half of the south part of the sheet is being drained and prepared for cultivation. However, it was not possible at the time of field inspection to determine the limits of this development.

Roads shown by centerline should be 0.6 m.m. wide.

CONTROL

The only triangulation station on this sheet is Indian, which is a U. S. Coast & Geodetic Survey station established in 1935 by J. Bowie, Jr.

The geodetic azimuth of Indian azimuth mark was checked by using a 3-arm protractor and found to be in good agreement, very close to north of the arc, marked by the photoplot, its azimuth recorded from the manuscript agreed with the geodetic azimuth.

The U. S. Engineers have a traverse system along the St. Lucie Canal and an attempt was made to convert the local grid system position of these to geographic positions in order that they could be used for control but the conversions would not check. Therefore, these traverse stations were picked on the photographs and their locations determined by the main radial plot. The geographic position of these traverse stations are scaled and recorded on Form 524, Description of Recoverable Hydrographic or Topographic Station.

MAIN RADIAL PLOT

A continuous radial plot was run on April 22 - 24, 1942 inclusive, for the purpose of locating all photograph centers, all hydrographic stations, topographic stations, bench marks, azimuth marks, and radial points. The plot extended over the area covered by sheets T-5912 to T-5919, inclusive. All photographs in the area were used. It extends along the St. Lucie Canal from Stuart, Florida, south and westward to Lake Okeechobee at Fort Mayaca. Photographs 4581, 4583 and 4584 are the northeast limits and photo 4584 forms the westerly limits.

The plot consisted of 37 templates all being for 9 lens photographs and being controlled by triangulation stations as follows: 1 by 0; 12 by 1-2; 9 by 3; 8 by 4-8; 7 by 9-13. These templates were made in accordance with "Notes on Radial Plotting of nine-lens Photographs", dated April 9, 1940.

The control afforded by first and second order triangulation was sufficient on sheets T-5919, T-5918, T-5917 and T-5912. Triangulation control
Note: The method of making the main sodial plot was in accordance with established practice and the positions established by the main plot should have been accepted. It is doubtful that the detail could improve the positions and the practice instilled here is not as good.
was very meagre on sheets T-5913, T-5914, T-5915 and T-5916, but it was felt that additional field observations were not necessary.

The usual practice of laying the plot was followed. This consisted of plotting the control on the survey sheets and then transferring it to the base grid sheets by matching grid squares. The agreement between the grid lines on the survey sheet and those on the base grid was excellent and no adjustment was necessary. After laying the plot, the intersections of the radial lines were transferred to the survey sheet by again matching grid squares as previously described.

The plot was laid only once with the exception of those templates on sheets T-5914 and T-5915. The laying of the plot began with the templates on sheets T-5917, T-5918 and T-5919 and proceeded southwest to triangulation station "ALLEN" on sheet T-5916. These templates were rigidly controlled. From that point to sheet T-5912 the templates were layed by holding intersections of radial lines and azimuth, and due to lack of control the templates on sheets T-5914 and T-5915 had to be laid three times before a satisfactory tie-in of control on sheet T-5912.

The agreement along the flight line and the intersections of radial lines to adjacent photographs was excellent, with exceptions as noted in this paragraph. About 98 percent of the points established by the plot resulted from the intersection at a common point, of three to six radial lines. The remaining 2 percent are instances where only two "cuts" could be obtained. These are mostly cut on the wings of the photographs and while the value of the intersection will be determined by the draftsman, it is believed that the majority of them will be outside the detailing limits. In six or eight instances the point was selected at the center of gravity where the radial line did not form a common intersection. In no case were the sides of the triangle of error greater than 0.25 m.m. away from the point selected.

The conditions in the preceding paragraph apply to seven of the eight sheets of this plot. The other sheet (T-5914) was the "weakest" of the plot, in so far as control is concerned, and a common intersection of radial lines was not obtained in some instances on the northern half of the sheet. There are fourteen of these instances and in each case the "cuts" were transferred to the survey sheet for further investigation by the draftsman. The points on the southern part of the sheet were picked at common intersections and after the draftsman has made further investigation, it is believed the detailing will be accomplished with the desired accuracy.

To summarize - the plot is considered "strong"; no large or unusual adjustments were necessary; and that all points are picked with 0.25 m.m. of their true position.

Various colored inks were used on the photographs and surveys sheet to designate triangulation stations, topographic and hydrographic stations, and radial points. The following key is furnished for future reference.

Photographs
Triangulation and traverse stations........2.5 mm blue circle
Hydrographic and topographic stations.....2.5 mm green circle
Radial points in main plot.................2.5 mm red circle
Survey Sheet

Triangulation and Traverse Stations....3.5 mm high black triangle
Hydrographic and topographic stations....2.5 mm black circle
Radial Points on main plot..............2.5 mm blue circle on back of sheet
Radial points (additional)..............3.5 mm blue circle on back of sheet
Photograph Centers.....................Double blue circle on back of sheet

INTERPRETATION OF PHOTOGRAPHS

The photographs were clear and accurate and interpretation was obtained with no unusual conditions being found.

FIELD INSPECTION

Field inspection was made during January and February by Lieut. J. T. Thurmond and G. E. Varnadoe, Principal Photogrammetric Aid. Field notes were sufficient for accurate interpretation of vegetation.

DETAILING

This sheet was detailed in accordance with the current instructions for the project.

The scale of photograph 4570 was fair on the north half and poor on the southern half; photograph 4571 was the same; photograph 4572 was of good scale. By supplementing the radial plot with additional radial points the detailing was accomplished with the desired accuracy.

Due to numerous ponds, intermittent ponds and flooded areas, the problem of delineating and classifying was discussed with the Chief of Party and Lieut. J. T. Thurmond and it was decided that those areas which were definitely water would be called ponds and shallow water areas that obviously flooded with the rainy season would be classified as intermittent ponds or flooded areas. A small area has been smooth drafted to serve as an example of how the sheet should be detailed by the smooth draftsman.

Before detailing, the surface of this sheet was rubbed down with magnesium carbonate and then washed off. No additional cleaning or reinking has been necessary.

Symbols have been used in a few places where it was thought that this was the better procedure.

The stereoscope has been freely used for interpreting the detail and determining the limits of vegetation.

The legend used by the field inspection party and by the draftsman is made a part of this report.
JUNCTIONS

This sheet joins sheet T-5913 on the west and sheet T-5915 on the east. The junctions are in agreement.

COMPARISON WITH OTHER SURVEYS

There is no previous survey of the area covered by this sheet, which was available at this time, with which a comparison could be made.

GEOGRAPHIC NAMES

The geographic names for this area are the subject of a special report entitled "Investigation of Geographic Names, Florida East Coast, St. Lucie River, Cross State Waterway and Lake Okeechobee", submitted to the Washington Office by Harold A. Duffy, Senior Photogrammetric Aid.

LANDMARKS

There are no prominent landmarks within the detailing limits of this sheet.

Respectfully submitted,

WILLIAM H. SHEARouse
Principal Photogrammetric Aid

Forwarded

Kenneth C. Crosby,
Chief of Party...
### LEGEND USED FOR FIELD INSPECTION AND DRAFTING
**PROJECT 24.2 - 1942**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
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<tr>
<td>P</td>
<td>Pine</td>
</tr>
<tr>
<td>Cy</td>
<td>Cypress</td>
</tr>
<tr>
<td>Palo</td>
<td>Palmetto</td>
</tr>
<tr>
<td>Palm</td>
<td>Palm</td>
</tr>
<tr>
<td>D T</td>
<td>Deciduous trees (broad leaf)</td>
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<tr>
<td>Cit</td>
<td>Citrus (orchard)</td>
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<tr>
<td>Mix</td>
<td>Pine, cypress &amp; Dec. trees</td>
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<tr>
<td>(Density)</td>
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<tr>
<td>Sct.</td>
<td>Scattered</td>
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<tr>
<td>t.w.</td>
<td>Thinely wooded</td>
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<tr>
<td>h.w.</td>
<td>Heavy wooded</td>
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<tr>
<td>Scr.</td>
<td>Scrub trees</td>
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### VEGETATION
- C: Cultivation
- Gr: Grass
- T Gr: Tall Tropical Grass
- M: Marsh (dashed blue line on inshore limits)
- M M: Marsh grass in water (dashed blue line on offshore limits)
- Sw: Swamp
- Mg: Mangrove
- Hdg: Hedge

### STRAINS
- Ca: Canal (width)
- Crk: Creek
- D: Ditch (width)
- I S: Intermittent Stream
- PDU: Probable drainage unsurveyed
- Br: Bridge or symbol
- Cv: Culvert
- Levee

### ROADS & RAILROADS
- Rd 1: 1st class road (paved)
- Rd 2: 2nd class road
- Tr: Trail
- R R: Railroad
- O P: Over (state the kind)
- U P: Und (state the kind)
- X: Abandoned trail, road, etc.
- R H ab: P.R. abandoned (grade only)

### POOLS
- P: Pond
- Cy P: Cypress Pond
- I P: Intermittent Pond

### SHORELINE
- M H L: Mean high waterline (solid red line - fast land)
- L W L: Low waterline (dashed red line)
- L L L: Light line (solid blue line for mean high water line on marsh)
- Dk: Dock
- Pi: Pier
- Se W: Seawall
- Bkhd: Bulkhead
- Con: Concrete
- Wd: Wooden
- Jet: Jetty
- Dol: Dolphin
- Pile: Pile (give type)
- Sd: Sand
- Mud
- Rk: Rock or Rocky
- Sty: Stony
- W: Water
- Blf: Bluff (height)

### BUILDINGS
- H: House, barn, or building
- Ch: Church (give name)
- Ct H: Court House (give name)
- Bo H: Boat House
- P O: Post Office (give name)
- R H Sta: Railroad station (give name)
- Hos: Hospital (give name)
- Sch: School (give name)

### MISCELLANEOUS
- P: Fence
- PB: Fire Break (maintained)
- FBX: Fire Break (abandoned)
- Cem: Cemetery
- Park: Park (give name)
- F T: Fire tower
- T T: Transmission tower (tall steel)
- P L: Power Line
- Shoal: Approx. limits by long dashed line for use by hydrographer.

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**F.G.S.: Florida Geodetic Survey**
**U. S. Engrs.: U. S. Engineers**
**USGS: U. S. Biological Survey**
**Legend Used for Field Inspection and Drafting**

**Project 24.2 - 1922**

### Trees
- **Ft**: Pine
- **Cy**: Cypress
- **Palo**: Palmetto
- **Palm**: Palm
- **D T**: Deciduous trees (broad leaf)
- **Cit**: Citrus (Orange)
- **Mix**: Pine, Cypress & Deciduous trees (Density)
- **Scat**: Scattered
- **T w**: Thinly wooded
- **H w**: Heavily wooded
- **Sor**: Scrub trees

### Vegetation
- **C**: Cultivation
- **Gr**: Grass
- **T Gr**: Tall Tropical Grass
- **M**: Marsh (dashed blue line on inshore limits)
- **LW**: Marsh grass in water (dashed blue line on offshore limits)
- **Sw**: Swamp
- **Ng**: Mangrove
- **Nd**: Hedge

### Streams
- **Ca**: Canal (width)
- **Cr**: Creek
- **D**: Ditch (width)
- **I S**: Intermittent Stream
- **Dw**: Probable drainage unsurveyed
- **Brg**: Bridge or symbol
- **Cy**: Culvert
- **Lo**: Levee

### P.G.S.
- P.G.S.: Florida Geodetic Survey
- J. S. E.: U. S. Engineers
- USGS: U.S. Biological Survey

### Roads and Railroads
- **Rd 1**: 1st class road (paved)
- **Rd 2**: 2nd class road
- **Tr**: Trail
- **R R**: Railroad
- **O P**: Other ways (state the kind)
- **U P**: Unnamed (state the kind)
- **A R ab**: Abandoned trail, road, etc.
- **R H ab**: P.R., abandoned (grade only)

### Ponds
- **P**: Pond
- **Cy P**: Cypress Cave
- **I P**: Intermittent Pond

### Shoreline
- **M.W.L.**: Mean high waterline (solid red line - fast land)
- **L.W.L.**: Low waterline (dashed red line)
- **L.L.**: Light line (solid blue line for mean high water line on marsh)
- **DK**: Dock
- **Pr**: Pier
- **Se. W.**: Seawall
- **Bkd**: Bulkhead
- **Cons**: Concrete
- **Bo**: Wooden
- **Jet**: Jetty
- **Dol**: Dolphin
- **File**: File (give type)
- **S**: Sand
- **Mud**: Mud
- **Rk**: Rock or Rocky
- **Sty**: Stony
- **W**: Water
- **Hl**: Bluff (height)

### Buildings
- **H**: House, barn or building
- **Ch**: Church (give name)
- **Ct H**: Court House (give name)
- **Bo H**: Boat House
- **P.O.**: Post Office (give name)
- **R.R. Sta.**: Railroad station (give name)
- **Hos**: Hospital (give name)
- **Sch**: School (give name)

### Miscellaneous
- **F**: Fence
- **FB**: Fire Break (maintained)
- **FBA**: Fire Break (abandoned)
- **Cem**: Cemetery
- **Park**: Park (give name)
- **P.T.**: Fire tower
- **T.T.**: Transmission tower (tall steel)
- **P.L.**: Power Line
- **Shoal**: Approx. limits by long dashed line for use by hydrographer
<table>
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<tr>
<th>Remarks</th>
<th>Decisions</th>
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<td>2</td>
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<td>1941 Off. Road Map</td>
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<tr>
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<tr>
<td>Name on Survey</td>
<td>A</td>
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<tr>
<td>--------------------------------</td>
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<tr>
<td>St. Lucie Canal</td>
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<tr>
<td>Spillway Allapattah No. 2</td>
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<tr>
<td>Spillway Mid</td>
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<tr>
<td>Florida Highway No. 109 and 85</td>
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Note: The text in column K is not entirely legible, and the number '174' is visible.
DIVISION OF CHARTS
SURVEYS BRANCH

Review of Air Photographic Survey T-5914

Previous Surveys - None

Control and Radial Plot:

These are discussed in detail in the descriptive report. While only one triangulation station exists on T-5914, there appears to have been adequate control on opposite sides of this sheet for spanning the area with the photo plot. The plot has been accepted without relaying in this office.

No detailed information is given in the report regarding effort by the compilation party to adjust and use the U.S. Engineer traverse. Subsequent to the receipt of this report Commander Crosby forwarded to this office blueprints and Engineer coordinates for the traverse stations. These data have not been processed but from casual examination there appears to be few, if any, datum connections and it is doubted if the traverse can be computed to give accurate geographic position. The coordinates are not state coordinates but local coordinates.

Field Inspection and Detailing:

The field inspection is adequate and the detailing of the manuscript complete. The map has been smooth drafted in this office.

Reviewed by Dorothy Jones and E. V. Evans

Under the direction of D. H. Benson

Inspected by B. G. Jones

Examined and approved:

K.T. Adams
Chief, Topography Section

F. White
Chief, Div. of Coastal Surveys

Charlie Price
Chief, Surveys Branch

J. B. Bordwin
Chief, Div. of Charts