ST. MARY'S COUNTY

INDIAN CREEK SURVEY - PHASE 2

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Phase 2

Prepared by:
St. Mary's County
Office of Planning & Zoning
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Maryland Coastal Zone Management Program
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Introduction

This survey is a continuation of the 1987 study of Indian Creek which began at its origin near Maryland Route 5 to a point 4,000 ft. downstream.

At that time, an erosion problem was identified as directly related to commercial development in the area. Several State and Local Agencies were involved in the survey. Efforts for a retrofit project were abandoned due to constraints of geography, land ownership and political boundaries. The stream was determined to return to its natural state a distance below the problem area. The developer has since taken it upon himself to provide some storm water management through a personally designed basin.

In June and July 1988, five locations were surveyed: Two along the creek's north branch and three along the south branch.

Both branches are similar in: length (4 mi.), gradient (.6%), drainage area (4,000-4,500 acres) and topography with steep wooded slopes adjacent to stream side floodplains ranging from a few feet to 500 ft. in places.

Development intensity is similar along both branches but the pattern differs. Along the north branch residential subdivisions (200+ lots) are concentrated in the upper reaches with agriculture/woodlands along the lower portions. The reverse

is seen on the south branch, i.e. agriculture/woodlands surround the headwaters and residential development (150+ lots) concentrated in the lower reaches.

Survey Results

North Branch

Beginning approximately 2 miles downstream from Maryland Route 5, a section 1.4 miles in length was walked upstream.

The streambed averaged 15 ft. in width with an existing flow width of 4 to 5 ft. Substrate was gravel/cobble mixed with sand. Stream banks were well stabilized with no evidence of accelerated erosion.

A variety of benthic organisms including tipula, caddisfly larvae, dragon fly larvae, and scud were observed in leaf packs at most areas sampled. Fish up to 3 in. length were observed in deeper pools. On this basis, water quality may be considered to be good.

An area of extensive non-tidal wetlands 75-200 ft. wide were found along a tributary approximately 3,000 ft. long. This is mentioned because these wetlands are not shown on the National Wetland Inventory Maps published by U.S. Fish and Wildlife Service. As these maps are used in the plan review process to identify sensitive areas, the observed omission stresses the importance of field checks. (See wetland map included)

South Branch

Three shorter segments were observed along Indian Creek's south branch:

1.2 mi. downstream from its origin at Maryland Route 5, an inactive beaver pond was found creating 1.5 to 2.0 acres of open water and relatively extensive emergent/scrub-shrub wetlands above that. Below the dam the stream returned to a condition resembling the north branch in all parameters.

The remaining sites (2.5 mi. and 3.0 mi. from Maryland Route 5) were in proximity to a large 200+ lot subdivision. The adjacent area is steeply sloped and wooded. Building lots nearest the stream are large (3 to 11 acres) and most homes were at least 500 ft. from any water or wetland, creating a buffer sufficient to absorb any development related impacts. Water quality is good based on organisms found. Channel and stream bank condition show no sign of unnatural erosion.

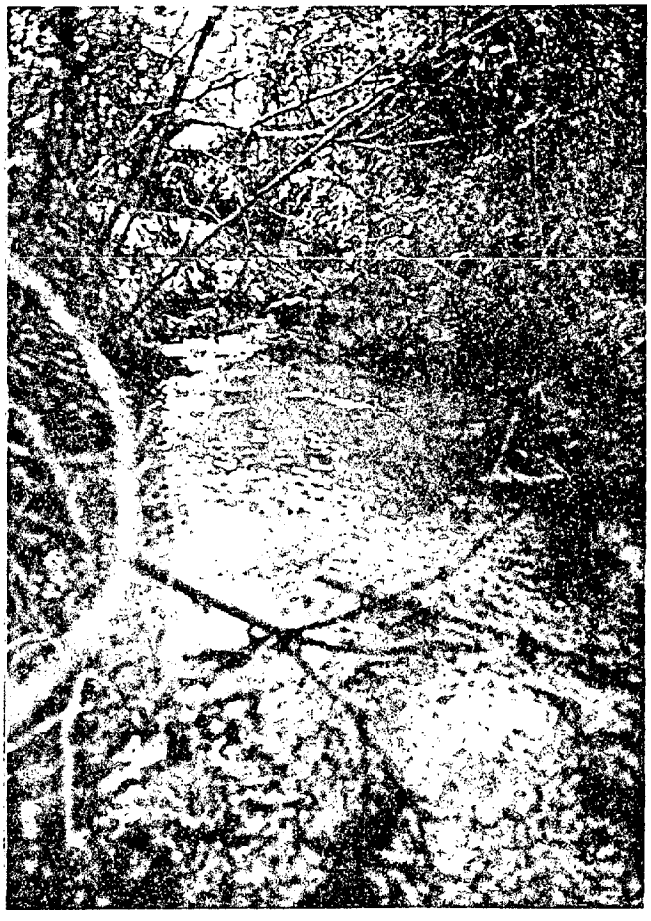
Conclusions

Both the entire south branch and the north branch's lower reaches appear generally healthy. Given the similar conditions of topography, soils, and land use with moderate development pressures, this is not surprising. The steep wooded slopes and floodplain wetlands provide a buffer to human activities and should continue to do so under existing and impending regulations.

However, development pressures are certain to increase substantially. The latest proposed version of St. Mary's County's new Comprehensive Plan designates an area along Maryland Route 5 as "Town Center," a portion of which will engulf the upper mile or so of both branches of Indian Creek. Proposed residential densities in this area will be doubled to 2 units per acre along with more concentrated commercial and light industrial development.

Eventually, the growing population will put impact pressures on virtually all streams in the county. Monitoring healthy streams such as Indian Creek is no less important than identifying existing damaged areas for retrofit projects which require much time and money. Efforts to prevent problems through diligent plan review, development regulation and stream monitoring are far more economical than those to remedy.

North Branch ↑ Stream banks →

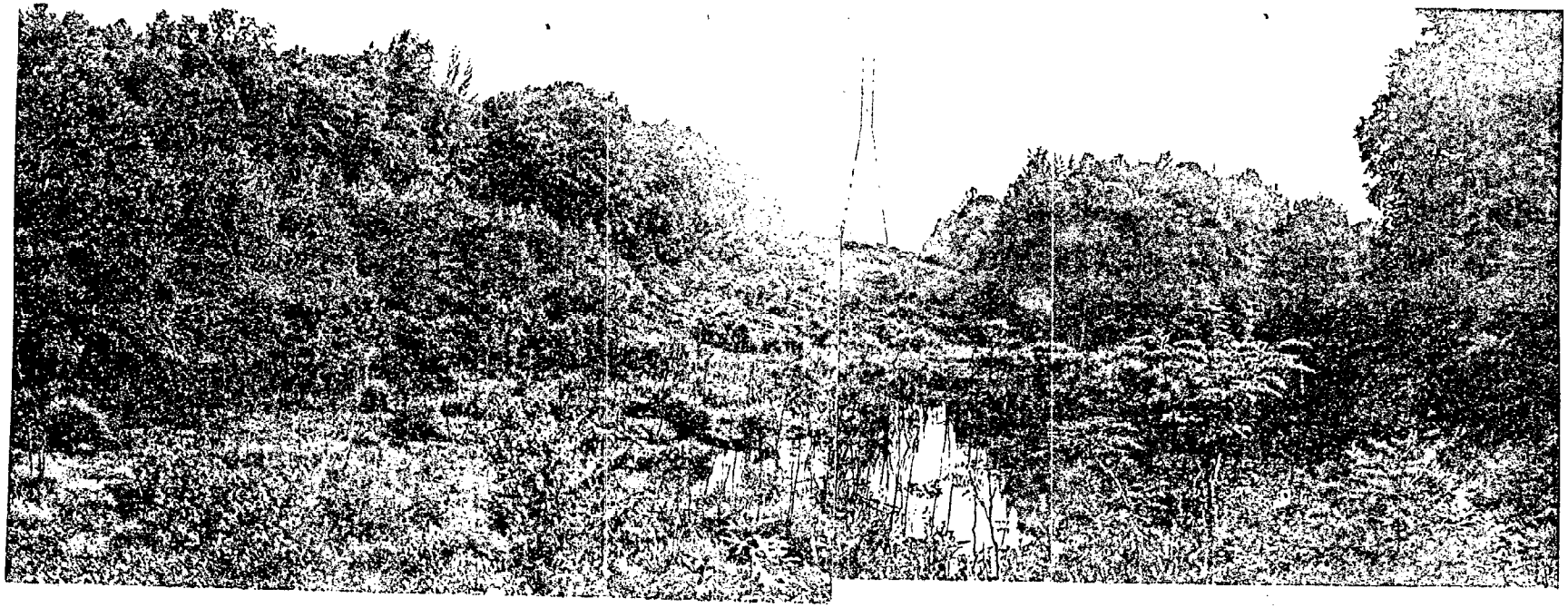


South Branch Channel

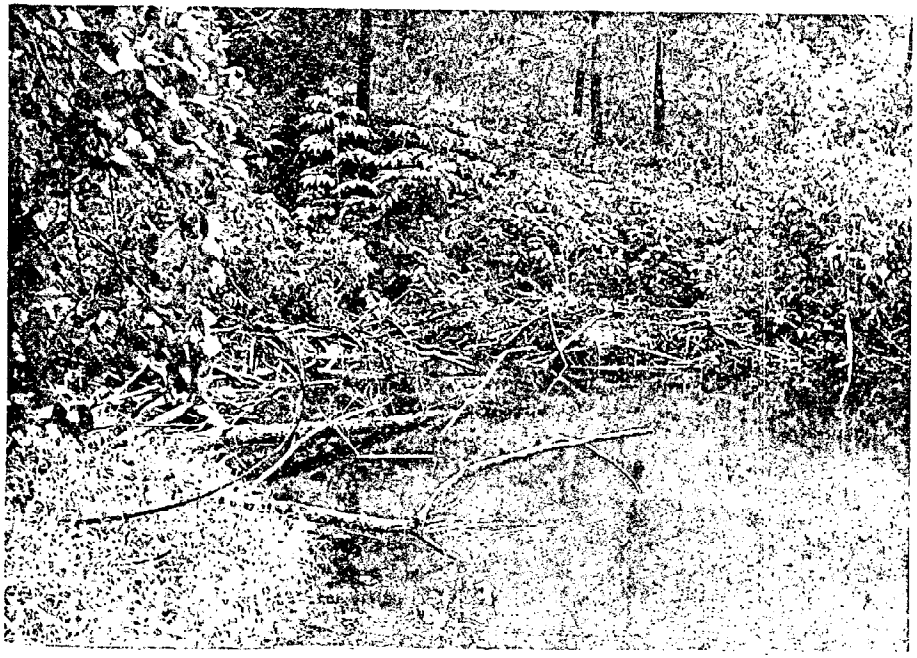
Below Beaver Dam

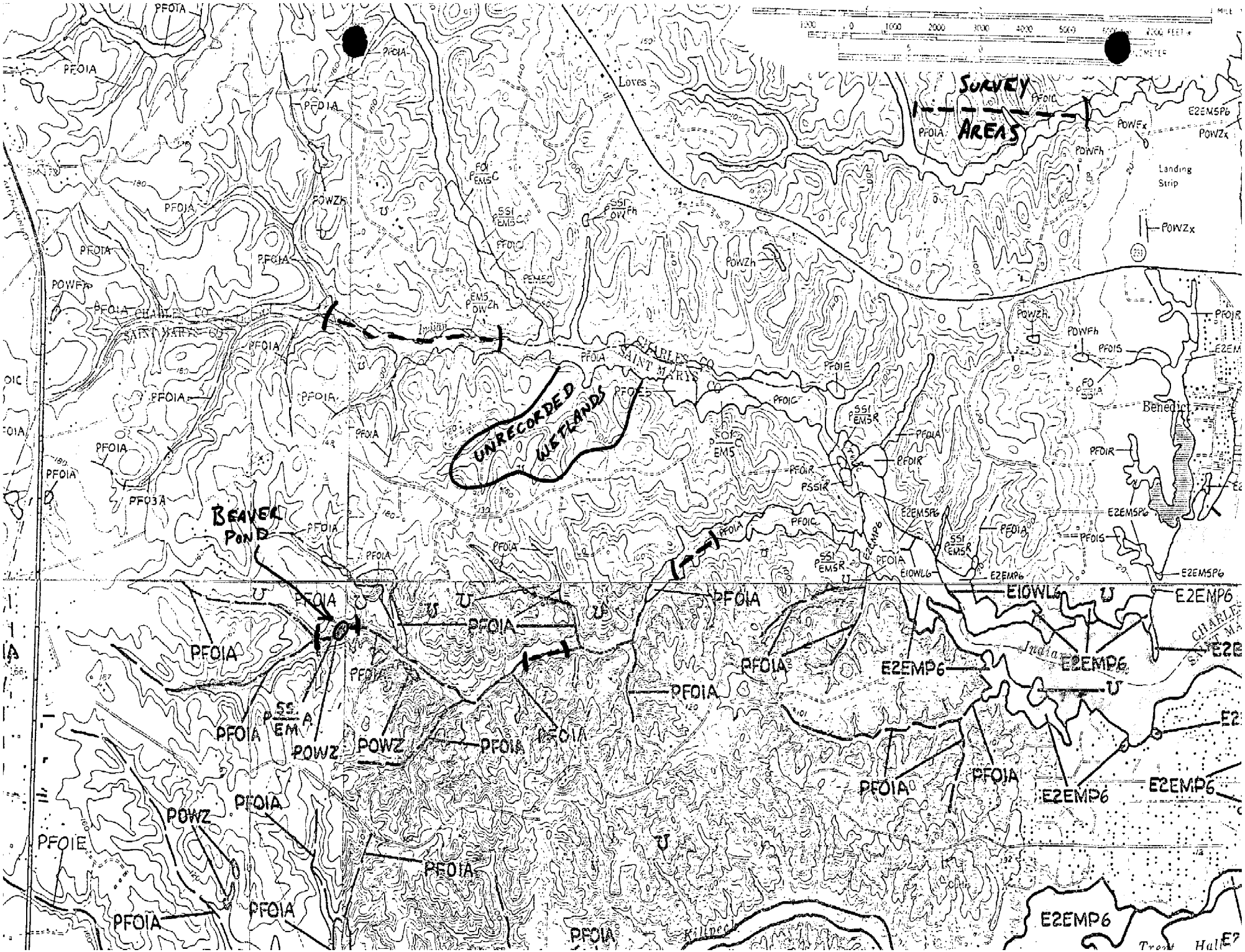
South Branch

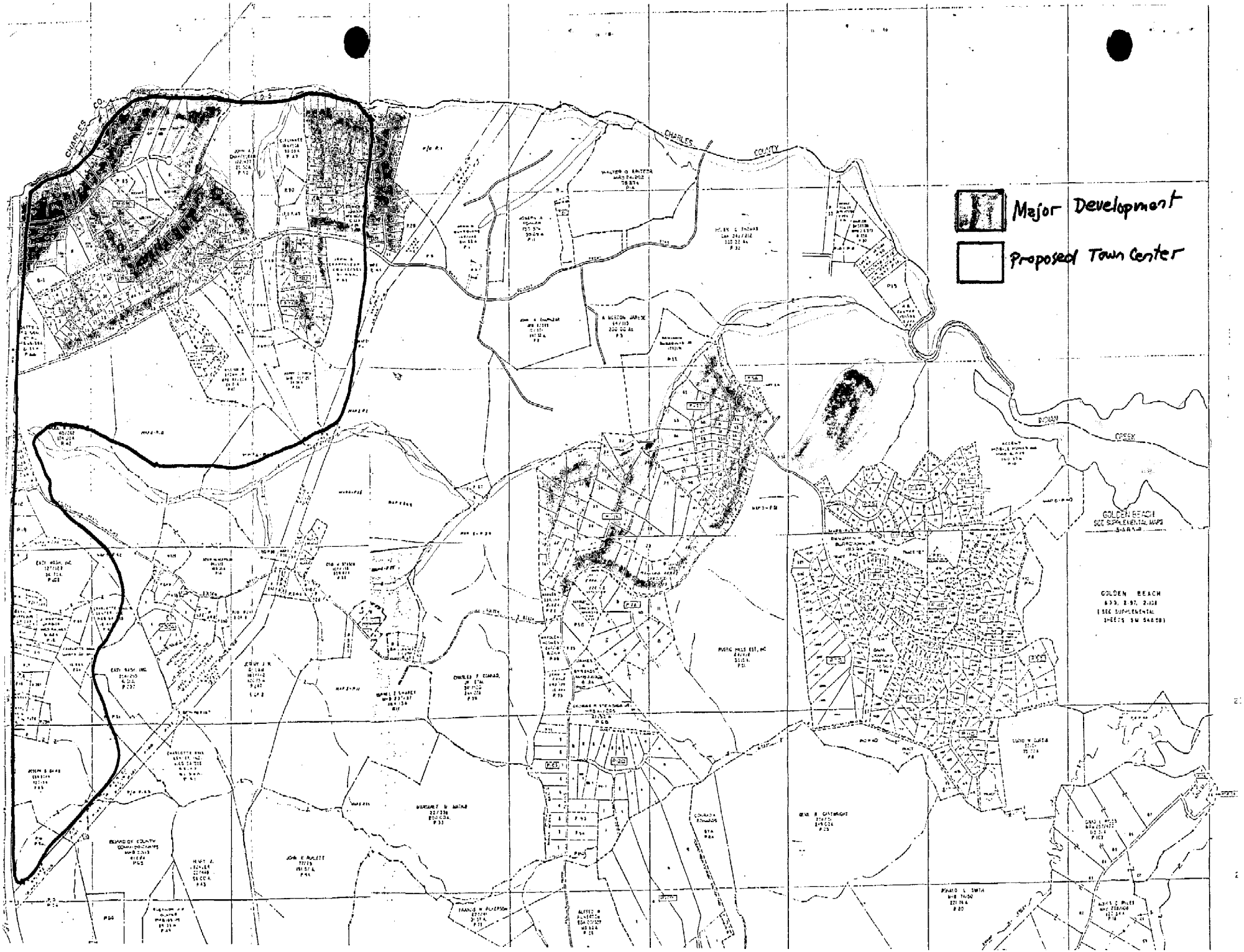
Beaver Pond



Pond & Dam




SURVEY AREAS
UNRECORDED WETLANDS
BEAVER POND
Loves
Landing Strip
Benedict
CHARLES CO
SAINT MARYS CO
PFO1A
PFO1E
PFO1C
PFO1R
PFO1S
PFO3A
POWZ
POWZh
POWFh
POWFx
POWZx
E2EMP6
E2EMSP6
E1OWL6
PSS1R
PSS1/EM5R
PSS1/EM5C
PEM5C
PSS1/EM5
PSS1/EM5R
Indian
Killpeck
Trent Hall


Major Development
Proposed Town Center
CHARLES CO.
CHARLES COUNTY
POTOMAC RIVER
GOLDEN BEACH

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