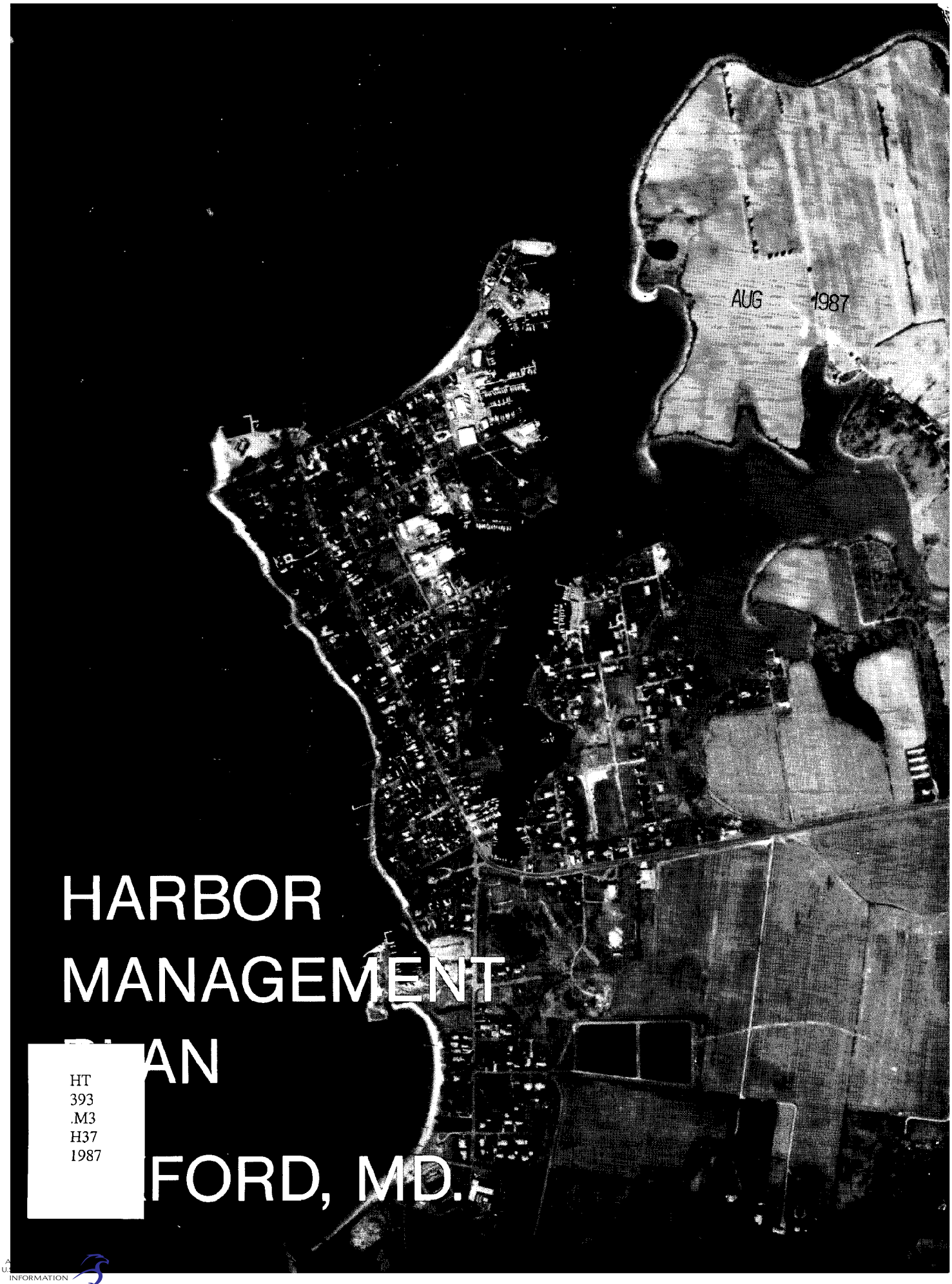

HARBOR MANAGEMENT PLAN

FORD, MD.

ACKNOWLEDGEMENTS

TOWN COMMISSIONERS OF OXFORD

Fletcher Hanks, President
Emory L. Balderson
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Special Thanks to John Williams, Ph.D. of the Tidewater Administration for computer programming assistance and to:

Mrs. Dotty Eutsler
Mrs. Belinda Gray
Mrs. Kay Scaggs

for their help above and beyond the call of duty.

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Introduction to Project

The purpose of this planning effort is to provide for the Town of Oxford, a comprehensive management plan which will serve Town Officials with both guidance and assistance in the formulation of decisions regarding the administration of Town waters.

The Town of Oxford has in the past, benefited from a high degree of reinvestment in both housing and waterfront facilities. Because of the natural beauty, tranquility, and historic significance in and around Oxford, there is presently a seasonal period of tourist influx (both from land and water) which precipitates congestion problems in this small town. The waterborne tourist traffic places a stress on the ability of local boaters to have adequate movement in and out of Town Creek as well as the other waters of Oxford. The degree of seasonal congestion in the area has reached a point where failure to properly and equitably manage the town owned waters could degrade the attractiveness of the historic waterfront for both the visitor and town resident.

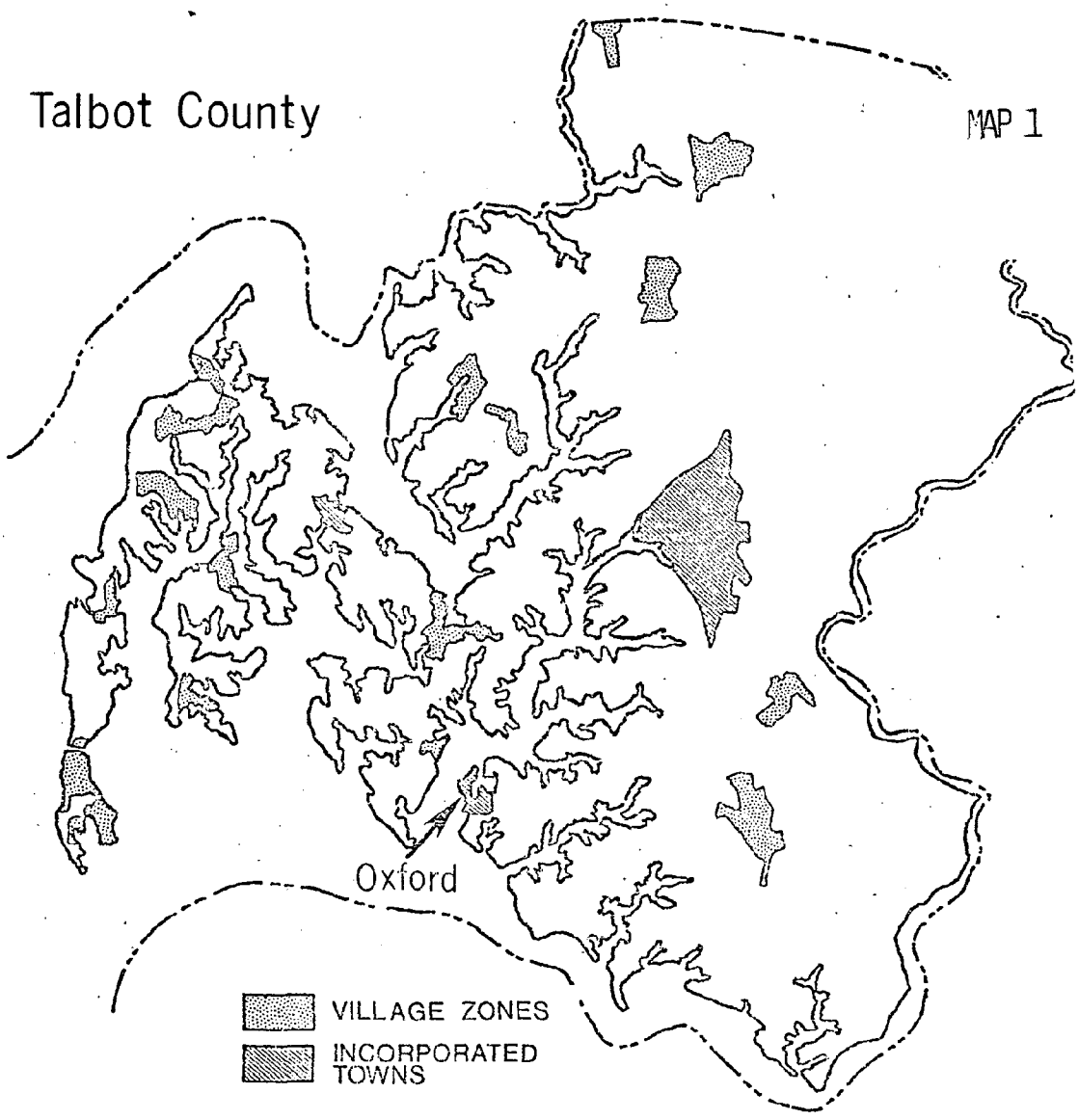
CHAPTER I

BACKGROUND DATA

ENVIRONMENTAL CONDITIONS

Regional Setting

The Town of Oxford, and indeed all of Talbot County, lies wholly within the Atlantic Coastal plan region. The town itself is located on a triangular peninsula lying between the Tred Avon River and Town Creek near the confluence of the Choptank and Tred Avon Rivers. See Map # 1. The town has an ideal natural harbor opening to the Tred Avon River and extending southward over three quarters of a mile. There is also another portion of this creek offering many additional thousands of feet of shoreline representing potential for future development.



Water Depth

During the summer of 1980 an engineering firm contacted by the Army Corps of Engineers performed a hydrographic survey of Town Creek delineating the bottom contour. This map is reproduced in part in Map #2. The map is shown here and is used elsewhere throughout this report. The dotted line following the shore is the approximate five foot contour later used to designate shoal areas which are discussed later in the text.

Wind and Fetch Characteristics

The prevailing wind typically comes from either the west-northwest, northwest, northeast, or from the south. During the winter, spring and fall the winds are usually strongest from these four points however, during the summer the winds are strongest primarily from the south. Despite the variation in wind intensities, the percent of calm stays relatively the same throughout the year. The data presented here is from the Annapolis Naval Weather Service Station #13752 and is considered indicative of surface winds for the Oxford area.

In light of these four critical wind directions it should be noted that only the southerly winds have a sizable fetch within Town Creek. A fetch is defined as the distance over which waves are generated by a wind coming from a particular direction. The southerly winds have about a half mile of open water to build waves before the waves break on portions of the shore. As for the fetch facing the River side of Oxford the situation is quite fifferent. The northern and western shores of Oxford are open to significant fetches which during strong storm winds have a potential for considerable damage from large storm waves. If an average gale intensity for the area is identified then estimates of expected wave height can be made. According to historical data an approximated gale intensity for the northeasterly winds would be about 45 miles per hour. The expected wave for such a storm would stand about two feet high as a result of the one mile fetch to the northeast. Storms of greater intensity would bring greater waves, 75 miles per hour winds would likely bring 3.5 foot waves, and 100 mile per hour winds from the northeast would likely bring 4.5 foot waves. These waves will be in addition to any accompaning elevation in sea level locally, due to storm surge or astronomical tides.

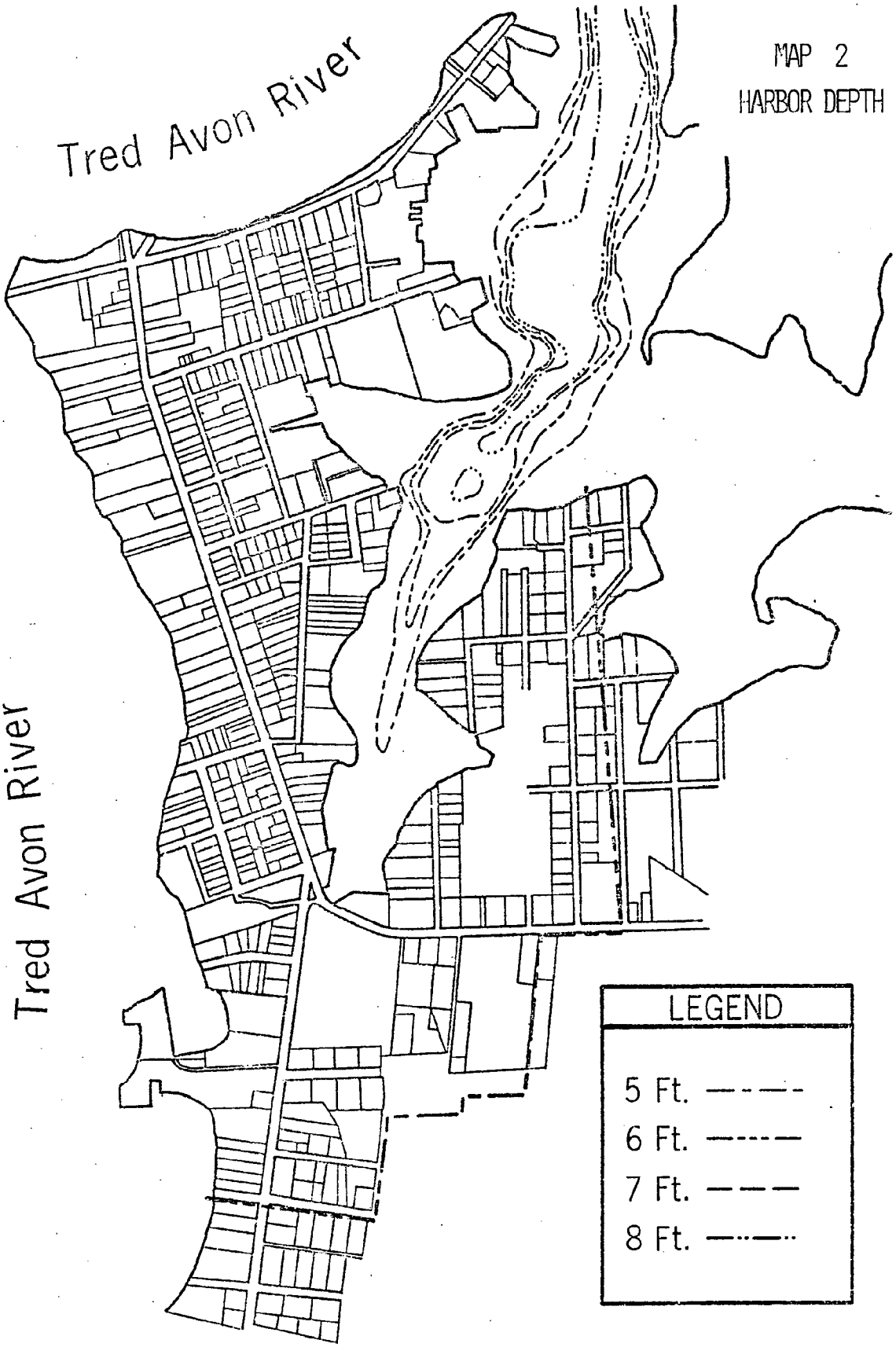

MAP 2
HARBOR DEPTH
Tred Avon River
Tred Avon River
LEGEND
5 Ft.
6 Ft.
7 Ft.
8 Ft.

FIGURE I

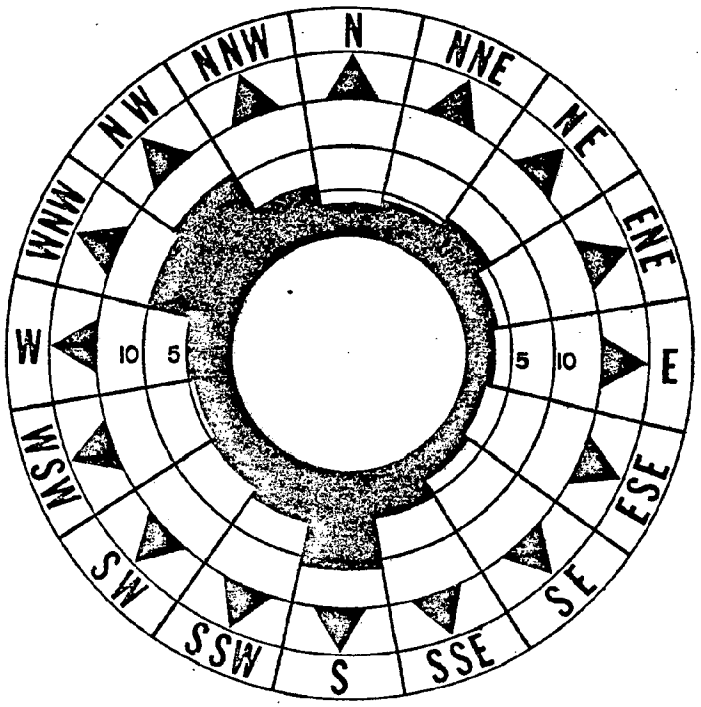
FREQUENCY OF WIND VELOCITIES FOR ANNAPOLIS

(Velocities in Knots)

WIND DIRECTION	AVERAGE FOR JAN - APR	AVERAGE FOR MAY - AUG	AVERAGE FOR SEPT - DEC	AVERAGE FOR YEAR
N	4.0	2.5	4.1	3.5
NNE	4.3	3.9	5.2	4.5
NE	5.3	5.5	5.7	5.5
ENE	3.6	3.5	3.4	3.5
E	2.9	3.5	2.8	3.0
ESE	1.7	2.8	2.1	2.2
SE	2.4	4.5	2.6	3.2
SSE	4.3	7.0	4.3	5.1
S	10.1	13.5	10.1	11.2
SSW	4.3	6.1	5.9	5.4
SW	3.6	5.5	5.0	4.7
WSW	3.4	4.7	4.2	4.1
W	4.0	5.2	5.5	4.9
WNW	11.7	9.1	9.5	10.1
NW	13.5	7.4	11.1	10.7
NNW	7.6	2.9	6.3	5.6
% CALM	13.6	12.6	12.4	12.9

ANNUAL WIND DIRECTION
(Percentages)

This chart shows the average annual directions and percentages of surface winds coming from the sixteen points of the compass.



3 S.M.A.R., WBAN Station No. 13752 (Annapolis, MD, NAF), Naval Weather Service Division, National Weather Records Center, Ashville, North Carolina, 1960, p. 1-6.

Flooding Hazard*

Hurricane, prolonged rainstroms, and periods of high surface water runoff from melting snow are fairly common occurences in much of Maryland. These natural phenomena often result in severe flooding of land areas adjacent to streams and rivers. Surface flooding may produce both property damage and personal injury. Avoiding the consequences of periodic flooding requires a concerted effort on the part of all three levels of government (federal, state and local) in flood management.

Presently, the Baltimore District of the Army Corps of Engineers is engaged in a tidal flooding study for the Chesapeake Bay. As a result of this study, there should be information generated for Oxford showing the portions of the town potentially subjected to flooding during occurance of the 100 and 500 year floods. This data should be available during the following year.

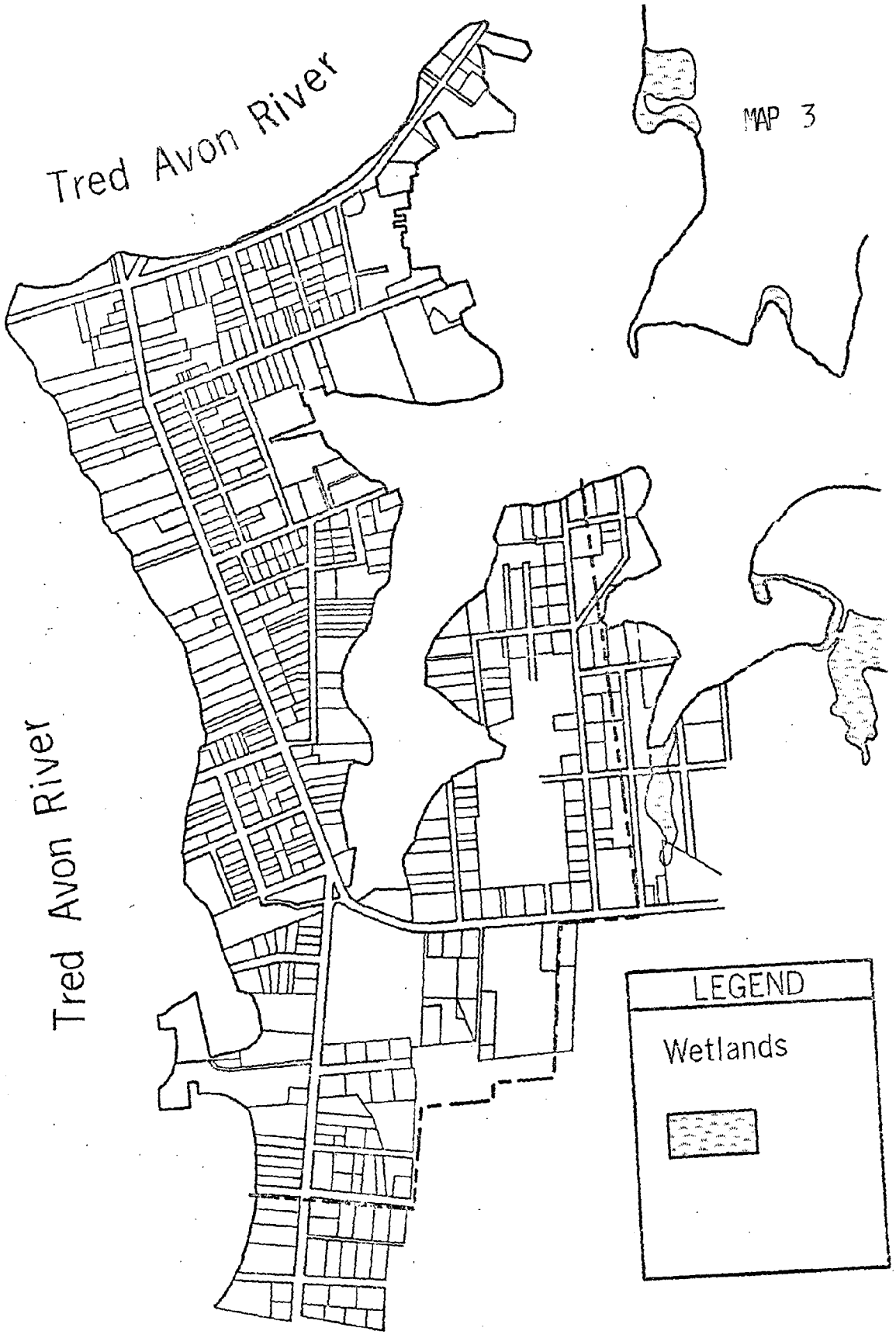
Wetlands

Currently, Oxford has four primary sites designated as wetlands on the Department of Natural Resources "Wetlands Maps." These sites are legally protected from development because of their importance within the local ecosystem. These marshes are shown on Map No. 3. The ability of these areas to filter pollutants from the water column make them especially important around Oxford. They also serve as habitat and food source for wild ducks, other birds and associated wildlife.

Water Quality

For many years the waters in Town Creek have been plagued by periodic water quality degration. The State Health Department has carried out studies in the harbor and surrounding area to identify the source or sources of the problem. During these studies no individual sources were found but the synergistic effect of various sources working together seemed to be the problem. The municipal sewage plant is presently dumping its effluent into the head of Town Creek which may from time to time negatively impact water quality in Town Creek. Additionally, adjacent agricultural lands may produce chemical runoff sufficient to

*Army Corps of Engineers, Tidal Flooding Study: Draft, Stage 2 Report.


Tred Avon River
MAP 3
Tred Avon River
LEGEND
Wetlands

periodically degrade water quality. During heavy boating periods additional pollutant loading to the waters come from overboard flushing of heads from visiting boaters. This practice is probably still occurring. However, it is only noticable during crowded weekend during the summer. It is during these periods that significant water quality degradation occurs. The combination of boating pollution, low flushing action, high water temperature and other pollution sources apparently produce periodic water quality problems usually only lasting a few days and killing a few hundred fish and crabs. Abatement of this problem will probably be tied to providing efficient on-shore restroom facilities and sufficient pump-out facilities.

Sedimentation

One of the pressing problems in the waters of Oxford is the gradual development of shoaling. This is a natural phenomenon that is being accelerated in Town Creek by stormwater drainage that flows into those waters. Because sections of the harbors edge are sites of commercial activity, this shoaling becomes more than an inconvenience as open water anchorage competes with the surface requirements for orderly movement of waterborne traffic.

Due to the adjacent topography, the harbor naturally catches runoff from many areas of land, however, due to the location of the street network Town Creek received a greater amount of runoff then would normally occur.

Much of the land adjacent to Town Creek and its' related tributaries is in agricultural production, consequently these lands have a high potential for introducing significant amounts of sediment if large rainstorms occur before the crops have had time to establish root systems.

Some of the negative effects of accelerated sedimentation can be best demonstrated through estimated costs of removal and disposal of dredge spoil. (See Chapter IV B, "Dredging Program"). In the future as additions are made to the existing storm water drainage system, care should be taken to more equally distribute the runoff into other adjacent water bodies, thus avoiding an increase in the rate of sedimentation in the harbor area.

Erosion

Because the shoreline in and near Oxford is almost completely lined with either bulkhead or riprap the retreat of the shoreline has basically stopped. Before the installation of such shore protection, the rate of erosion for this area was identified as either slight (less than 2 feet/year) or low, (between 2 and 4 feet/year).

Waterfront Land Use

Introduction

The process of conducting a waterfront land use inventory involves an analysis to determine the impact that these associated uses have on the Oxford waterfront area in general as well as the impact that the various uses have on each other. The present residential waterfront land use patterns have developed for the most part as a result of historic growth patterns. Similarly, commercial waterfront in the Oxford of today resulted from the conversion of seafood packing houses and boat building establishments into marinas and restaurants.

Because land use controls such as zoning, will probably determine future growth and development trends, this chapter will also include discussion of present zoning policies for the town owned waterfront. These policy objectives will be examined for their sensitivity to existing as well as future needs.

Land Use Inventory

In order to evaluate the interaction between the various land uses on the shoreline all waterfront parcels were placed into categories. These divisions are as follows:

A. Residential
B. Public and Semi-Public
C. Marine Commercial
D. Agricultural/Open Space

The town waterfront was then measured and divided among the categories mentioned above. The results are presented below, and are listed both as total feet of waterfront per category, and the percent of total waterfront. These measurements are also segregated into Town Creek and Tred Avon River waterfront and then added together to give a total for the town.

OXFORD WATERFRONT LAND USE

	Town Creek		Tred Avon		Total	
	Feet	%	Feet	%	Feet	%
Residential	9,000	69.0	4,800	49.6	13,800	61.0
Public, Semi-Public	150	1.0	675	7.0	825	3.6
Commercial	3,600	28.0	2,100	21.7	5,700	25.2
Open Space	222	2.0	2,100	21.7	2,322	10.3
TOTAL	12,972	100	9,675	100	22,647	100

Waterfront Land Use

Presently there is approximately 22,647 feet of waterfront in Oxford. The Town Creek area, including Jack's Point, comprises 57.3% of the total town waterfront. The total 22,647 feet of waterfront is divided into residential, semi-public, public, commercial and open space. The residential waterfront constitutes approximately 13,800 feet or 61% of this area. There are 5,700 feet of waterfront which is taken up by commercial uses. Additional public and semi-public land use comprises 3.6% while open space land use comprises the remaining 10.3% of the area waterfront.

There are nine commercial establishments, and one semi-public operation and all of these are surrounded by residential properties. Many of these commercial establishments are located at the end of quiet residential streets. The tourists coming to Oxford arrive both by land and by water, the location of waterfront commercial establishments at the end of residential neighborhoods requires land based tourist traffic to travel through these neighborhoods. This activity has a disruptive effect on adjacent residential areas. Because of the limited options available, strategies designed to deal with these negative impacts will only be able to minimize, but not solve, this problem.

Public and semi-public waterfront total approximately 825 feet of shorefront. This land is spread throughout town, some of which is located at the end of various dead-end streets, around the waterfront. However, there are three locations which total approximately 375 feet of bulkhead adjacent to Town Creek, that are used for town slips. There is also another 260 feet of concrete bulkhead and riprap adjacent to The Morris Street Park on the Tred Avon River.

Oxford Waterborne Economy

Introduction

Since it's earliest days, Oxford has been a waterfront oriented comunity with the early economy based on shipbuilding and the seafood harvesting industry. Eventually these industries were dominated by the seafood packing industry which ultimately suffered from an insufficient number of employees and the rising value of waterfront real estate.

Through the years, the recreational boating industry has continued to grow which has provided for the eventual conversion of seafood processing and shipbuilding operations to the marina and boat repair industry. In light of statewide, as well as local conditions, Oxford has slowly lost its' economic base as a home port for seafood harvesting.

Marinas

In spite of the limited size and confined waters of Town Creek there are eight commercial marinas as well as two public docks and berthing areas. Additionally there are one marina and one yacht club on the Tred Avon River within town limits.

There are at present approximately 453 commercial slips in the Oxford marinas, with approximately 383 of these slips within Town Creek. There are also various private properties within Town Creek which lease or rent mooring and slip facilities.

Collectively the commercial marinas in Oxford offer fuel docks, dry storage, boat repair and service, ships stores, and restaurants. One of the marinas in Oxford is also reportedly planning to install a pump-put facility in the near future for boat toilet holding tanks.

During the last 20 years, as the demand for marina facilities and services has continued, the gradual expansion of the marinas has proceeded until at present the limit for expansion channelward may have been reached. Consequently, in the future the town may expect to see efforts by the marina owners to reconfigure. Reconfiguration of slip and pier layout can often provide needed financial savings in this type of labor intensive industry. It will be essential for the town to cooperate with the marina owners in their efforts to improve the efficiency and effectiveness of their operations.

These maritime oriented operations are presently generating approximately $4.4 million in gross revenue per year. This gross revenue is then in turn used to pay for salaries to employees, service charges for utilities, taxes, and maintaining inventories. In order to demonstrate the overall effect of gross revenue on a local economy, the economists often multiply total gross revenue by three to estimate the amount of potential business a certain number of dollars will generate in a local economy. Using this formula, the total potential effect of marina generated business on the local economy would be about $10 million per year. Because of the limited community-oriented commercial development in Oxford at present this maximum potential turnover of local dollars is not realized, although this money is probably spent regionally.

The nine marine oriented businesses in Oxford presently have an assessed market value of approximately $2.89 million. This figure represents 53% of the total value of all improved commercial properties in Oxford. This provides considerable contribution to the county and town property tax revenues.

Employment from the marinas and marina owned restaurants is approximately 154 full time and 46 part time. Together these represent 200 employees locally which is certainly a major contribution to employment in Oxford.

Commercial Fishing

As was mentioned earlier, Oxford was at one time a center for commercial seafood activity. However, due to employment problems and rising cost of waterfront property as well as other external economic forces, Oxford has lost its strong economic base in seafood. Despite the diminished importance of seafood harvesting in Oxford, there were approximatley 21,000 bushes of oysters bought in the harbor during the 79/80 season. At $8.00 per bushel this equaled about $168,000 in gross revenue generated due to oyster buying. In order to demonstrate the full impact of oyster buying to a local economy, the Seafood Marketing Division of Maryland Department of Economic and Community Development multiplies the gross revenue by five to get a dollar figure. This figure is considered to estimate the turnover of dollars in a local economy for the purchasing of food, clothing, fuel, etc. For the Oxford seafood buyers the gross revenue for the 79/80 season of $168,000 would become slightly less than $840,000 for that period. This analysis does not take into account the revenue made from clamming operations or crabbing. There are no State records kept on catches for crabs and clams in local areas, therefore, the effect of this revenue could not be factored in, even though it could also be an important source of local revenue.

TRANSPORTATION

Introduction

Transportation related impacts on the Oxford waterfront can be divided into two primary categories, overland and waterborne traffic. Overland traffic is discussed relative to existing roadways, availability of parking, as well as tourist foot traffic and related accessibility. Waterborne traffic is likewise examined according to channels for movement within the harbor, mooring or anchorage areas, and among permanent slip areas.

Vehicular Transportation

With respect to the waterfront, the physical layout of Oxford, (its streets and land parcels) are a result of two types of growth. The early development and growth was largely that of an unorganized growth occurring during the initial settlement of the town. Eventually, however, growth and development began to follow a pattern similar to the designs being taught in the British and European planning schools of the day.

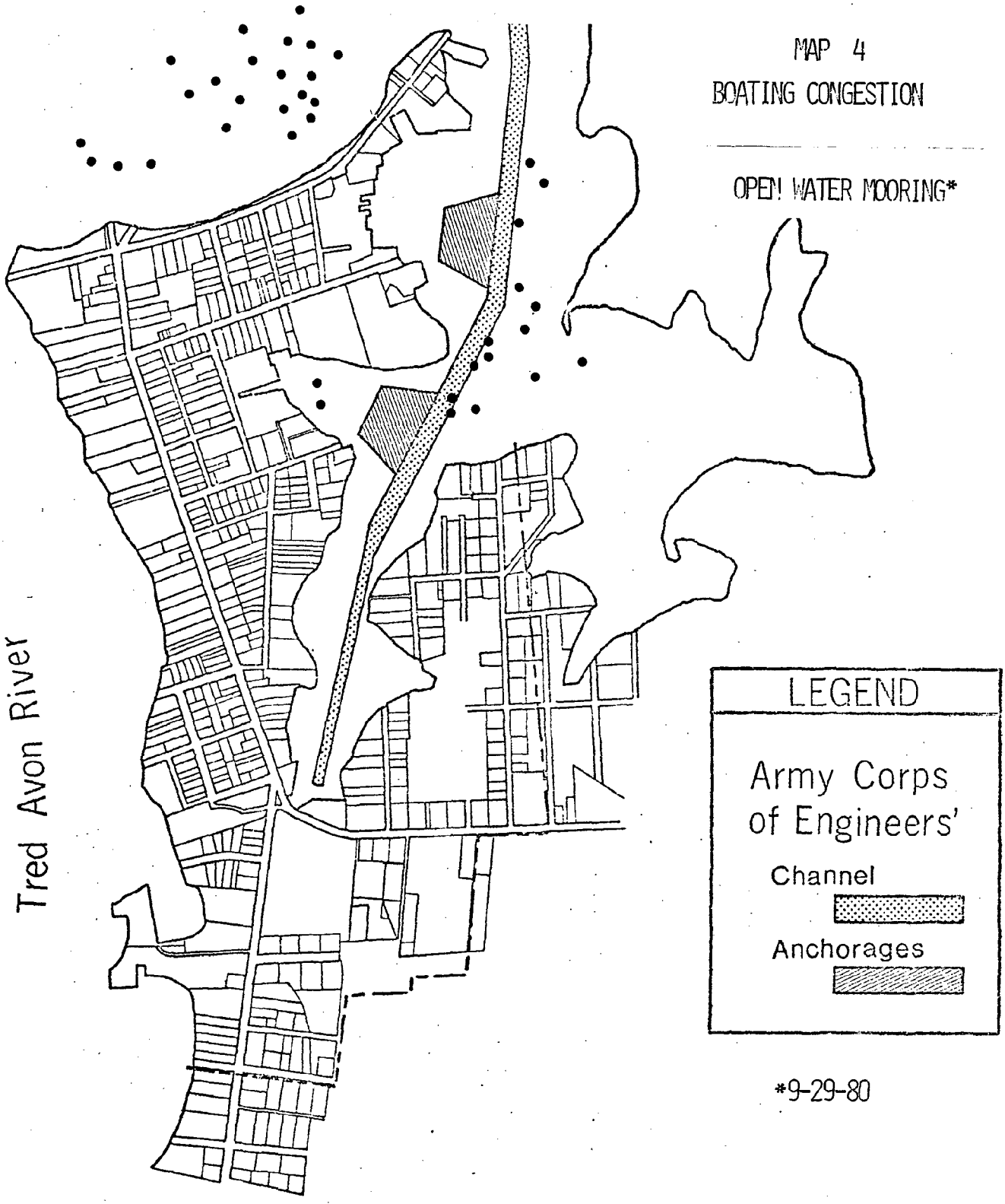
This heritage is responsible for much of the Oxford character and charm as well as certain vehicular movement problems. These problems are centered around the streets ending at the waters edge (See Map No. 4). This type of layout requires unfamiliar traffic to travel to the end of the various dead-end streets before discovering that their destination is inaccessible from that location. Consequently the meandering vehicular traffic through quiet residential neighborhoods has a disruptive effect on the otherwise pleasant character of those areas.

Establishing better signs in such areas for directing tourist traffic would offer an alternative to this type of vehicular traffic problem.

Parking

Existing parking facilities for harbor users are for certain areas sufficient, while for other areas around the harbor, the parking is inadequate and consequently leads to congestion problems in these areas.

The town of Oxford has approximately 40 slips that are


MAP 4
BOATING CONGESTION
OPEN WATER MOORING*
Tred Avon River
LEGEND
Army Corps of Engineers'
Channel
Anchorages
*9-29-80

rented to town residents on an annual basis. These slips are located at the foot of Tilghman St. and Market Street and at the head of Town Creek. The slips at the head of Town Creek have a sufficient number of parking spaces for the 24 slips located there. The slips located at Tilghman Street have enough parking area available for the seven slips located there. The parking provided for the slips located at the foot of Market Street however, is inadequate. This last site could be improved by providing some additional parking surface within the unused right-of way.

Foot Traffic

A large majority of the pedestrian traffic in Oxford during the summer and fall months is due to the landbased tourists who arrive primarily by car. Additionally, boats often spend evenings ashore in restaurants, sight-seeing and purchasing provisions for their craft.

Presently there are no central locations for the boaters to use to get ashore. If there were some central points of access then major points of interest could be identified and unnecessary foot traffic through town could be minimized.

Waterborne Traffic

Oxford presently has a channel designated by the Army Corps of Engineers running the length of Town Creek. However, due to an ever increasing influx of recreational boaters during summer weekends, the waters of Town Creek are often difficult to manuver in and through. (See Map No. 4). The Harbor Management Advisory committee has proposed better marking the two Army Corps of Engineers' anchorage areas. Another of the constraints placed on a more effective use of the water surface in Town Creek is the degree of shoaling. Shoaling has limited a great deal of Town Creek to boats that draw less than four feet. This condition has been developing for many years and will soon need to be addressed.

Community Facilities

Introduction

Oxford's traditional orientation to the water has endured to the present as one of its most valued characteristics.

This attitude is confirmed by the 2,679 feet of town owned waterfront scattered through the town. These locations are for the most part bulkheaded or riprapped and are often used for points of access to the water by the general public.

The following inventory identifies both the various locations of publicly owned waterfront and their associated structures, and is followed by a brief description of improvements at each site.

IMPROVED PUBLIC WATERFRONT

Head of Town Creek	225	Bulkhead/Slips/Dock
"The Strand"	1,530	Riprap/Beach/Bulkhead
Morris Street	95	Bulkhead/Armorstone
Pleasant Street	40	Bulkhead/Armorstone
Town Square	250	Bulkhead/Armorstone/Groins
Benoni Street	55	Bulkhead/Armorstone
West Division Street	40	Bulkhead
West end of "The Strand"	40	Groins
North end of "The Strand"	40	Bulkhead
Tilghman Street	120	Dock/Bulkhead/Boatramp/Slips
Market Street	35	Dock
SUBTOTAL	2,470	

UNIMPROVED PUBLIC WATERFRONT

Lot across from "The Beach"	125
Foot of First Street	28
Foot of Bonfield Street	28
Foot of Riverview Avenue	40
Foot of Myrtle Street	28
SUBTOTAL	249
TOTAL	2,719

PUBLIC WATERFRONT USES

HEAD OF TOWN CREEK

There are approximately 225 feet of bulkhead adjacent to a macadam parking lot which serves 24 municipal slips located on two docks.

"THE STRAND"

1,530 feet of waterfront some of which serves as a public beach for swimming. A large portion of this waterfront is riprapped and a section is also protected with a timber bulkhead.

FOOT OF MORRIS STREET

Approximately 95 feet of timber bulkhead adjacent to a gravel parking lot.

FOOT OF PLEASANT STREET

There are 40 feet of bulkhead in this location used for bank support only.

TOWN SQUARE

This is a Town Common with 250 feet of shoreline. During the summer it serves as a public beach.

BENONI STREET

The 55 feet of bulkheaded shoreline at the foot of this street is used only for visual access.

WEST DIVISION STREET

40 feet of bulkheaded shoreline.

WEST END OF "THE STRAND"

40 feet of sand beach with stone groins.

TILGHMAN STREET

There are 120 feet of bulkhead at this location with one boat ramp and a dock. There are seven municipal slips located on this property.

MARKET STREET

The 35 feet of shoreline at the foot of Market Street are used for a municipal dock with nine town owned slips.

Waterfront Structure Inventory

An inventory of waterfront structures throughout town was performed during this planning period and the results are presented in the last chapter. The results indicate that a majority of the waterfront structures should last well into the future but because many of these structures were apparently constructed during the late 1960's and early 1970's, their replacement may be required during the same 10 year period. Consequently in order for a municipality with limited fiscal capacity to provide for replacement of such structures a program for amortizing anticipated costs should be undertaken immediately. This program could be in part funded by the revenue from municipal boat slips as well as other harbor related revenue.

The Town of Oxford also owns a large section of waterfront at the west end of "The Strand", which is leased to the Tred Avon Yacht Club. The property is maintained by the Yacht Club and the leasing situation is not expected to change in the near future.

Contested Public Lands

There are several parcels of seemingly public waterfront land in Oxford that are presently being contested. Many of these disagreements go back many years and may only find satisfaction through legal channels. However, the ownership of those unresolved portions of waterfront should be established whenever possible and proper use made of these lands.

CHAPTER II

PLANNING CONSIDERATIONS

Planning Considerations

Community Survey

During the fall of 1980 a mail-out survey was developed and sent to the residents of Oxford. The mailing list was sent to 444 individuals. Questions on the survey covered many relevant issues concerning the use and management of the town waterfront. The results of the survey were compiled with the assistance of the Tidewater Fisheries and the Coastal Resource Division of Tidewater Administration, Maryland Department of Natural Resources. A copy of the survey follows and the complete results are presented in Appendix 1.

Profile of Respondents

The survey of harbor use has yielded a 39.2% return overall. This is generally considered a respectable percent of return for a mailout survey.

This survey asked respondents several questions, regarding sex, age and length of time in the area. This data is of use to give a description of the survey respondents.

Age

The respondents for this survey were all 20 years old or older. Nine people were between 20 and 30 years old, twenty people were 30 to 44, forty-seven people were 45 to 64, and forty-eight people were 65 or over.

Sex

The survey response was divided approximately 79% male, and 21% female.

BOARD MEETING:
2ND AND 4TH WEDNESDAY OF EACH MONTH

226-5122

ALL ACCOUNTS PAYABLE AT OFFICE

COMMISSIONERS OF OXFORD

OXFORD, MARYLAND 21654

November 5, 1980

Dear Town Resident:

As you may have noticed in the newspaper article recently, the town government has undertaken the task of developing a Harbor Management Plan. This project will offer you, a resident of this town, a chance to take a more active role in how your town harbor is used.

In order for us to accomplish this task and at the same time hear your opinions regarding this important resource, the Harbor Study Committee and myself are asking you to take a few minutes to fill out this questionnaire. This will enable us to develop a Harbor Management Plan that will represent your concerns as a town resident.

If you have any questions concerning this project, please call me at 822-2030 between 9:00 and 4:00, Monday thru Friday.

Thank you for your time and assistance with this effort.

Sincerely,

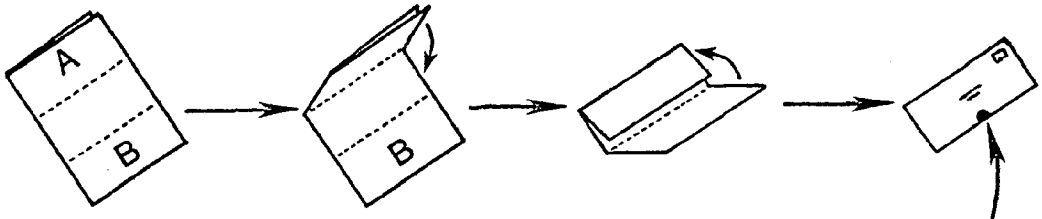
Jim Hutto
Project Planner
Oxford Harbor Management Plan

ATTENTION

TO RETURN THIS QUESTIONNAIRE

FIRST, FOLD TOP THIRD OF THE QUESTIONNAIRE (A) TOWARD CENTER.

SECOND, FOLD BOTTOM THIRD OF QUESTIONNAIRE (B) TOWARD TOP.



USE ORANGE STICKER TO SEAL QUESTIONNAIRE.

The following questions are about you personally and will help us to know about the concerns of the Town residents regarding their harbor.

1. Do you own a boat?

☐ Yes ☐ No

IF YES, ANSWER QUESTION 2. IF NO GO TO QUESTION 9.

2 How many boats do you own?

_____(number)

3 Where is/are your boat(s) kept?

☐ Trailered
☐ In the harbor
☐ Elsewhere - Specify _____

4 What type of dockage do you use?

☐ Town slips
☐ Public marina
☐ Private slip
Other - Specify _____

5 What type of boat do you own?

☐ Sailboat ☐ Powerboat

6 What size is your boat?

☐ 15 feet or less
☐ 16 feet to 25 feet
☐ 26 feet to 40 feet
☐ Over 40 feet

7 On an average, how many times a year do you use your boat?

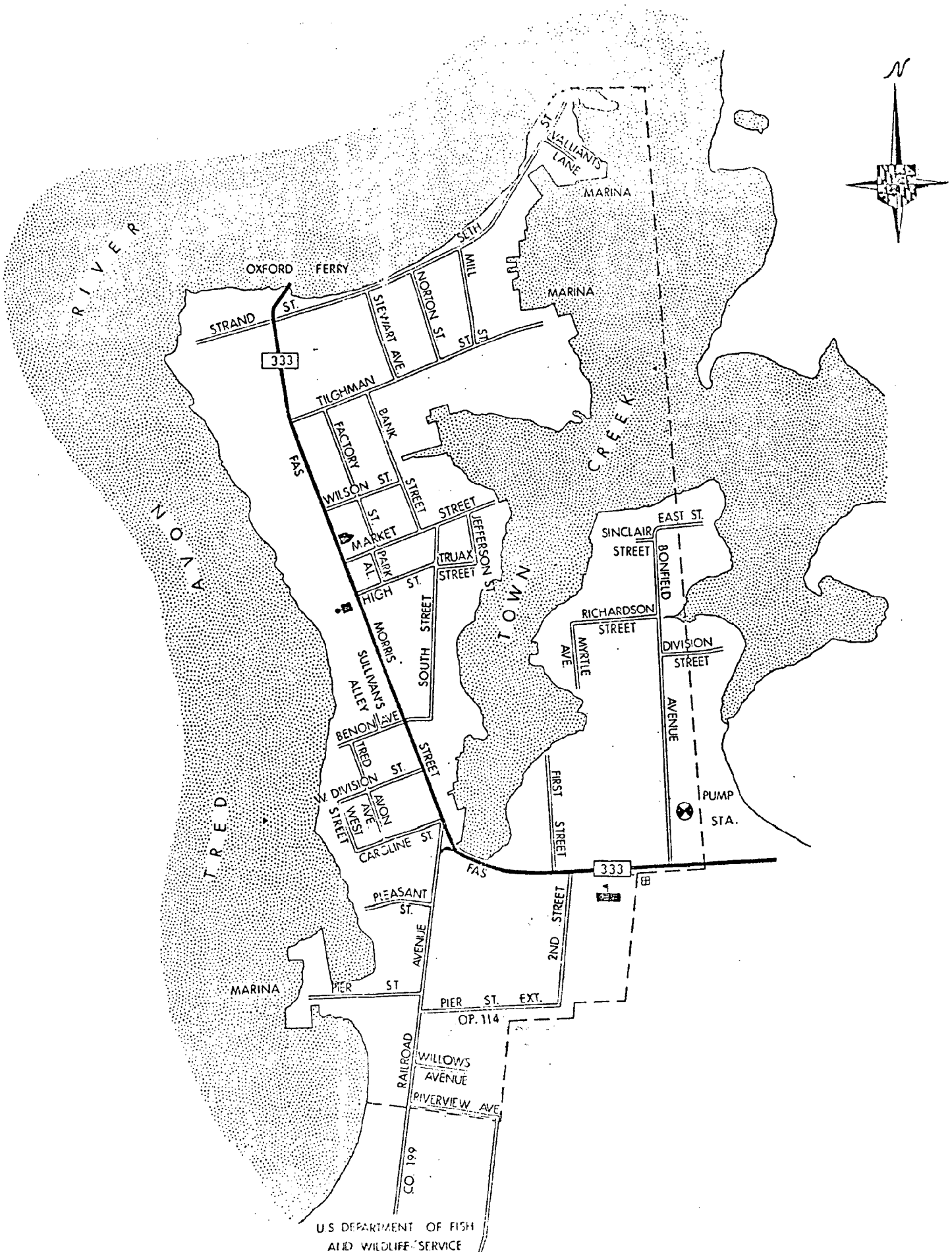
☐ 1-6 ☐ 6-12 ☐ 12-24 ☐ over 24

8 Using an "X", indicate approximate location of your dock site on the map.

9 If you live in Oxford, where in town do you live? Using a circle "O", indicate the approximate location on the map.

10 In your opinion, what is the biggest problem in the town harbor?

_____


N
RIVER
TRED AVON
TOWN CREEK
OXFORD FERRY
STRAND ST.
STEWART AVE.
NORTON ST
MILL ST.
6TH ST.
VALIANTS LANE
MARINA
MARINA
333
TILGHMAN
FAS
FACTORY
BANK STREET
WILSON ST.
MARKET ST.
PARK AL.
TRUAX STREET
JEFFERSON ST.
HIGH ST.
MORRIS STREET
SOUTH STREET
SULLIVAN'S ALLEY
BENON AVE
TRED AVON STREET
W. DIVISION ST.
AVON AVE WEST
CAROLINE ST.
EAST ST.
SINCLAIR STREET
BONFIELD AVENUE
RICHARDSON STREET
MYRTLE AVE.
DIVISION STREET
FIRST STREET
PUMP STA.
333
FAS
PLEASANT ST.
AVENUE
2ND STREET
MARINA
PIER ST
PIER ST. EXT.
OP. 114
RAILROAD
WILLOWS AVENUE
RIVERVIEW AVE
CO 199
U S DEPARTMENT OF FISH AND WILDLIFE SERVICE

11 Which of these best fits the kind of work that the head of the household does?

- ☐ Retired
- ☐ Professional or executive (store-owner, doctor, teaching, etc.)
- ☐ Sales or clerical (salesperson, typist, etc.)
- ☐ Craftsman (carpenter, mechanic, plumber, etc.)
- ☐ Waterman
- ☐ Student, apprentice, trainee
- ☐ Laborer, semiskilled, etc.

12 Are you

☐ male? ☐ female?

13 What is your age?

- ☐ under 20 years
- ☐ 20-30 years
- ☐ 30-44 years
- ☐ 45-64 years
- ☐ 65 or over

14 How many years have you lived in town?

_____ years
(number)

15 If you are living outside the town of Oxford, please write your name and address in the space below.

_____

_____

_____

IF YOU ARE A WATERMAN, PLEASE ANSWER BELOW.

11A How much of your personal income comes from commercial fishing?

- ☐ 0-25%
- ☐ 25-50%
- ☐ 50-75%
- ☐ 75-100%

11B What type of commercial fishing do you do?

- ☐ Crabbing
- ☐ Oystering
- ☐ Clamming
- ☐ Finfishing
- ☐ Charter Fishing
- Other - Specify _____

11C As a waterman how would you rank the harbor as a homeport for your operation?

- ☐ Excellent
- ☐ Good
- ☐ Average
- ☐ Poor
- ☐ Terrible

11D As a waterman what do you see as the three biggest problems with having your operation based in this harbor?

- ☐ biggest problem
- ☐ second biggest problem
- ☐ third biggest problem

1. Movement in harbor area.
2. Inadequate parking.
3. Lack of unloading space
4. Insufficient mooring or sli locations.
5. Added costs volved with harbor use.
6. Other - spec

HOW DO YOU FEEL ABOUT THESE QUESTIONS?

16 How adequate are parking areas, with respect to the docks and mooring spaces?

Very Adequate | Adequate | Inadequate | Very Inadequate

17 How adequate are mooring and docking facilities?

Very Adequate | Adequate | Inadequate | Very Inadequate

18 How adequate are services available to boaters?

Very Adequate | Adequate | Inadequate | Very Inadequate

19 How adequate is boat trash collection and removal?

Very Adequate | Adequate | Inadequate | Very Inadequate

20 How adequate is security, for the protection of boats and property?

Very Adequate | Adequate | Inadequate | Very Inadequate

21 Is control and regulation of traffic within the harbor a problem?

Serious Problem | Minor Problem | Slight Problem | No Problem

22 What are the most important improvements that could be made in or around the harbor?

23 Any additional comments?

SUMMARY OF OXFORD SURVEY*

Introduction

The information collected in the survey was analyzed and presented in terms of "user groups". These groups are (1) people who own boats, (2) people who don't own boats, (3) people who own sail boats, (4) people who own power boats, (5) people who have private dockage, (6) people who use municipal slips, (7) people who own boats and live in either of five sectors of town, (8) people who don't own boats and live in either of five sectors of town.

A - Major Problems

1. All groups agreed that the major problem in the town harbor is congestion.
2. The second most common answer was pollution.
3. The third most common answer was don't know.

B - Parking

1. In general, parking is considered to be adequate 4 to 1 overall. However, non-boat owners in sectors 1, 3, and 5 were not as content with the parking facilities around the docks and slips.

2. Docks

   Docks are considered to be adequate 4 to 1 overall, with all groups agreeing at least 2 to 1.

3. Services available to boaters

   Services are considered to be adequate 4 to 1 overall, with all agreeing at least 2 to 1.

4. Trash collection

   Trash collection is considered to be adequate 4 to 1 overall, with all groups agreeing at least 2 to 1.

5. Security

   Security is considered to be adequate 5 to 1 overall, with non-boat owners in sector 1 the least content, non-boat owners

in sector 1 were divided between feeling that security was adequate or inadequate.

6. Regulation

Control and regulation within the harbor is generally not considered a problem by a narrow majority. However, boat owners in sectors 1 and 4 feel 3;1 that there is definitely not a problem, while non-boaters in sector 2 felt that regulation was a problem.

* See Appendix one for complete listing of results.

MARINA SURVEY

1. Name of Company: _____

   Address: Street _____

2. Year of founding _____

3. How would you characterize the market for your company's services?

   _____ Predominately local

   _____ Predominantly Statewide

   _____ Predominantly regional (Mid-Atlantic/ East Coast)

4. Has the geographical market for your company's major products changes significantly during the last ten years?

   _____ Yes

   _____ No

   If "Yes", briefly explain how.

5. During the last 10 years has there been a shift in the clientele served by this operation?

   _____ Yes _____ No

6. How would you characterize your potential for company expansion on this site now?

Landward	Over the Water
_____ Substantial	_____ Substantial
_____ Modest	_____ Modest
_____ None	_____ None

7. Is there anything about your present site which is a problem to you?

   _____ Yes

   _____ No

   If "Yes", please explain:

8. During the last ten years, have you expanded your operation?

Landward _____Yes _____No

Over the Water _____Yes _____No

If "Yes", please briefly explain in what ways and when this occurred:

9. Do you feel a need for further expansion in the near future?

_____Yes _____No

10. During the last ten years, have you required dredging for your operation?

_____Yes _____No

If "Yes", please explain where and when:

11. Do you feel a need for further dredging on your site in the near future? (in the next 10 years).

_____Yes _____No

12. How many people are employed by your operation?

Permanent	Seasonal
_____Part-time	_____Part-time
_____Full-time	_____Full-time

13. How has the labor climate changed in the last ten years?

a. Worker turnover:

_____Higher now

_____About the same

_____Lower now

b. Skilled labor availability:

_____Better now

_____About the same

_____Tighter now

13. How has the labor climate changed in the last ten years?

c. Quality of labor Performance

_____Better now

_____About the same

_____Poorer now

14.. What effect, if any, have changes in the labor climate had upon your operation?

_____

_____

15. What in your extimation are the most critical manpower/labor needs which the local Government should address?

_____

_____

16. What in your estimation is the best and most viable approach which should be taken by local Government to assist your operation?

_____

_____

17. How many slips do you presently have?_____

18. What services do you provide?

Gas Dock _____
Ice _____
Slips _____
Water _____
Electric _____
Pump Out _____
Dry Storage _____
Restaurant _____
Ships Store _____

Marina Survey

During the spring of 1981 a hand carried "Marina Survey" was taken to the nine marinas in Oxford. Response followed from seven of these and the results presented below are from those seven, plus some information gathered from the Boating Almanac.

Marina Survey Results

Marketing

1. The characteristic market for the marinas in Oxford is predominately regional (Mid-Atlantic).

2. Of those marina owner/operators who felt that the geographical market area has changed in the last ten years (50%) the concensus was that the capture area has enlarged.

3. Generally the feeling is that the clientele in the area has not changed significantly in the last ten years.

Site Conditions

4. Of the seven marinas responding to the survey five felt they had a problem with their present site. These problems were:

   a. shoaling in the creek around the approach to their harbor
   b. a need for covered slips
   c. a need for expansion of facilities over the water

5. Most marina owners felt that their potential for further expansion over the water was modest to none while only one responding marina owner felt that his potential for expansion was substantial. There were similar responses for expansion landward.

6. During the last ten years two of the responding marinas have expanded landward while four marinas have expanded over the water.

7. Four marinas felt the need for further expansion in the near future.

8. During the last ten years, three responding marinas have undertaken dredging, while six marinas felt they would require additional dredging within the next ten years.

Employment

9. Permanent Employees: 6 part-time, 48 full-time
   Seasonal Employees : 40 part-time, 106 full-time

   46 part-time, 154 full-time
   Total Employees = 200 full or part-time

10. The general feeling regarding the labor climate during the last ten years is that:

    a. worker turnover is about the same or higher now.
    b. skilled labor availability is about the same or tighter now.
    c. A change in the quality of labor performance is undetermined.

CHAPTER III

OBJECTIVES/RECOMMENDATIONS

Introduction

In September 1980, the Commissioners of Oxford, approved the establishment of the Oxford Harbor Study Advisory Committee, to investigate the problems associated with the Harbor areas as well as other waters under their jurisdiction, and make recommendations as to best management approaches. The following pages in Chapter III, Objectives & Recommendations, is a complete listing of the consensus of opinion by this committee.

Due to the large number of Harbor related topics to be discussed, the Harbor Management Study Committee began initially organizing and prioritizing issues relating to the harbor. Once identified, the individual issues were then defined in terms of problem, need, objectives, and recommendations. In this way each relevant issue was guaranteed full attention.

TOPIC: Waterfront and Water Surface Management

Goals:

- Maintain a planned pattern and program of compatible and efficient utilization of the town waters and adjacend land use.

Objective:

- Better define existing waterfront management policies in light of revised land/water use goals and objectives.

Needs:

- Clarify the objectives and authority of the Board of Port Wardens.

TOPIC: Fiscal Management

Goal:

- Maintain a favorable balance between town revenues and the expenditures required to meet community needs.

Objectives:

- Provide for sufficient fiscal management of all town owned waterfront facilities and responsibilities.

Needs:

- Develop Harbor Improvement Fund for required maintenance of harbor facilities.

TOPIC: Transportation

Goal:

- Keep the waters of Oxford free of congestion. Provide for the safe and easy access to the shore for waterborne traffic.

Objectives:

- Provide for boating safety by maintaining freedom from hazard and congestion.

Needs:

A. Identify appropriate sites for access to town for the visiting boater.

B. Identify appropriate sites for open water mooring.

C. Identify required dredging projects within the water of Oxford.

D. For areas of public access to the waterfront identify sites of insufficient parking.

TOPIC: Public Service

Goal:

- Provide a system of community services, facilities and utilities responsive to citizen needs.

Objectives:

1. Provide adequate facilities for waterfront community recreation.

2. Maintain an adequate level of marine fire protection and ambulance service.

Needs:

A. Identify needed improvements for public waterfront access.

B. Identify areas most appropriate for public sanitary facilities in waterfront areas.

C. Identify areas of needed trash collection service for public waterfront areas.

D. Work closely with the Oxford Fire and Rescue Service to develop a "Harbor Fire and Rescue Force".

TOPIC: Natural Resources

Goal:

- Protect the natural resources in and around Oxford and encourage their proper utilization.

Objectives:

- Maintain the quality of the water in and around Oxford at a level which is suitable for human contact and shellfish harvesting and production.

Needs:

A. Identify the number of pump-out facilities needed and strategic sites for such facilities within Town Creek.

B. The channeling, when possible, of stormwater run-off away from Town Creek.

C. Diverting, when possible, of agricultural runoff away from Town Creek.

RECOMMENDATIONS

TOPIC: Harbor Management Consideration's

Problem:

- Poorly defined role for the Board of Port Wardens.

Need:

- Clarify the objectives and authority for the Board of Port Wardens.

Recommendations:

A1 - A specific policy resolution should be drafted by the Oxford Town Commissioners regarding the overlap of authority and responsibility between the Planning Commission and Board of Port Wardens. This statement should attempt to address differences between existing land use strategies and recently developed waterfront policies.

A2 - Additional management regulations designed to provide for a pleasant and safe waterfront environment in Oxford should be drafted, these regulations should address topics such as Safety, Fire, Discharge of trash, Vandalism and etc.

A3 - A Harborline should be established to limit channelward extension of the shorefront structures in Town Creek that is respectful of the rights and privileges of waterfront landowners, the needs of maritime commerce as well as the physical constraints of Town Creek as a multi-use water body.

TOPIC: Harbor Improvement Fund

Problem:

- Insufficient fiscal preplanning for potential costs associated with repair and replacement of Town owned public waterfront facilities.

Needs:

- Develop Harbor Improvement Fund for required maintenance of harbor facilities.

Recommendations:

B1 - An amortizing fund established specifically for harbor related improvements should be maintained and operated by the Town for all harbor related revenues and expenses.

B2 - Existing Town owned bulkhead should be inspected and an aggressive maintenance program designed that will extend the functional life of these structures as much as possible.

B3 - Town owned and leased boat slips should have a rental fee that reflects the fair market value.

B4 - Town owned slips and docks should be properly maintained in order to extend their useful life as much as possible.

B5 - A set of Minimum Design Standards should be established to be used for all municipal waterfront structures in the future.

B6 - Additional Town owned slips should be provided when the possibility exists.

B7 - A written formula for allocation of Town owned slips should be established and followed and posted publicly.

B8 - Additional Town owned waterfront that is presently inaccessable to the public should be improved with bulkhead and other needed physical improvements as required to make the property and its waterfront accessable.

TOPIC: Dredging Program

Problem:

- Insufficient preplanning schedule for required dredging projects and lack of a sufficient dredge spoil disposal site.

Needs:

- Identify required dredging projects and establish a sufficient spoil disposal site.

Recommendations:

C1 - In the not too distant future the Army Corps of Engineers will dredge the Corps channel in Town Creek. In order to facilitate this project the town will need to locate a suitable dredge spoil disposal site for this project.

C2 - Portions of Town Creek adjacent to Town owned waterfront have become shoal and will require dredging in order to provide for adequate access.

C3 - In order to provide for the required amount of land needed for spoil disposal from dredging projects in the near future the Town Commissioners will find it necessary to begin now to identify the amount of land required and secure it for such use.

C4 - As a means of off setting some of the cost of dredging operations in Town Creek, a spoil disposal site should be located within 5,000 feet to allow for hydraulic or suction dredging.

TOPIC: Congestion on the Water

Problem:

- Confusion regarding the appropriate sites around Oxford for access to town and for proper open water mooring areas.

Need:

- Identify appropriate sites for access to town for the visiting boater and for open water mooring.

Recommendations:

D1 - Because of a lack of adequate marking for existing Army Corps of Engineers anchorage areas there is confusion by visiting yachtsmen regarding proper anchorage areas in Town Creek. The Town Commissioners should apply to the Army Corps of Engineers for such marking.

D2 - Lack of anchorage marking off of the Strand leaves some boaters to anchor in the river channel. The Town Commissioners should apply to the Waterways Improvement Division of the Tidewater Administration for assistance in designating proper anchorage in this area.

D3 - A chart of Town Creek could be printed showing the channel, anchorage area, shoals, gas docks, and landing areas as well as points of interest in Town. Local merchants, marina owners and restaurants could be asked to underwrite the cost of printing. Distribution could be carried out via the marinas and restaurants.

TOPIC: Improved Access

Problem:

- Lack of a central point or points of access to shore for visiting boaters.

- Insufficient access to the water for town residents.

Need:

- Identify needed improvements and develop a schedule for priortizing these improvements.

Recommendations:

E1 - Improvement of shoreline access by visiting boaters can be facilitated by the purchase and placement of two floating dinghy docks. One located at the Tilghman Street Municipal dock and another placed at the Market Street municipal dock. Both docks to be used for temporary mooring of small craft only.

E2 - Additional municipal slips can be located at the Town owned property across the street from "The Beach" for use by town residents. This type of facility will first require bulkheading of the waterfront.

E3 - The placement of a municipal boat ramp and parking area at the foot of Riverview Avenue for use by boaters in the northern area of town.

E4 - In order to accomplish these needed improvements in an organized and timely fashion a prioritizing of these proposed improvements should be established and followed.

TOPIC: Parking

Problem:

- Insufficient parking spaces for some areas of public access to waterfront.

Need:

- Identify areas of insufficient parking.

Recommendations:

F1 - The Town of Oxford owns property at the foot of Market Street, the waterfront there is used for a municipal dock; however, there is insufficient parking presently. Consequently the town should attempt to use more fully that parcel of land to establish adequate parking.

F2 - The town owned property across the street from "The Beach" will in the future require improvements in the parking lot located there.

TOPIC: Harbor Fire and Safety Planning

Problem:

- Presently there is no group to provide waterborne emergency service in the harbor on a round-the-clock basis.

Need:

- Work closely with the Oxford Fire and Rescue Service to develop such a group for harbor emergencies.

Recommendations:

G1 - Establish a Fire and Safety Ordinance for Oxford Waterfront areas using NFPC 303 for guidance and direction.

G2 - Assist in training and qualifying a volunteer Fire Company.

G3 - Acquire and equip a boat of appropriate size with necessary equipment (fire extinguishers, 250 gallon/minute waterpump and hoses, towing wires, and first aid equipment).

G4 - Clearly mark fire lanes leading to all docks patrol same and keep them clear for necessary access by required equipment.

TOPIC: Public Sanitary Facilities

Problem:

- Insufficient public sanitary facilities for visiting boaters.

Need:

- Identify areas most appropriate for public sanitary facilities.

Recommendations:

H1 - The placement of portable toilets in strategic locations near the harbor will be necessary if use of on-board facilities is to be avoided while visiting yachtsmen are anchored off-shore.

H2 - Two portable toilets should be placed at each of these locations:

1. Tilghman St. Town Slips
2. The Beach parking lot.
3. Riverview Boatramp
4. Town Ferry Dock

H3 - Signs should be placed in other locations directing visitors to these facilities as needed.

TOPIC: Trash Collection

Problem:

- Insufficient trash collection in certain areas of the waterfront.
- Use of trash receptacles around harbor for other than harbor related trash.

Needs:

- Identify areas of needed trash collection service for public access site at the waterfront.
- Consider fencing in trash collection receptacles to minimize use by non-harbor users.

Recommendations:

I1 - Establish a program for improved boater related trash collection and removal. Place receptacles in the following locations:

A.	The Beach	55 Gallon Drums
B.	Tilghman St. Slips	Green Box
C.	Market St. Clock	55 Gallon Drums
D.	Slips at the Head of Creek	55 Gallon Drums
E.	Ferry Dock	Green Box

I2 - Program collection of trash as is required to avoid overflowing receptacles.

CHAPTER V

ADMINISTRATIVE & MANAGEMENT CONSIDERATIONS

Administrative Considerations

Introduction

In drafting recommendations for the initiation of a comprehensive management plan for the waters of Oxford, the Harbor Management Study Committee listed five primary objectives. These objectives are:

1. Better define existing waterfront management policies in light of revised land/water use goals and objectives.

2. Provide for sufficient fiscal management of all town owned waterfront facilities and responsibilities.

3. Provide for boating safety by maintaining freedom from hazard and congestion.

4. a. Provide adequate facilities for waterfront community recreation.

   b. Maintain adequate level of marine fire protection and ambulance service.

5. Maintain the quality of the water in and around Oxford at a level which is suitable for human contact and shellfish harvesting and production.

Implementing such objectives will require certain modifications and additions to the existing town administrative framework. These adjustments were separated into four individual tasks listed below:

1. Establishment of a limit to the channelward extention of docks and piers (Harborline).

2. Modifications to Zoning Ordinances.

3. Establishment of Harbor Management Regulations.

4. Development of Fire and Safety Contingency Plan.

FIGURE 2

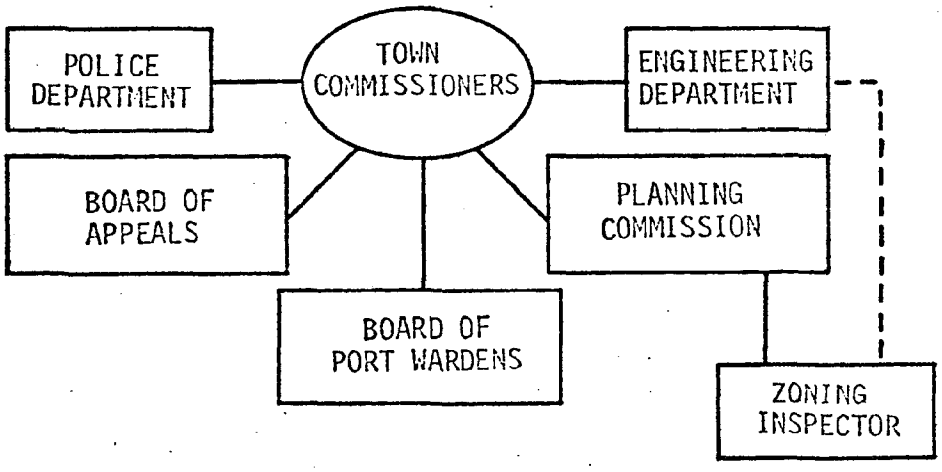

POLICE DEPARTMENT
TOWN COMMISSIONERS
ENGINEERING DEPARTMENT
BOARD OF APPEALS
PLANNING COMMISSION
BOARD OF PORT WARDENS
ZONING INSPECTOR

FIGURE 3

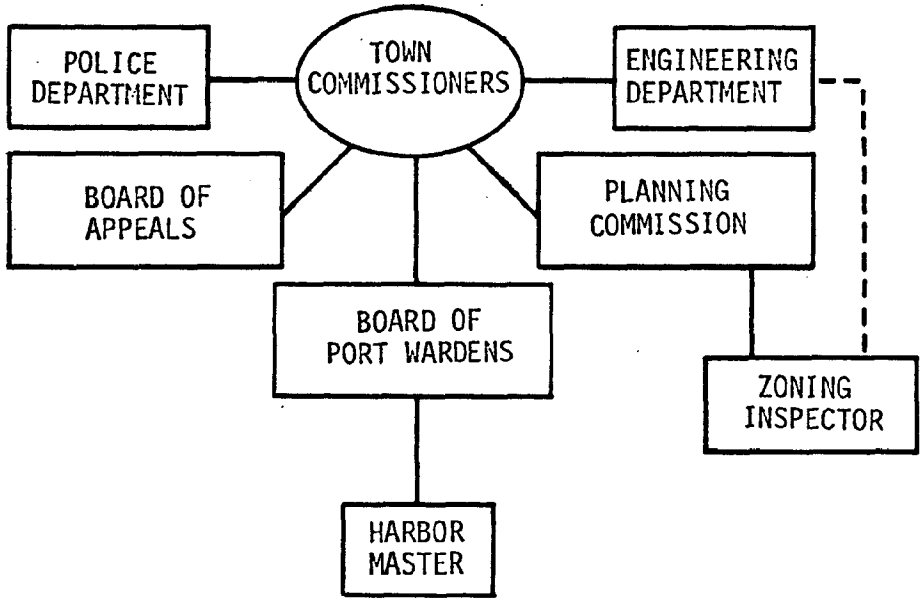

POLICE DEPARTMENT
TOWN COMMISSIONERS
ENGINEERING DEPARTMENT
BOARD OF APPEALS
PLANNING COMMISSION
BOARD OF PORT WARDENS
ZONING INSPECTOR
HARBOR MASTER

FIGURE 4

ORDINANCE FOR ESTABLISHMENT OF BOARD OF PORT WARDENS

COMMISSIONERS OF OXFORD

ORDINANCE NUMBER 175

INTRODUCED BY: EMORY L. BALDERSON

DATE OF INTRODUCTION: 10/10/79

A BILL ENTITLED AN ORDINANCE TO CREATE THE BOARD OF PORT WARDENS OF THE TOWN OF OXFORD, AND TO ESTABLISH THE RESPONSIBILITIES, DUTIES, AND POWERS OF THE BOARD AND PROVIDE FOR THE APPOINTMENT THEREOF

BE IT ENACTED BY THE COMMISSIONERS OF OXFORD, pursuant to Section 10 of the Charter of the Town of Oxford, and pursuant to Article 23A, § (23A), of the Annotated Code of Maryland, as follows:

SECTION 1: There is hereby created the Board of Port Wardens for the Town of Oxford, which Board shall consist of three (3) members appointed by the Commissioners of Oxford, for terms of three (3) years each, provided, however, that the initial terms of each member shall be one (1) year, two (2) years, and three (3) years, respectively, as designated by the Commission.

SECTION 2: The Board of Port Wardens shall hold public meetings at least once every month.

SECTION 3: The Board of Port Wardens shall have the following powers, duties, and responsibilities:

1. To regulate the placement, erection, or construction of structures or other barriers within or on the waters of the municipality, including but not limited to the issuing of licenses to create or build wharves or piers and the issuing of permits for mooring piles, floating wharves, buoys, or anchors, taking into account the present and proposed uses, and the effect of present and proposed uses on marine life, wildlife, conservation, water pollution, erosion, naviga-

tional hazards, the effect of the proposed use on congestion within the waters, the effect on other riparian property owners, and the present and projected needs for any proposed commercial or industrial use.

2. The port wardens shall have the power to regulate the materials and constructions for the aforesaid improvements and to make certain that any improvements in the waters within the municipality do not render the navigation too close and confined. This provision in no way intends to affect or conflict with any zoning power otherwise provided for.

SECTION 4: No person may build any wharf or pier, or carry out any earth or other material for the purpose of building a wharf or pier, nor shall any persons place or erect mooring piles, floating wharves, buoys, or anchors without a license or permit from the port wardens. If any person violates the provisions of this section, or if any person builds any wharf or pier a greater distance into the waters of the port, or in a different form, or of different materials than determined and allowed by the wardens, he is subject to a fine as hereinafter imposed.

SECTION 5: The Board of Port Wardens may adopt such reasonable rules and regulations, including permit or license fees, as it deems necessary for the conduct of its business; provided, however, that all such rules, regulations, and fees shall be approved by the Commissioners of Oxford.

SECTION 6: Violation of any provision of this Ordinance shall be a municipal infraction as described in Article 23A, §3, Annotated Code of Maryland, and a fine of $100.00 shall be imposed for each conviction hereunder. Each day in violation shall be considered a separate offense and subject to separate citations. A fine of $200.00 shall be imposed for each repeat offense.

SECTION 7: In all differences that arise between any aggrieved party and the port wardens concerning the discharge of the duties of the port wardens, an appeal may be taken to the Commissioners of Oxford.

SECTION 8: AND BE IT FURTHER ENACTED, That if any provision of this Ordinance or the application thereof to any person or circumstance is held invalid for any reason, such invalidity shall not affect the other provisions or any other application of this Ordinance which can be given effect without the invalid provisions or application, and to this end, all the provisions of this Ordinance are hereby declared to be severable.

SECTION 9: This Ordinance shall be effective upon its adoption by the Commissioners of Oxford.

READ AND PASSED THIS 24th day of October, 1969.

In order to properly maintain an active management program for the harbor area, the Town Commissioners have established a Board of Port Wardens. The members of the Board are appointed by the Town Commissioners for three year terms and have powers as outlined in Figure No. 4.

An important consideration for such an addition to the town government is interaction and overlap between proposed additions and existing commissions. Figure No. 2 graphically shows relationships between the other growth management commission (Planning Commission). The Board of Port Wardens is basically on equal standing with, and independent of, the Planning Commission, however, it is important to maintain a link with the Planning Commission. This can be accomplished by incorporating the Zoning Inspector in the permitting and regulatory actions taken by the Board of Port Wardens. Additionally further adjustments will need to be made to properly interface these two commissions.

Eventually, the Board of Port Wardens may require more active involvement in the day to day working of harbor management at which time the Town Commissioners may appoint a Harbormaster. Figure No. 3 shows the relationship between such a harbormaster, the Board of Port Wardens, and the Zoning Inspector. Other arrangements and/or linkages could be possible depending on the degree of need.

ESTABLISHMENT OF A HARBOR LINE

INTRODUCTION

As a result of increasing pressures for growth and expansion channelward, Oxford is being forced to better define and secure those portions, of its waterway that must be held as free and open for all to use. A consideration in the establishment of a limit to channelward extension in Town Creek is the fact that Oxford is and has been, traditionally a sailing harbor. Because of this heritage, the northern orientation of the mouth of Town Creek, and the northerly and southerly prevailing winds, sailing in and out of Town Creek often requires "tacking" back and forth between both shores. However, efforts aimed at maintaining the necessary open water surface must be cognizant of the fact that all riparian landowners have a basic right of access to the adjacent waterway. With this in mind a procedure for demarcating a line to be used as the limit of maximum channelward extension was developed. It should be noted that establishment of such a line is not intended to deny any riparian landowner rights or privileges that are normally associated with riparian ownership. Additionally the establishment of such a boundary is not designed to deprive use or ownership of any fixed waterfront structure which was lawfully installed and in use before the establishment of the harborline. However, the creation of such a line is intended to regulate all construction of commercial, community, public and private piers, mooring piles and moorings within the waterways under the jurisdiction of the Town of Oxford, for the purpose of assuring Town Creek's viability in serving the entire Oxford community. Both now and in the future.

In order to establish and describe a harbor line for use with the Zoning Ordinance it will be necessary to have the harbor line described through an engineering survey. This process will establish the exact location of the line for reference in determining the appropriateness of waterfront structure proposals.

HARBOR LINE DESIGNATION

In establishing limits for channelward extension, compromise must be made between boat traffic and open water mooring requirements and landward access rights and privileges. These compromises were made and a method for designating a harbor line was developed under the approval of the Harbor Study Committee.

The designation of the harbor line according to the formula mentioned below is the result of a careful analysis of the physical constraints of the waterbody.

Because the water surface in Town Creek has a diverse mix of both uses and physical constraints, separate portions of the creek were given different harbor line designation criteria. The waters of Town Creek were separated into four primary areas. These areas are:

A. Southern arm of Town Creek
B. Confluence of the eastern portions of Town Creek and the southern arm of Town Creek.
C. Entrance of Town Creek.
D. Crocketts' Cove

Additionally these four areas were separated into two categories, those with shoreline near the Army Corps of Engineers channel and those with shoreline far from the Corps Channel.

The maximum length of channelward extension as designated in the harbor line criteria is the 6 foot contour used in "Area C" which can be, at times, as much as 250 feet from shore. The most constraining limit for channelward extension using the harbor line siting criteria is in "Area A" which can be as little as 50 feet from shore.

The four general areas listed above are described more fully below:

Area A - Southern Arm of Town Creek

This portion of Town Creek is characterized by limited water surface (greater than 40% of shoreline within 150 feet of the Army Corps of Engineers Channel), relatively shallow water (less than 5 feet of water), and limited boating traffic.

Area B - Confluence of the eastern and southern portions of Town Creek.

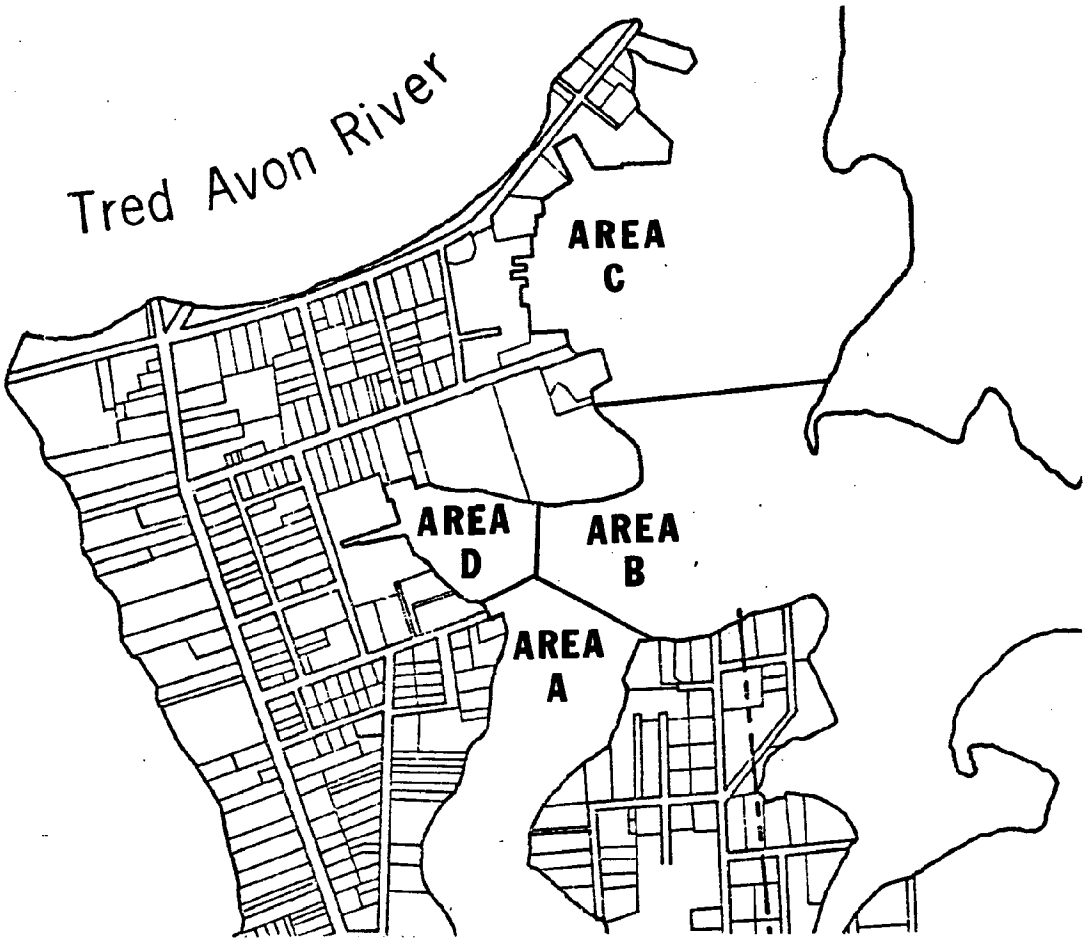
This area of Town Creek has moderate depths, a shoreline more distant from the Army Corps of Engineer's channel, and moderate boating traffic.

Area C - Entrance into Town Creek

The entrance into Town Creek is characterized by water of considerable depth, a shoreline that lies away from the Army Corps of Engineer's channel, and heavy boating traffic.

Area D - Crocketts' Cove

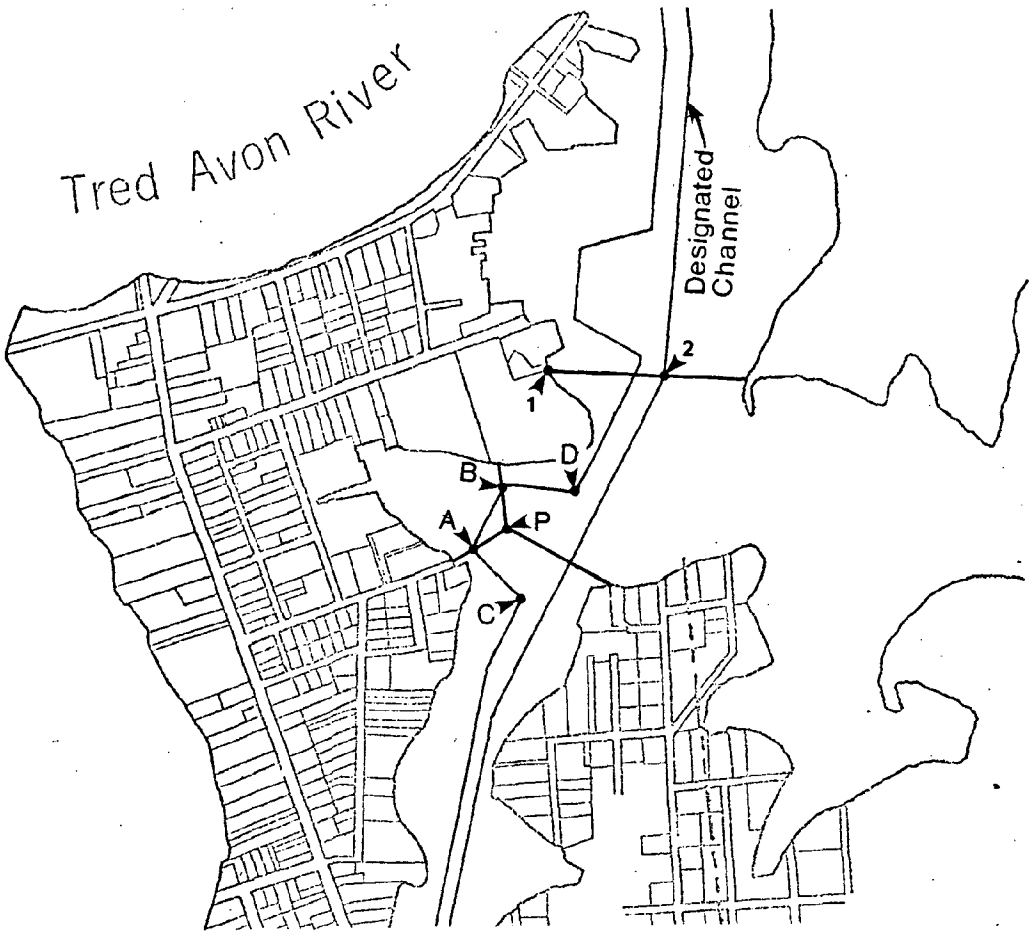
This small cove within Town Creek has shallow depths, no designated channel and heavy boating traffic.



The method for actually designating these four general areas is shown in the drawing below.

To establish the line that will separate Areas A, B and D, from each other draw a line that bisects the angle formed by line segments "CA" and "AB" and do the same with line segments "DB" and "BA". Extend the line segments "AP" and "PB" to the shore nearest points "A" and "B". Continuethese lines until they meet. This will be at point "P". Extend a line from point "P" so that it bisects the angle formed by line segments "AP" and "PB" and continue this line to the opposite shore.

In order to form the division between areas B and C, extend a line from Point 1 (point on land) through Point 2 (point where Army Corps of Engineers channel changes direction) across to opposite shore.



For the establishment of the harbor line, individual criteria for each of the four areas are presented.

Area "A"

If the channel is within 150 feet of the shore then measure:

- Out to channel
  or
- Out 50 feet

Whichever is less.

If the channel is not within 150 feet of the shore then measure:

- Out 1/2 of the distance to the center of the channel
  or
- Out 125 feet.

Whichever is less.

Area "B"

If the channel is within 150 feet of the shore then measure:

- Out to the channel
  or
- Out 75 feet.

Whichever is less.

If the channel is not within 150 feet of the shore then measure:

- Out to the channel
  or
- Out 125 feet

Whichever is less.

Area "C"

If the channel is within 150 feet of the shore then measure:

- Out to the channel
  or
- Out to 75 feet

Whicheveris less.

If the channel is not within 150 feet of the shore then measure:

- Out to the channel
  or
- Out to the 6 foot contour.[1]

1. As established on 1980 Corps of Engineers survey done by Lyons Assoc.

Area "D"

If adjacent to town designated channel then measure:

- Out to cove channel
  or
- Out 125 feet.[2]

Whichever is less.

2. Measure this distance perpendicular to nearest side of cove channel.

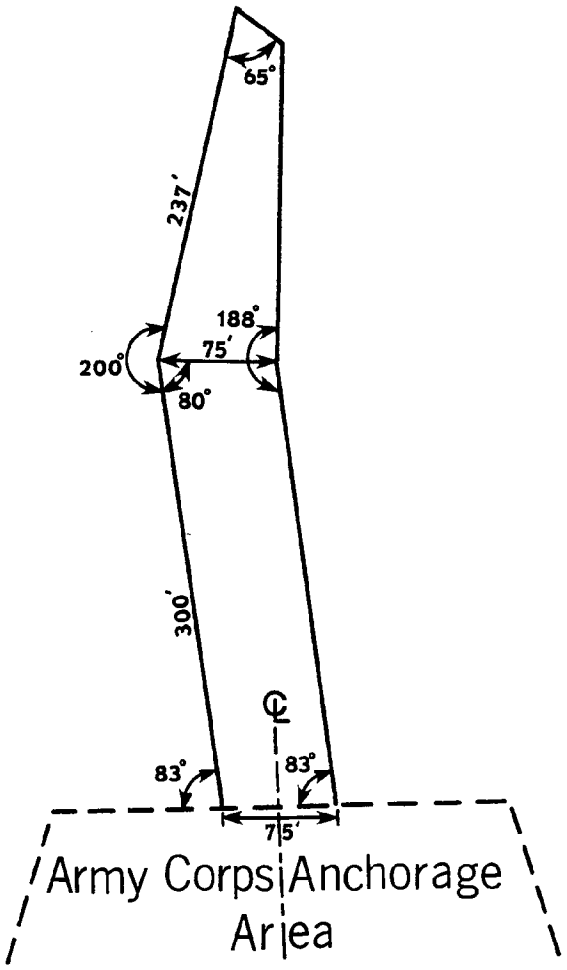
In order to apply the criteria as presented above, it will be necessary to stipulate certain procedures for use in establishing these lines.

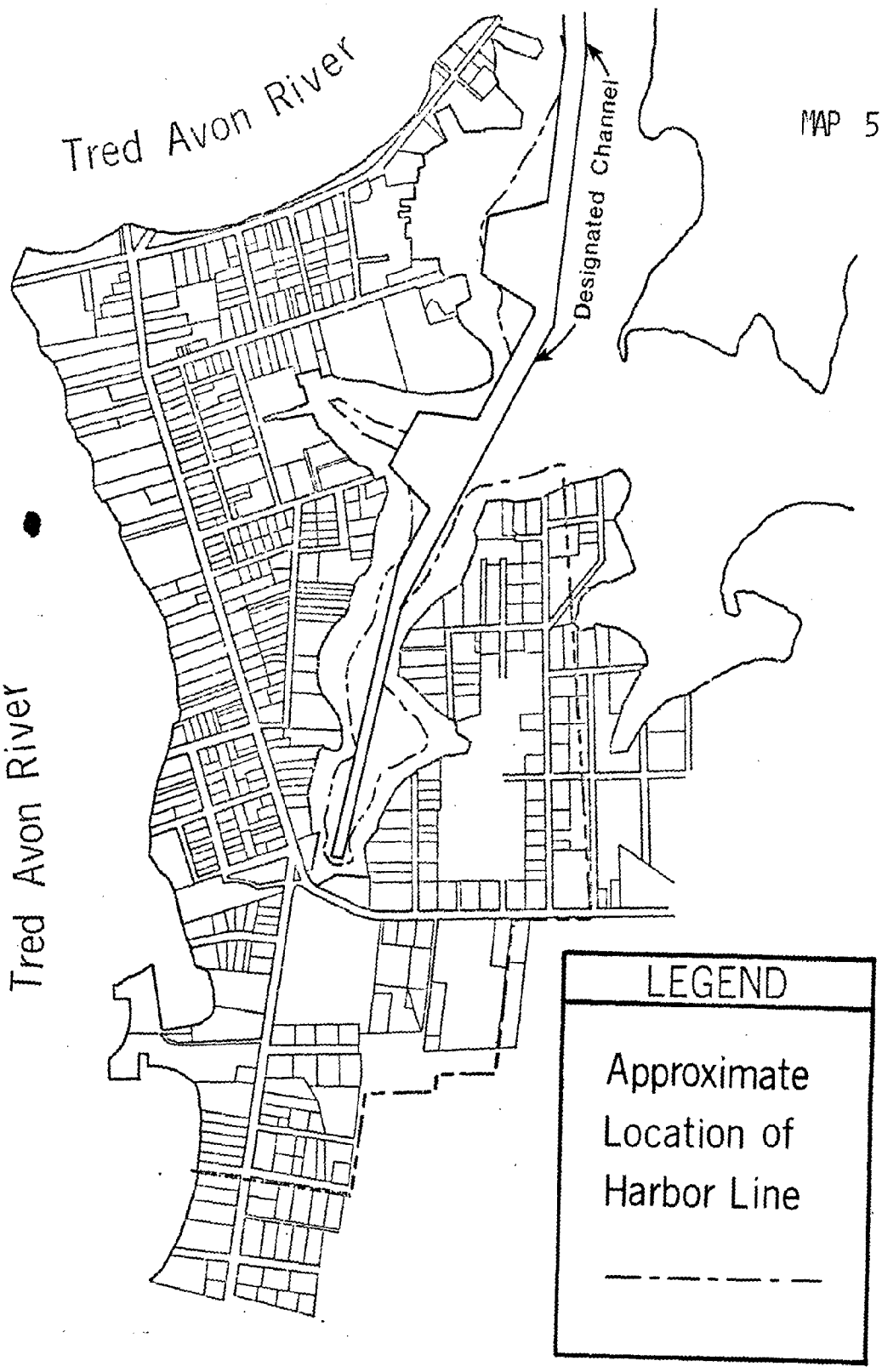
All measurements within Town Creek are to be made perpendicular to the closest side of the Army Corps of Engineers channel or anchorage areas.

For establishing distances from the shore to the Corps of Engineer's channel, begin at the southern end of the Army Corps of Engineers channel, and with one hundred foot intervals along the boundary of channel and anchorage areas, establish perpendicular transect lines from shore to shore.

As the harborline criteria are applied and the line sections are drawn, there will be a series of line segments. These segments are to be connected by measuring back 50 feet from each of the free ends of adjacent line segments and connecting these two points with a straight line.

Within Crocketts' Cove, Area D, a channel is proposed. This channel has the configuration and dimension as shown in the sketch below.




Tred Avon River
Designated Channel
MAP 5
Tred Avon River
LEGEND
Approximate
Location of
Harbor Line

In addition to the harbor line designation within Town Creek, there was consideration given to other town owned waterfront, adjacent to the Tred Avon River. The Town's boundary presently terminates at the waters edge, however, the authority to establish a harbor line in the river is still an unsettled issue. In the near future the town will need to determine the appropriateness of using a harbor line in this area. If there are serious problems with that strategy then the necessary controls can be established through the Oxford zoning ordinance by limiting the length of the waterfront structures, instead of trying to limit the area of the water body to be used.

MODIFICATION OF THE OXFORD ZONING ORDINANCE

INTRODUCTION

During the last two decades Oxford has undergone increasing changes in its economic base and town population. The growth of tourism and the influx of retired and semi-retired individuals has brought a changing awareness for its waterfront. The waterfront is no longer seen as a parking area for workboats or the boatbuilders backyard, but it has become instead, a resort area for the yachtsmen and an extension of the waterfront land owners frontyard. Consequently these changes have brought about a situation that requires the redefining of previously accepted standards for growth and development over the water.

Because the primary means of regulating such growth is the Oxford Zoning Ordinance, many of the required changes must be made through that ordinance.

PRIVATELY OWNED WATERFRONT

Because of the continual pressure for construction of waterfront structures and the limited size of the harbor it may be necessary to restrict the number of waterfront structures to one per land parcel. The length of the structure should be limited by the harbor line as designated by the Town of Oxford. This would allow landowners in uncongested areas to "wharf out" sufficiently and will also maintain areas beyond the harborline free from obstruction.

MARITIME COMMERCIAL WATERFRONT

No major changes to this zone classification are indicated at this time. However, there is a need to establish a minimum waterfront length for parcels to be used for any future marina development. By establishing a minimum length of 150 feet of waterfront for commercial use, inappropriate waterfront commercial development can be avoided.

REQUIRED CHANGES IN ZONING ORDINANCE FOR ESTABLISHMENT OF A HARBOR LINE

Following the establishment of a harbor line, certain changes and additions to the zoning ordinance must follow in order to make full use of such a land/water use tool. Within the State of Maryland, several jurisdictions have established harbor lines and made necessary changes in their zoning to implement item. Some of these are Anne Arundel County, City of Annapolis, and Calvert County.

Article 15 of the Calvert County Zoning Ordinance is a good indication of the zoning changes required to incorporate such a management tool and serves as a model for the zoning changes that follow. In order to establish such a harbor line, the Commissioners of Oxford will be required to have an Official Survey of the exact harbor line location. This will be an expensive procedure, but will enable the harbor of Oxford to be maintained free of overdevelopment both now and in the future.

RECOMMENDED ZONING CHANGES FOR MANAGEMENT OF WATERFRONT STRUCTURES

1. Purpose: To provide regulations for the orderly development of the waterfront areas within the waters of the municipality.

   Except as specifically provided in this section, a riparian owner may not be deprived of any right, privilege, or enjoyment of riparian ownership (as access to or use of a waterway) legally exercised prior to adoption of Oxford Harbor Line. The provisions of this section do not transfer the title or ownership of any waterway or interest in a waterway.

2. Applicability: The provisions of this section and any rules and regulations adopted pursuant thereto shall be applicable to, and shall govern, and construction of all waterfront structures within or on the waters of the municipality.

   The location of harborline and shoreline established heretofore are as shown on the Map entitled "Oxford Harbor Lines". Said Map and all notations, dimensions, references and other data shown thereon, as well as properly attested amendments to the aforesaid, are a part of the Oxford Zoning Ordinance.

   This section shall be in addition to existing Federal and State regulations governing the same matters and is not intended to preempt other valid laws. The more restrictive regulation shall take precedence.

3. Definitions: Recommended additions to Zoning Ordinance definitions.

   Anchoring: To secure a watercraft to the bottom of water by dropping an anchor or anchors or with a buoy or other ground tackle.

   Berth: A place where a watercraft may be secured to a fixed or floating structure and left unattended.

   Berthing area: The water area in which boats are berthed.

   Bulkhead: A structure or partition to retain or prevent sliding of the land into the water. A secondary purpose is to protect the upland from wave action.

   Developable waterfront land: Any waterfront property from which access to a waterway area can be achieved.

Finger pier: A small pier structure attached (usually perpendicular) to the headwald of a multislip pier; usually provided to facilitate access to the berted watercraft.

Harbor line: The line defining the maximum channelward limits of marine construction, defined by and encompassing that construction lawfully installed in a given developable waterway area and identified by solid unbroken lineation on the harbor line maps.

Harbor line map: A map of the Town of Oxford, graphically showing shorelines of the waterways of the Town, channel markers and harbor lines.

Harbormaster: The officer of the city who executes the regulations respecting the use of the harbor and the waterways.

Lateral lines: Lines extending from the shoreline to the harbor line separating adjacent developable waterway areas.

Marina: Any arrangement of piers, slips, mooring piles, wharves, and/or buoys emplaced in the water and on abutting land and which is intended to be used for the berthing, storing, mooring, securing, servicing, repairing, selling or trading, and/or renting of watercraft and is not a private or community pier and mooring.

Mooring:

(a) A place where watercraft are secured other than a pier.

(b) The equipment used to secure a watercraft.

(c) The process of securing a watercraft other than by anchoring.

Mooring buoy: An appliance used to secure to the bottom by anchors and provided with attachments to which a watercraft may be secured by use of its anchor chain or mooring lines.

Municipal infraction: A municipal infraction is any violation of a town ordinance which violation has been specifically declared to be a municipal infraction.

Piers and moorings, community: Any type of structure, fixed or floating, and extending from community, condominium-owned, or

leased property, generally referred to as a pier, dock or wharf, including pilings, buoys, and other such facilities, and used for the berthing of watercraft registered to residents of the community within which the property is located or to residents or co-owners of the condominium-owned property from which the facility extends. A community pier may also be used only for the temporary berthing of watercraft owned by and registered to visitors or residents of the community or condominium, but only during such a visit.

Piers and moorings, private: Any type of structure, fixed or floating, generally referred to as a pier, dock or wharf, including pilings, buoys, and other such facilities, used primarily for the berthing of watercraft owned by and registered to the owner and/or tenant of the property from which the facility extends.

Riprap: A layer, facing, or protective mound of stones randomly placed to prevent erosion, scour or sloughing of a structure or embankment.

Shoreline: The mean high water line or the waterward line of an existing bulkhead, riprap or gabion as shown on the harbor line maps.

Slip: Any arrangement of a pier and/or one or more mooring piles and/or buoys designed and intended to be used for the wet storage of a single watercraft.

Useable waterway area: The waterway area lying between the shoreline, the harborline line and the lateral lines of waterfront property.

Watercraft: Any boat or vessel used for either pleasure or commercial purposes in any waterway.

Waterfront Structures: Any number of structures employed to facilitate access to waterfront, including, but not limited to bulkheads, wharfs, piers, floating docks, or mooring piles.

Waters of the municipality: Means all waters owned, managed, or controlled by the Board of Port Wardens or under the jurisdiction of the Commissioners of Oxford in which the tide ebbs and flows, whether or not the ordinary or mean high tide line of the Chesapeake Bay has been fixed by ordinance, statute, court action otherwise and whether or not the lands lying under said tidal water are privately or publicly owned.

Waterway: Any water area providing access from one place to another, primarily a water area providing a regular route for water traffic.

Recommended changes to Part Two:

Section 20.03 Item 1f.

Replace: "Pier slips for the wet storage of boats for use by the property owner only, subject to provision of 29.15 (Supplementary Regulations)."

With: "One pier or other structure for the wet storage of boats for use by the property owner only, subject to provisions of 29.15 (Supplementary Regulations)."

Section 21.03.0 Item 6.

Replace: "Pier slips and other structures for the wet storage of boats.

With: "One pier or other structure for the wet storage of boats for use by the property owner only."

Section 21.03.0 Item 6.

Replace: "Pier slips for the wet storage of boats, subject to provisions of Section 29.15; davits permissible."

With: "One pier or other structure for the wet storage of boats, subject to provisions of Section 29.15, davits permissible."

Recommended changes to Part Two Section 25.05.

Area, Width, and Yard Requirements.

Replace: Lot area - 15,000 sq. ft.

With: Lot area - 43,500 sq. ft. (1 acre)

Recommended additions to Part Two Section 25.05.

Area, Width, and Yard Requirments.

Add: Minimum waterfront length of 150 feet.

Recommended additions to Section 29.00, subsection 16: Supplemental District Regulations, Waterfront Development Requirements.

1. Determination of Usable Waterway Areas: The usable waterway area is the area enclosed by the harbor line, shoreline and lateral lines.

A. Harbor and Shorelines: The harbor line and shoreline are the lines labeled as such on the applicable Map for Harbor Lines.

B. Lateral Lines: The lateral lines are imaginary lines separating adjacent usable waterway areas, and are determined graphically as follows:

1.) Prepare a scale drawing showing the applicant's property and all adjacent waterfront properties within a 200' radius of the shoreline owned by the applicant. (See Figure 5A)

2.) On the scale drawing, add the shorelines and harbor lines as shown on the appropriate Map for Harbor lines.

3.) Intersect all property lines with the shoreline (Points A, B, C, D, E, and F on Figure 5A)

4.) From the applicant's property line-shoreline intersections (Point D, E, On Figure 5A) intersect a 200' radius with the shoreline (Point 1, 2 on Figure 5A)

5.) From the applicant's property, connect all property line shoreline points, ending at points 1 and 2 with straight lines (D to C, C to B, B to 1, E to 2 on Figure 5A)

6.) Bisect the angle formed by these straight lines and extend the lines bisecting the angle from the shoreline to the harbor line. These are the lateral lines (B-G, C-H, D-I, E-J on Figure 5A)

C. Determination of Usable Waterway Area: The usable waterway must be determined for all properties having a pair of lateral lines as shown on the applicant's drawing. For an acceptable usable waterway area, the following conditions (See Figure A) must be met:

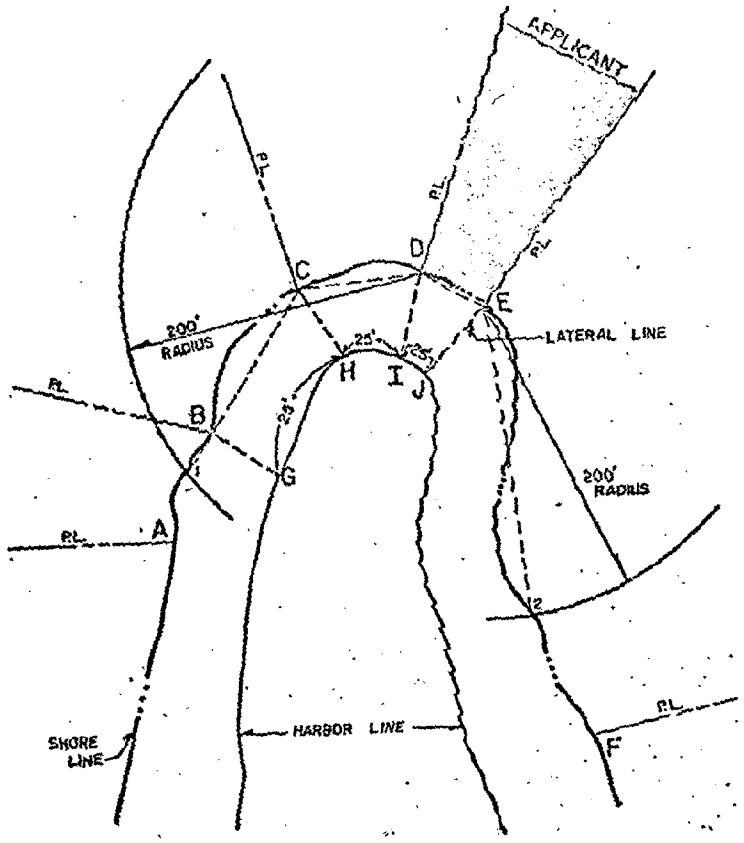


FIGURE 5A

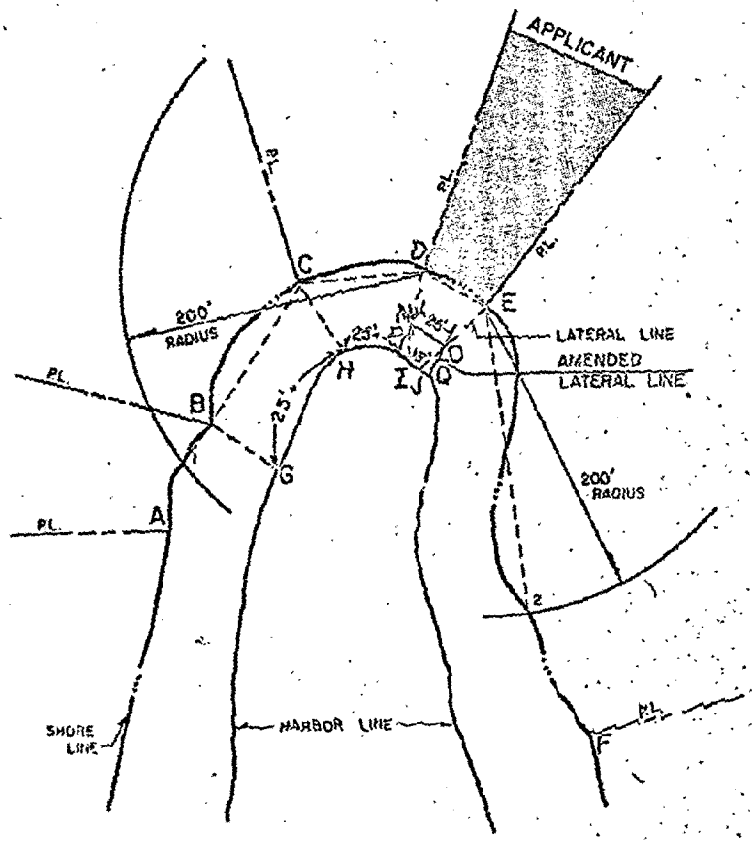


FIGURE 5B

1.) If a pair of lateral lines extended to the harbor line result in a distance of 25' or more on the harbor line (lines G-H, H-I, I-J), the lateral lines (D-I, E-J) are satisfactory and these lines and the harbor and shorelines define the usable waterway area for the applicant.

2.) If any pair of lateral lines extended to the harbor line results in a harbor line segment (G-H, H-I, I-J, Figure 5A) of less than 25', the lateral lines are unacceptable and shall be modified in accordance with paragraph 20, of this section.

3.) If any pair of lateral lines extended intersect before reaching the harbor line, the lateral lines are unacceptable and shall be modified in accordance with paragraph two of this section.

2. Amendments to Lateral Line: Where a conflict occurs as outlined in Paragraph 7 of this section, the lateral lines will be modified as shown on Figure B. An imaginary line shall be moved toward the shoreline and parallel to line D-E. (Figure B) until a twenty-five foot (25') clearance is obtained (line N-), Figure 5B).

Two additional lateral lines N-P and O-Q will be drawn perpendicular to line N-) from points N and O to the harbor line. The lines D-N-P, E-O-Q are the new lateral lines for the applicant's parcel and the adjoining properties.

For all amended lateral lines construction will be limited to the area enclosed by the shoreline, the lateral lines (D-N, O-E) and the imaginary clearance line N-O (Sketch 5B). This procedure will insure adequate clearance for adjacent piers.

These new lateral lines, the harbor lines and the shoreline define the usable waterway area for the applicant.

3. Setbacks

A. Harbor Line Setbacks. Any Piers, "T" heads, "L" heads, mooring piles, moorings and/or anchorages must be set back from the harbor line an appropriate distance to assure that no moored vessel or permanent or temporary obstruction extends beyond the harbor line.

B. Adjacent Property Owners Agreement. The Lateral line setback may be reduced if a letter of no objection is obtained from the adjacent property owner and a rendered covenant to the property filed with the Commissions of Oxford. The mutual use of piers and/or mooring piles by adjacent property owners is encouraged and recommended whenever possible.

C. Fuel Dock Setback. A 50 foot setback from harbor line is required for all docks having fuel facilities.

4. Pre-existing Uses: Any marine facilities lawfully existing at the time of the adoption of this Regulation may continue to be used though such marine facility or use does not confirm to use or dimensional regulations as herein defined.

Any alteration of an existing non-conforming marine facility or use is subject to the provisions of this section.

5. Construction Details

A. All waterfront structures for use in the commercial and residential zones shall have plans and details of proposed construction prepared by a licensed engineer for municipal review and approval.

B. Piers: Piers shall be limited to seven feet of width with all "T" or "L" head sections not to exceed one third of total length of structure.

C. Bulkheading may not be constructed in the waterway beyond the shoreline except as approved by the Board of Port Wardens for the purposes of straightening minor shoreline irregularities or efficient bulkhead construction.

6. Fire and Safety

A. Fire Protection - All marine facilities shall conform to the requirements of NFPA-303 Fire Protection Standard for Marinas and Boatyards of the Maryland Fire Prevention Code. Fire protection devices shall have the approval of the Fire Marshall having jurisdiction.

B. Unsafe Conditions - No obstruction, floating or sunken, may remain in the usable waterway area such as to present a hazard to any vessel or person.

7. Municipal Permits

   A. Board of Port Wardens Permit:
      See ordinance establishing Board of Port Wardens.

8. Other Permits and Approvals

   A. State and Federal permits and approvals applicable to construction, modifications, enlargement, reconstruction, repair, etc. of marine facilities shall be obtained and submitted to the Board of Port Wardens prior to starting any construction under a permit granted by the Port Wardens.

Proposed Harbor Management Regulations

Introduction

In a step toward implementing the objectives of the Harbor Management Study Committee, a proposed Harbor Management Ordinance was drafted. The outline and organization for the ordinance follows closely the Model Ordinance for Small Craft Harbors from SMALL CRAFT HARBORS: DESIGN, CONSTRUCTION, AND OPERATION, BY JAMES W. DUNHAM AND ARNOLD A FINN: SPECIAL REPORT NO. 2, U.S. ARMY CORPS OF ENGINEERS.

PROPOSED HARBOR MANAGEMENT ORDINANCE

ARTICLE I

GENERAL PROVISIONS

Sec. 1. Short Title: This ordinance shall be known and may be cited as the "Harbor Management Ordinance."

Sec. 2. Applicability: The provisions of this Ordinance and any rules and regulations adopted pursuant thereto shall be applicable, and shall govern, the harbor(s) and all other maritime facilities under the jurisdiction of Commissioners of Oxford. This Ordinance shall be subordinate to existing Federal and State regulations governing the same matters and is not intended to preempt other valid laws.

Sec. 3. Invalidity of Provisions: If any provisions of this Ordinance are held invalid or inoperative, the remainder shall continue in full force and effect as though such invalid or inoperative provisions had not been made.

Sec. 4. Authority: Whenever, by the provisions of this Ordinance a power is granted to the Board of Port Wardens or a duty is imposed upon the _____, the power may be exercised or duty performed by a deputy of the Board of Port Wardens or by a person authorized pursuant to law, unless it is expressly otherwise provided.

Sec. 5. Facilities, Control of Use: The Board of Port Wardens is vested with authority over and control of all floats, wharves, docks, and other facilities owned, leased, controlled, constructed or maintained by the Commissioners of Oxford, or constructed or maintained by a lessee of The waters of the Municipality for the purpose of causing to be corrected any condition.

Sec. 6. Rules, Regulations and Orders: The Board of Port Wardens shall have the power and duty to enforce the laws, ordinances, traffic and safety regulations covering usage in The waters of the Municipality under their jurisdiction.

ARTICLE II

DEFINITIONS

Access Service Route or Fire Lane: Shall mean any access roads and/or easements designated or identified by the Board of Port Wardens for use by authorized emergency or utility vehicles.

Anchoring: To secure a watercraft to the bottom of water by dropping an anchor or anchors or with a buoy or other ground tackle.

Auxiliary: Shall mean any vessel having both sails and either an inboard or outboard motor and which may be propelled by its sails or by its motor, or both.

Basin: Shall mean a naturally or artificially enclosed or nearly enclosed body of water where small craft may lie.

Beach: Shall mean a public or private beach are bordering the water of the municipal harbor.

Bulkhead: A structure or partition to retain or prevent sliding of the land into the water. A secondary purpose is to protect the upland from wave action.

Carrying Passengers for Hire: Shall mean the carriage of a person by vessel for valuable consideration, whether directly or indirectly flowing to the owner, charterer, operator, agent or any other person interested in the vessel.

Commercial Vessel: Shall mean any vessel used or engaged for any type of commercial venture, including but not limited to the display of advertising or the carrying of cargo and/or passengers for hire.

Distress: Shall mean a state of disability or a present or obviously imminent danger which if unduly prolonged could endanger life or property.

Emergency: Shall mean a state of imminent or proximate danger to life or property in which time is of the essence.

Entrance Channel: Shall mean all that portion of Oxford Harbor designated as such by the Board of Port Wardens.

Facilities: Shall mean any and all facilities of a harbor or maritime facility either publicly or privatly owned that are intended primarily to be used by or for the service of small craft (including ramps, hoists, parking areas, leased water areas, concessions and service facilities) located on land or in the water of the Town of Oxford under jurisdiction of the Commissioners of Oxford.

Fairway: Shall mean the parts of a waterway kept open and unobstructed for navigation.

Fire Department: Shall mean the Oxford Volunteer Fire Co., Inc.

Float: Shall mean any floating structure normally used as a point of transfer for passengers and goods and/or for mooring purposes.

Harbor Line: The line defining the maximum channelward limits of marine construction, defeined by and encompassing that construction lawfully installed in a given developable waterway area and identified by solid unbroken lineation on the harbor line maps.

Harbormaster: The officer of the city who executes the regulations respecting the use of the harbor and the waterways.

Moor: Shall mean to secure a vessel other than by anchoring.

Mooring: Shall mean (1) a place where buoyant vessels are secured other than a pier; (2) the equipment used to secure a vessel; and (3) the process of securing a vessel other than by anchoring.

Mooring Buoy: Shall mean an appliance used to secure to the bottom by anchors and provided with attachments to which a vessel may be secured by use of its anchor chair of mooring lines.

Public Area: Shall mean all areas of any harbor except those areas under specific lease to private persons of firms or owned privately.

Slip: Shall mean berthing space for a single vessel alongside a pier, finger float, or walkway.

Shore: Shall mean that part of the land in immediate contact with a body of water, including the area between high and low water lines.

Shall and May: "Shall: is mandatory "may" is permissive.

State: Shall mean the State of Maryland.

Stray Vessel: Shall mean (1) an abandoned vessel; (2) a vessel the owner of which is unknown; or (3) a vessel underway without a competent person in command

Underway: Shall mean to condition of a vessel no an anchor; without moorings; and not made fast to the shore nor aground.

Useable waterway area: The waterway area lying between the shoreline, the harbor line and the lateral lines of waterfront property.

Waterway: Shall mean any water area providing access from one place to another, principally a water area providing a regular route for water traffic.

Waters of a Harbor or the Waters of the Municipality: Means all waters owned, managed, or controlled by the Board of Port Wardens or under the jurisdiction of the Commissioners of Oxford in which the tide ebbs and flows, whether or not the ordinary or mean high tide line of the Chesapeake Bay has been fixed by ordinance, statute, court action or otherwise and whether or not the lands lying under said tidal water are privately or pulicly owned.

ARTICLE III

GENERAL BOATING AND TRAFFIC CONTROL REGULATIONS

Sec. 7. Traffic Control Authority: The Board of Port Wardens shall have authority to control water-borne traffic in any portion of the waters of The Municipality under their jurisdiction by use of authorized State regulatory markers, signal, orders or directions any time preceding, during and after any race, regatta, parade or other special event held in any portion of the waters of The municipality or any time when the Board of Port Wardens deems it necessary in the interest of safety of persons and vessels or other property, and it shall be unlawful for any person to willfully fail or refuse to comply with any authorized State regulatory marker utilized by Board of Port Wardens, or with any signal, orders or directions of the Board of Port Wardens.

Sec. 8. Basic Speed Law: The operation of any vessel within the waters of the municipality in excess of posted speed limits or, in the absence of such limits, in a manner to create a wash which endangers persons or property, shall constitute a violation of this Ordinance; provided that special written permission may be granted to conduct and engage in water sports and regattas in specific designated areas.

ARTICLE IV

GENERAL REGULATIONS

Sec. 9. Liability:

(a) Boat Owner: Any person using the facilities within the limits of The waters of the Municipality shall assume all risk of damage or loss to his property and he agrees that the Commissioners of Oxford assume no risk on account of fire, theft, Act of God, or damages of any kind to vessels within the waters of the Municipality.

(b) Marina Owner and/or Operator: It shall be the responsibility of the owner, licensee, lessee, or operator of any marina, anchorage, repair yard, or other marine facility, located within any harbor, waterway or other maritime facility, to maintain the physical improvements under his jurisdiction in a safe, clean, and visually attractive condition at all times, to provide adequate security and fire prevention measures and appropriate fire fighting equipment as may be directed by Board of Port Wardens, and to rent or lease available accommodations on a firstcome first-served basis without regard to color, race or creed upon payment of established fees. Failure to initiate within 30 days of receipt of written notice from Board of Port Wardens to correct unsafe or otherwise unsatisfactory conditions and to pursue same to completion to the satisfaction of Board of Port Wardens shall be a violation of this section.

Sec. 10. Permits, Suspensions or Revocations: All permits granted under the authority of this Ordinance shall be valid only for such period as may be determined by Board of Port Wardens and permits of unqualified duration of validity shall not be granted. A violation of the provisions of this ordinance or of any other applicable Ordinance by any permitee shall be grounds for suspension or revocation of such permit or permits.

Sec. 11. Damage to Harbor or Other Property: It shall be unlawful to willfully or carelessly destroy, damage, disturb, deface or interfere with any public property in the Harbor area.

Sec. 12. Tampering with or Boarding Vessels without Permission: it shall be a violation of this Ordinance for any person willfully to board, break in, enter, damage, move or tamper with any vessel or part thereof, located within the harbor unless authorized by the rightful owner of such vessel. Violation of this provision shall constitute a misdemeanor, punishable by the penalties hereinabove provided for violations of this Ordinance and to additional penalties not to exceed _____. Any person violating this provision shall, in addition, be responsible to the rightful owner of any such vessel for any damages caused by such violation and to the reasonable cost of any attorneys fees, necessarily incurred as a result thereof.

Sec. 13. Obstruction of Facilities: It Shall be a violation of this Ordinance for any person willfully to prevent any other person from the use and enjoyment of the harbor facilities.

Sec. 14. Signs, Erection and Maintenance: The Board of Port Wardens may place and maintain, or cause to be placed and maintained, either on land or water, such signs, notices, signals buoys or control devices as they deem necessary to carry out the provisions of this Ordinance, or to secure public safety and the orderly and efficient use of The waters of the Municipality.

Sec. 15. Swimming, Hazzard to Navigation: Swimming and Water skiing prohibited.

Sec. 16. Structures, Construction of: Within or on the waters of the municipality no person may place, erect or construct any bulkhead, wharf, or pier, or carry out any earth or other material for the purpose of building a wharf or pier, nor shall any person place or erect mooring piles, floating wharves, buoys, anchors or other obstructions, or carry out any dredging, or alter the natural shoreline, without a valid permit issued by the Port of Wardens. The placement, erection, or construction of structures or other barriers within or on the waters of the municipality without a permit from the Port Wardens, or the building of any wharf or pier a greater distance into the waters of the municipality, or in a different form, or of different materials than determined and allowed by the Port Wardens is a municipal infraction as described in Article 23A 3 Annotated Code of Maryland. A fine of $100.00 shall be imposed for each conviction hereunder. Each day in violation shall be considered a separate offense and subject to separate offense and subject to separate citations. A fine of $200.00 shall be imposed for each repeat offense.

Sec. 17. Dredging Operations: Within the Municipal Harbor, no person may carry out any dredging without a valid permit issued by the Board of Port Wardens. The removal of dredge material without a permit from the Board of Port Wardens, or removal in a different way than determined and allowed by the Port Wardens is a municipal infraction as described in Article 23A 3 Annotated Code of Maryland. A fine of $100.00 shall be imposed for each conviction hereunder. Each day in violation shall be considered a separate offense and subject to separate citations. A fine of $200.00 shall be imposed for each repeat offense.

ARTICLE V

REGULATIONS CONCERNING ANCHORING, MOORING AND SECURITY OF VESSELS

Sec. 18. Placement of Private Moorings: It shall be a violation of this Ordinance to place any mooring in the harbor without a permit from the Board of Port Wardens.

Sec. 19. Obstructing Channels: It shall be a violation of this Ordinance knowlingly or willfully to obstruct the free use of any channel or waterway within the harbor.

Sec. 20. Abandoned Vessels: When, in the opinion of the Board of Port Wardens, a vessel has been abandoned in the harbor, he may take custody and control of such vessel and remove it, store it or otherwise dispose of it, all at the expense and sole risk of the vessel owner. Reasonable notice of such disposal shall be publicly given.

Sec. 21. Secure Berthing and Anchoring of Vessels: The owner of any vessel moored or anchored within the municipal harbor shall be responsible for causing such vessel to be tied and secured or anchored with proper care and equipment and in such manner as may be required to prevent breakaway and resulting damage, and shall there-after provide for periodic inspection by owner of vessel for, maintenance, replacement and adjustment of anchor, mooring or tie lines at reasonable intervals.

Sec. 22. Unseaworthy Vessel Prohibited in Harbor: Exception: A person shall not moor or permit to be moored in any harbor a vessel of any kind whatsoever which is unseaworthy or in a badly deteriorated condition or which is likely to sink or to damage docks, wharves, floats or other vessels or which may become a menace to navigation, except in cases of emergency.

Sec. 23. Correcting an Unsafe Berthing: If any vessel shall be found in the judgment of Board of Port Wardens to be anchored or moored within The waters of the Municipality in an unsafe or dangerous manner, or in such a way as to create a hazard to other vessels or to persons or property, The Board of Port Wardens shall order and direct necessary measures to eliminate such unsafe or dangerous condition. Primary responsibility for compliance with such orders and directions shall rest with the owner of the improperly anchored or moored vessel or his authorized agent; in the absence of such owner or agent, said responsibility shall rest with the authorized operator of the facility at which the vessel is anchored or moored. In an emergency situation and in the absence of any such

responsible person The Board of Port Wardens shall forthwith Board such vessel and cause the improper situation to be corrected, and the owner of the vessel shall be liable for any costs incurred by The Commissioners of Oxford in effecting such correction.

Sec. 24. Removal and Custody of Illigally Berthed or Abandoned Vessels: If any unattended vessel shall be found to be anchored or moored illegally within the waters of the Municipality, the Board of Port Wardens may assume custody of such vessel and cause it to be removed and held or placed in storage. Board of Port Wardens or their agent shall not be held liable for any damage to such vessel not liable to its owners before or after assuming custody. Vessels so taken into custody shall be released to the owner by the Board of Port Wardens only after satisfactory proof of ownership has been presented and full reimbursement made to The Commissioners of Oxford for all cost incident to recover, movement and storage as set forth in Article V, Sec. 25.

Sec. 25. Fees Incidental to Recover, Movement and Storage: Charges imposed by Board of Port Wardens for Recovery and/or movement of vessels shall be in accordance with the reasonable costs approved by the Commissioners of Oxford or as subsequently amended, and whenever a vessel is impounded or held for safekeeping there shall be in addition to charge for storage that is consistent with current market rates for such services.

Sec. 26. Obstructions of Fairways, Channels or Berthing Spaces and Removal of Sunken Vessels:

(a) It shall be unlawful to tie up or anchor a vessel in The Waters of the Municipality in such a manner as to obstruct the fairways or channels or to prevent or obstruct the passage of other vessels; or to voluntarily or carelessly sink or allow to be sunk any vessel in any channel, fairway, berthing space; or to float loose timbers, debris, logs or piles in any channel, fairway, or berthing space in such a manner as to impede navigation or cause damage to vessels therein. It is understood that wrecked or sunken vessels within a harbor are subject to the published rules and regulations of the United States Coast Guard and any applicable State Law, rules or regulations.

(b) Whenever the navigation of any waters within The waters of the municipality, including anchorages and berths therein, shall be obstructed or endangered by any sunken vessel or other obstruction and the obstruction or danger has existed for a period of more than six months, the vessel or obstruction shall be subject to removal, sale or other disposition in accordance with Article V, Section 24. The

owner or owners of such vessel or other property causing said obstruction or danger shall be liable to the Commissioners of Oxford for all costs incident to said removal and disposition, and the Board of Port Wardens, its employees, agents, and officers, shall not be liable for damages of any nature whatsoever arising out of or in any way connected with removal, sale or disposition of such vessel or other property.

ARTICLE VI

REGULATIONS CONCERNING COMMERCIAL ACTIVITY

Sec. 27. Soliciting: Soliciting is prohibited within the harbor, except as may be specially authorized by permit issued by the Commissioners of Oxford and subject to terms and conditions prescribed in such permit.

Sec. 28. Water Taxi and Rental Vessels: No person shall operate a water taxi within a harbor or maritime facility without first obtaining a permit from the Board of Port Wardens and complying with any rules and regulations of Ordinances of the Commissioners of Oxford including any other licensing requirement.

ARTICLE VII

SANITATION REGULATIONS

Sec. 29. Discharge of Refuse: It shall be a violation of this Ordinance to discharge or permit the discharge into the waters of the harbor of any refuse or waste matter, petroleum or petroleum matter, paint, varnish or any other foreign matter, including dead animals, fish and bait.

Sec. 30. Use of Vessel as Abode: Living aboard vessels in the harbor is prohibited except as may be specially authorized by permit issued by the Board of Port Wardens For the Purpose of the Section, the term "living aboard" means the continuous use of a vessel for a period in excess of two weeks, including use of the vessel for overnight lodging.

Sec. 31. Responsiblity for Sanitation of Facilities: The lessee, agent, manager or person in charge of a facility or water area under lease from the municipal harbor shall at all times maintain the premises under his charge in a clean, sanitary condition, free from malodorous materials and accumulations of garbage, refuse, debris and other waste materials. Should the Board of Port Wardens find that any facility or lessee, agent, manager or other person in charge of

said facility or area to immediately commence and diligently prosecute to completion the necessary correction of the unsanitary condition to the satisfaction of Board of Port Wardens. Failure to do so with reasonable dispatch shall be a violation of this Article, and the Board of Port Wardens may then cause condition to be corrected and the cost of such correction shall be charged to said lessee, agent, manager or person in charge.

ARTICLE VIII

SAFETY AND MAINTENANCE

Sec. 32. Flammable and Combustible Liquids and/or Materials: Withing the municipal harbor no person shall sell, offer for sell, or deliver in bulk any class of flammable or combustible material, nor dispense any flammable liquids into the fuel tanks of a vessel except when in compliance with all requirements of the N.F.P.C. 303 Fire Code any other laws or regulations applicable thereto.

Sec. 33. Obstruction to Walkways: Obstructing walkways within the harbor by mooring lines, waterhoses, electrical cables, boarding ladders, permanently fixed stairs or any other materials is strictly prohibited. Dinghys may not be left on the floats and piers, but may be stored only in areas designated for that purpose.

Sec. 34. Defective or Dangerous Conditions: Whenever any buildings, structures or floating facilities within the waters of the Municipality either on land or water are found to be defective or damaged so as to be unsafe or dangerous to persons or property, it shall be the duty of the owner, agent, lessee, operator or person in charge thereof to immediately post a proper notice and/or fence or barricade and at night to adequately light such unsafe area or areas, and such unsafe area or areas shall be kept posted and lighted and/or fenced or barricaded until the necessary repairs are made. In the event an owner, agent, lessee, operator or person in charge fails or neglects to repair or to put up fences or other barriers to prevent persons from using or going upon the unsafe area or areas. the Board of Port Wardens may then take such measures as he may deem necessary for the protection of the public and charge the cost of same to such owner, lessee, agent, person or persons having charge of the buildings, structures, or floating facilities that are defective or dangerous.

Sec. 35. Marine Fire and Rescue Force: The Oxford Fire Company shall have the authority to establish a Marine Fire and Rescue Force with all necessary powers to board vessels as required and to carry out their duties regarding any fire or rescue related activity and the

owner of such vessel shall be liable for any costs incurred by the Commissioners of Oxford or the Oxford Fire Company in the carrying out of such duties.

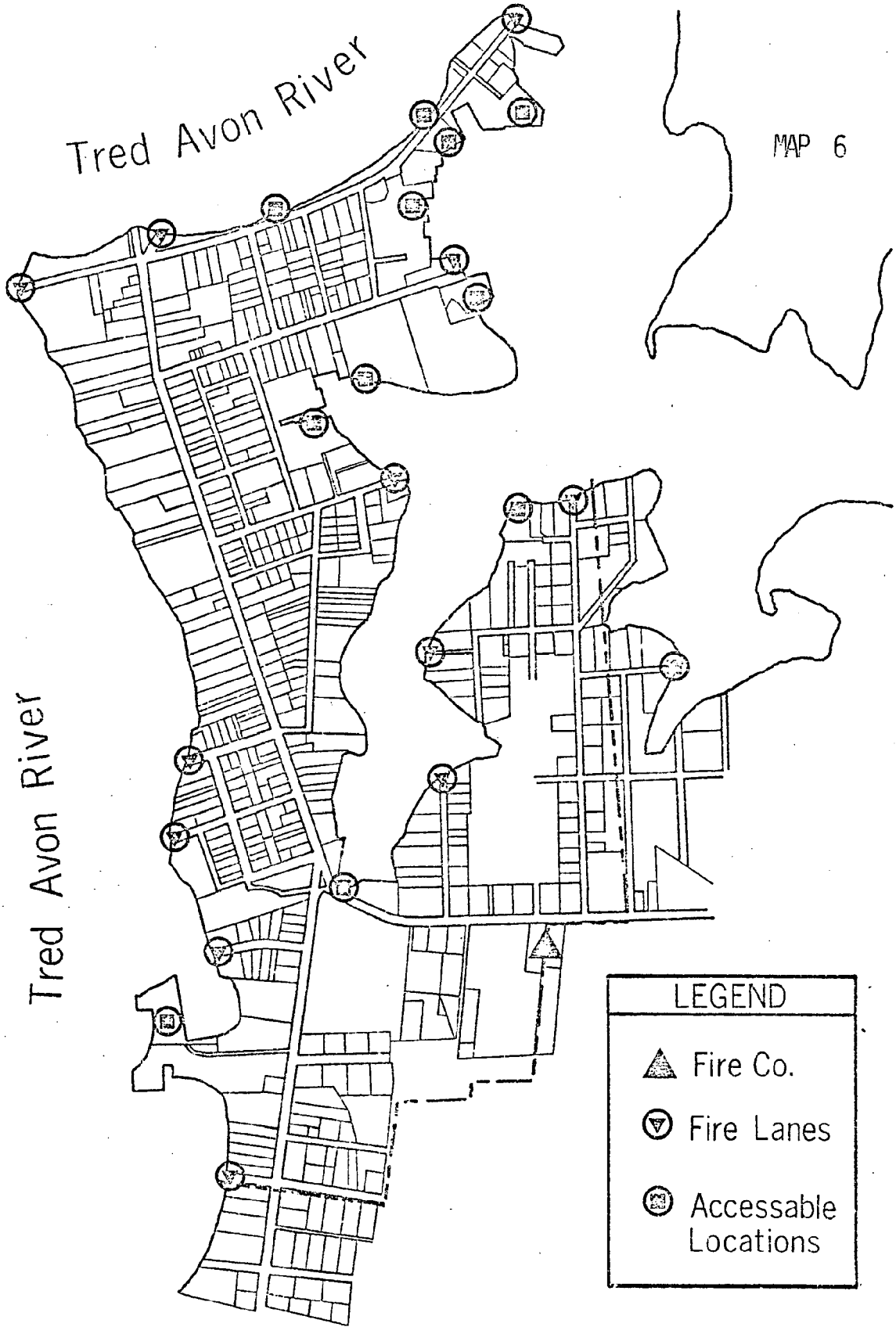
7B/D

Fire and Safety Contingency Planning

At the present the contingency planning for the harbor fire and safety lies solely with the Oxford Volunteer Fire company. Because the Fire Company is engaged in an unending obligation to serve as primary fire and rescue service for the Town of Oxford as well as supportative service for areas lying between Rt 50 to the east, the Choptank River to the south, and Peachblossom Creek to the north, it may be necessary for the Town of Oxford to assist when possible with any additional efforts to expand service for the waterfront.

Establishment and maintenance fo fire lanes at the end of streets that lead to the harbor will provide necessary access to much of the harbor. However, in order to have access to all portions of the Town waters, additional points of access may be needed.

A necessary addition to a complete contingency plan for harbor fire and resuce will be a properly equipped vessel capable of carrying injured persons as well as towing a burning vessel away from other vessels. A berth easily accessable to a rescue crew at any time day or night would be beneficial. Maintaining the launch in a ready state would require identifying all items that may be required and purchasing the same. This is a project that can be done in conjunction with the Board of Port Wardens and Oxford Fire Company if a launch is ready for service. Initial practice runs towing vessels out of the harbor or removing injured persons from anchored vessels and getting them ashore to a waiting ambulance safely, may be necessary for needed confidence and effectiveness during actual emergency situations.


Tred Avon River
MAP 6
Tred Avon River
LEGEND
Fire Co.
Fire Lanes
Accessable Locations

Management Considerations

Introduction

In addition to the Administrative Considerations outlined above, three major topics requiring management attention are discussed below. There are however, other needed improvements in management relating to the waters of Oxford, but they are not all fully addressed in this study due to lack of time. The topics chosen and given the highest priority by the Harbor Management Study Committee were either detailed in the Recommendations or in this section.

Channels and Anchorage Areas

Because Town Creek is used by boaters with differing objectives (Commercial watermen, visiting recreational boaters, and homeport recreational boaters) conflicts develop regarding such matters as access to service docks and permanent moorings, movement through harbor areas, and open water anchorage requirements. Apparently, the single greatest period for congestion in the harbor is Friday, Saturday, and Sunday, during the sailing season. The congestion is excessive during the seven or eight holiday weekends and regatta weekends. In the past no efforts have been made to mark the two anchorage areas that have been previously designated by the Army Corps of Engineers. Consequently during certain peak use periods movement in the harbor area is accomplished by weaving around visiting yachts anchored in the protected water of the harbor.

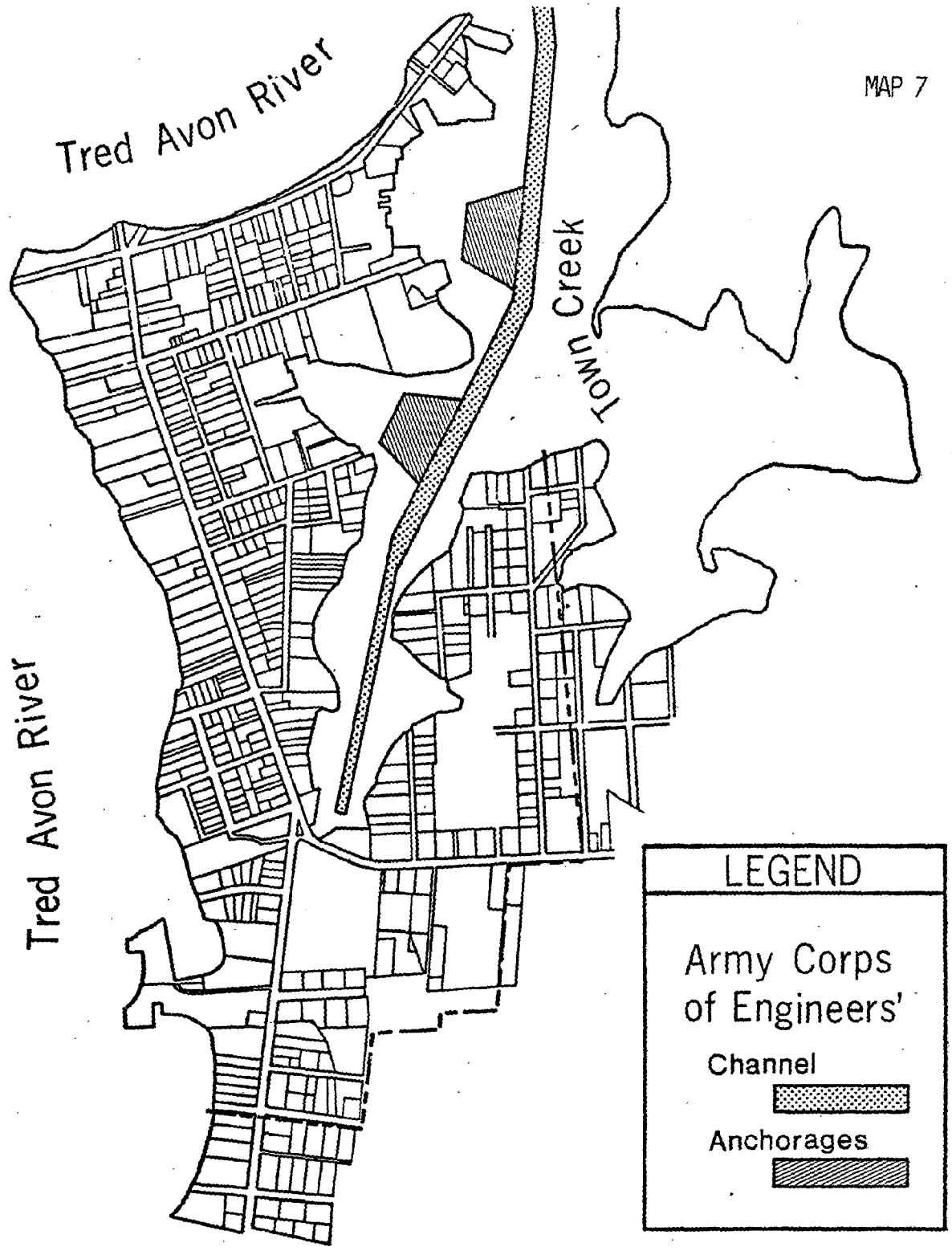
Within Town Creek the Army Corps of Engineers have a designated channel. This channel extends from the mouth of Town Creek to it's source approximately 5000 feet to the south. The first 2000 feet of the channel is 100 feet wide with a ten foot project depth. The following 1400 feet have a similar width and a project depth of 8 feet while the last 1600 feet has a width of 60 feet and a project depth of 7 feet.

This project was last dredged in 1949 and is being monitored to determine the need for redredging or maintenance dredging. Presently the Army Corps is planning to dredge Town Creek again in 1990. The present bottom conditions have been described in a 1980 bathymetry study contracted by the Army Corps of Engineers. The study showed the bottom to be slowly filling in as sediment that is carried in with the tide is collecting on the bottom in this normally calm harbor.

The harbor entrance appears to be filling in slowly while the extreme end of the channel project has become a problem with depths at MLW of less than 5 feet.

The Army Corps in addition to establishing a channel, has also designated and dredged two anchorage basins. These basins have a trapezoidal shape 300 feet long with 500 feet at the widest end and 300 feet at it's opposite end.

The depth of the designated anchorage basins is approximately between 9 and 10 feet in the northern most basin area and between 4 and 8 feet in the southern most basin. Initially these basins had been dredged to 11 and 10 feet respectively.


Tred Avon River
Town Creek
Tred Avon River
MAP 7
LEGEND
Army Corps of Engineers'
Channel
Anchorages

The channel through Town Creek is clearly marked with numerous channel markers, however, the anchorage basins are presently not marked. In the future, if the need were to seem great enought, the Commissioners of Oxford could request that the anchorage basins be properly marked by the Army Corps.

However, the most often used anchorage area is not within Town Creek, but just off shore of "The Strand". There is a large area for anchorage here, however because of its popularity during heavy use periods, the open water mooring in this area interfers with the movement of waterborne traffic in the Tred Avon River. Should this become a serious problem as present use levels increase then the anchorage area in this location could also be better marked to designate proper boundaries.

Due to the close proximity of Oxford to Annapolis, Anne Arundel County, and Baltimore City it is likely that this harbor will continually be subjected to an ever increasing volume of visiting boaters which may in the future necessitate the dredging of additional areas.

Eventually there may be sufficient need for supervision and regulation of activities in the harbor to necessitate the hiring of a harbormaster. Initially this may be needed only during peak use periods such as summer weekends, in which case a part-time harbormaster may be sufficient. The expense of such an employee could be easily offset by potential revenue from commercial slip taxes levied by the town or rentals from municipal slips.

DREDGING

Introduction

Within the waters of Oxford there are various areas of shoaling. These shoals have resulted from several natural processes. The processes are,

(1) movement of bottom sediments due to littoral drift (longshore currents)
(2) the natural settling action of suspended sediments in quiet waters, and
(3) storm drainage outfalls flushing sand and silt from the town streets into the town waters.

Progressively these processes are robbing the town boating public of desperately needed anchorage area in the harbor as well as access to channels for the orderly flow of waterborne traffic.

DESCRIPTION OF POTENTIAL DREDGING LOCATIONS

Currently the Army Corps of Engineers is scheduled to redredge the "Town Creek Project" in 1990. In order to proceed with the project the Town of Oxford will need to establish a dredge material placement facility. The estimates for the spoil material volume are 70,000 cubic feet of material. There are other additional areas of shoaling within Town Creek that will require dredging which can be accommodated either before the Town Creek project or after the stabilization of the material dredged from the Town Creek project.

Because a major proportion of the proposed spoil material woul be characteristically mud and sand, mud and/or clay, all preplanning for spoil disposal will assume that the spoil material will be of a relatively heavy, dence character.

SIZING OF DREDGED MATERIAL PLACEMENT (DMP) FACILITY CONTAINMENT AREA

The dredged material placement (DMP) facility as described in this chapter is basically a sedimentation basin consisting of a surface area surrounded by a confining structure. The settling basin is designed to remove the solid fraction of the dredge slurry that is pumped into the confining structure. As the solids settle out of the agueous portion of the dredge slurry the water is drained off as an effluent. This effluent discharge is by law required to meet certain established state water quality standards.

The approach used in this chapter was taken from study recently conducted for the Maryland Coastal Zone Program, Tidewater Administration, Department of Natural Resources. The study entitled "Choptank River Dredged Material Placement Study" outlines methods to be used for design, construction, and costs for DMP facilities as well as the associated dredging projects.

DMP FACILITY SIZING FORMULA

$$\text{Area Required for DMP Facility} = \frac{(\text{Bulking Factor of Spoil Material})(\text{Cubic Yards of Spoil Material})}{(\text{Effective Depth of Dike})(\text{Volume of Facility in Acre/Feet})}$$

$$\frac{(2.5)\ \ 70{,}000}{8\ \ X\ \ 1600} = 13.7 \text{ Acre}$$

FIGURE 6

SITING CRITERIA CATEGORIES AND RANKING

CATEGORIES

1. Present land use
   a. residential
   b. commerical
   c. industrial
   d. recreational
   e. agricultural
   f. woodland
2. Proposed land use
   a. residential
   b. commercial
   c. industrial
   d. recreational
   e. agricultural
   f. woodland
3. Adjacent land use (within 300 feet)
   a. woodland and/or agricultural only
   b. residential
   c. recreational
   d. industrial
4. Soil Characteristics
   a. dry and/or strong base
   b. wet and/or weak base

CATEGORIES

5. Ownership
   a. Town owned
   b. Other single ownership
   c. Multiple ownership
6. Accessability by pipe
   a. within 5000'
   b. within 7500'
   c. greater than 7500'
7. Accessability by truck
   a. Easily accessable
   b. roadbase required
   c. clearing & roadbase required
8. Environmental Suitability
   a. woodland
   b. agricultural

IDENTIFICATION AND DESCRIPTION OF POTENTIAL DMP FACILITY SITES

In attempting to locate an appropriate area for a DMP facility a list of potential sites should be compiled. The sites should then be evaluated and ranked according to the eight individual parameters regarding suitability for DMP facility siting. (See Figure 6).

The criteria used for evaluation of the eight sites are based on parameters identified in the CHOPTANK RIVER DREDGED MATERIAL PLACEMENT STUDY mentioned above. The above referenced parameters were modified somewhat for use in a localized area. These eight individual parameters are listed below:

1. Present Land Use
2. Proposed Land Use
3. Adjacent Land Use
4. Soil Characteristics
5. Property Ownership
6. Assessibility by Pipe
7. Assessibility by Truck
8. Environmental Suitability

Dredging Project Funding

Because of the difficulty typically encountered in establishing a DMP Facility site, it will be necessary for the Town of Oxford to begin well before the proposed dredging is initiated.

Government funding assistance for dredging projects is limited at this time to federal money for Army Corps of Engineer projects and State money through the Tidewater Administration for projects pertaining to public waterfront facilities. The funds are also limited to the actual dredging operation and disposal thereof. Money is not available for the purchasing of property to be used in the disposal of the spoil generated from such projects. In cases involving Federal projects the incorporated towns will be able to acquire technical assistance from the county government for additional preplanning and associated efforts in identification and acquisition of needed lands.

Any additional dredging to be undertaken beyond the funding guidelines mentioned above will probably have to be borne by the town itself.

Management of Public Owned Waterfront Structures

Introduction

In order to establish a management scheme for publicly owned waterfront structures in Oxford, an inventory and evaluation of existing structures was undertaken with the assistance of the Assistant County Engineer. The structural evaluations were conducted and the result categorized accordingly:

A. Bulkheading
B. Docks

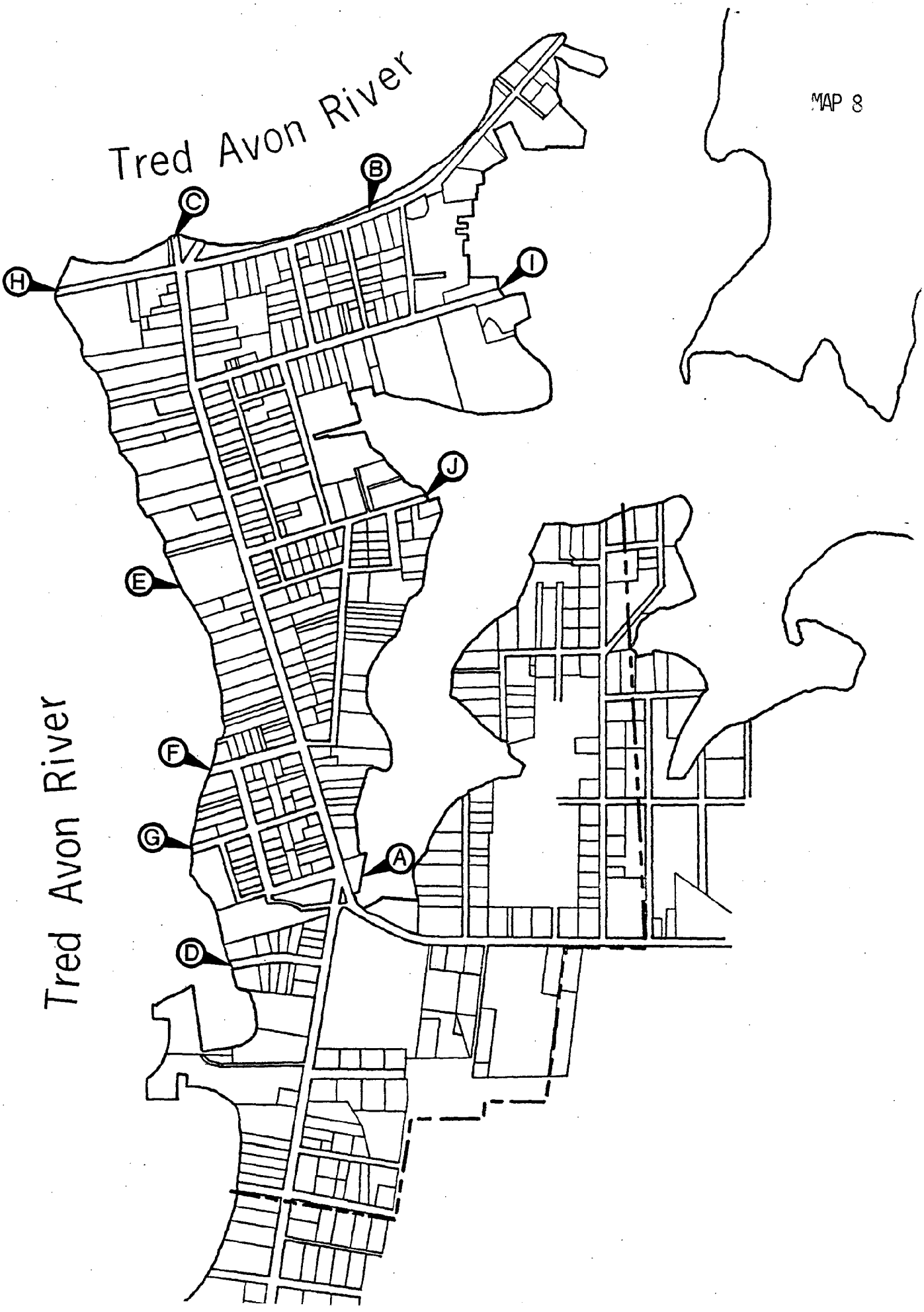
Recommendations were then prepared for each structure regarding maintenance and eventual replacement. See Appendix #A 2. Publicly owned Waterfront Structures (See Map # 8).

A. Head of Town Creek
B. "The Strand"
C. Morris Street
D. Pleasant Street
E. Town Square
F. Benoni Street
G. West Division Street
H. West End of "The Strand"
I. Tilghman Street
J. Market Street

Waterfront Structures - Maintenance Considerations

During the last ten years the Maryland Department of Natural Resources has been very active in funding, when possible, the construction of municipal waterfront structures for the use of the general boating public. This has been a great benefit for small municipalities such as Oxford in helping them provide services that otherwise may have been impossible to afford. However, because the life expectancy of these structures is limited they will eventually need to be replaced. Furthermore, because much of this construction in Oxford has occurred during a relatively short period, the replacement of these structures will probably be required during a similar period of time.

This is not a surprising circumstance but because of national economic trends and the State's diminished ability to provide funding for such projects, municipalities may find themselves faced with skyrocketing replacement costs and only partial State funding.


MAP 8
Tred Avon River
Tred Avon River
A
B
C
D
E
F
G
H
I
J

An approach to dealing with this problem would be to develop a program of maintenance that would prolong the deterioration of the town owned bulkhead and docks. This type of maintenance would require an annual inspection of all structures as well as other preventive measures such as painting of untreated timber or placing armor stone at the foot of all bulkhead not used for berthing boats. By developing such a maintenance program replacement of most of the Town owned waterfront structures may be delayed many years. Without such a program the failure of one structure may be followed by others within a few short years.

Maintenance for Bulkheading

Because of the degree of intimate contact that a timber bulkhead has with corrosive and destructive forces such as, groundwater, seawater, fungi, and wood booring organisms, it is essential that they are carefully maintained in order to minimize these destructive forces.

A maintenance program for bulkheading must be primarily preventive in nature, in order to be effective. The time and money spent during such activity will be easily recovered through the extended lifetime of the structure.

The backbone of a maintenance program will be a careful annual inspection. Items to be included in the inspection would be for:

- condition of capboard
- presence of submining
- condition of backfill
- condition of major bulkhead members (wales, piles, sheathing)
- condition of hardware (exposed portion of tie rods, nuts and bolts)
- presence of piling caps
- condition of fender boards on piling, if present

Additionally, each year the exposed portions of all hardware, especially the tie rods shanks, should be carefully coated with asphalt roofing cement.

By keeping a capboard on top of the bulkhead, rainwater and oversplashing sea water is kept away from the end grain of the sheathing. Submining is the loss of earth material behind a bulkhead, usually localized to a small area, which produces a pit which will collect rainwater. Both submining and absence of a capboard will promote

fungus rot often stealing years of life from the structure. Capboards should be C.C.C. treated 2 x 12's or 2 x 10's. Submining should be filled with a porous material such as crushed oyster shell or a good grade of sand.

Backfill is necessary to avoid damage to the tie rods and for proper channeling of rain water away from the bulkhead. Fill material should also be of a porous earth material such as sand.

The sound condition of major bulkhead members is essential in maintaining the structural integrity, without which the structure may partially collapse causing many dollars in repairs.

One of the potential trouble spots on any bulkhead is the exposed portion of the tie rods. It is here that the metal of the tie rod is repeatedly wetted and dried and exposed to salt air. This is usually the point where the tie rod will rust and eventually break This type of breakage can't be ignored and requires digging out of the backfill, and either a welding repair or complete replacement, both very expensive.

Pilings on the bulkhead require some type of weatherproof cap to avoid getting moisture into the exposed end grain of the piling. This type of exposure will cause rotting, but can be easily avoided by a plastic, aluminum or resin cover. All types of coverings are easily destroyed and must be carefully maintained.

Wooden fender boards are an inexpensive and easy method for protecting piling sides. They are not normally required unless the bulkhead is used as a commercial fishing or large boat servicing area.

Maintenance for Docks and Fingerpiers

With proper maintenance and attention a dock or fingerpier can last for many years. If the pilings are of sufficient size and are not subject to major ice damage then the periodic replacement of decking, stringers, cross sills and bracing will extend the life of such a structure until the pilings require replacement. Annual inspections of docks should include replacement of any failing members as well as painting or coating of any untreated timber that has been used in their construction.

Maintenance of Pilings

Life expectancy for creosote pilings is difficult to predict. Proper maintenance of pilings will extend their life by slowing rot and fiber damage.

Waterfront Structure Replacement Program

Introduction

Replacement of waterfront structures can be difficult if there has not been sufficient fiscal planning prior to the required construction. However, by programming needed expenditures accurately, revenues can be set aside in light of present and projected needs. It is with this in mind that the following structure replacement program is suggested. However, it is important to note that the actual year of replacement for any given bulkhead or dock is difficult to estimate due to the various independent factors that will influence life expectancy. Because of the exorbitant cost of bulkhead construction this replacement program will concentrate primarily on bulkheading and less on docks.

Replacement of Bulkhead

During the waterfront structure inventory conducted this summer an estimation of life expectancy was attempted using the town files for information on construction methods and materials. These estimations are made with the understanding that these are only "best guesses" and are subject to variation. This can be accomplished by keeping a weatherproof cap on top of the pilings and fender boards on the side when necessary. Pilings can also be pulled up from the bottom by the vertical movement of sheet ice. When this occurrs the piles should be immediately redriven to their proper depth.

Chart # 7 shows the projected lifetime for the town owned waterfront structures. The replacement dates are then listed in five year periods. The first five year period (present to 1986) has two sections that will probably require replacement. These sections are the timber bulkhead at West Division Street section which is failing due to extensive deterioration as well as the stones in the groins at the west end of "The Strand" have slowly unconsolidated.

The following five year period has only one section projected for replacement. This is a 55 foot section of concrete bulkhead which may only require additional rip rap. During the 1993 to 1998 period there is again only one section requiring replacement. The section needing replacement will be a 225 foot section of timber bulkhead. There are three sections in the 1999 to 2004 year period. These three sections are one concrete bulkhead and two timber bulkhead sections. Between the years of 2005 and 2010 there should be two sections of bulkhead. One section of 95 feet of timber bulkhead and another section of 250 feet of concrete bulkhead with stone riprap.

FIGURE 7

MATERIAL	LOCATION	LENGTH (FEET)	PROJECTED LIFE TIME	PRESENT 1986	1987 1992	1987 1998	1999 2004	2005 2010
TIMBER	HEAD OF TOWN CREEK	225	15			▲		
TIMBER	MORRIS STREET	95	25					▲
STONE	PLEASANT STREET	40	20				▲	
STONE	TOWN SQUARE	250	25					▲
STONE	BENONI STREET	55	10		▲			
TIMBER	W. DIVISION ST.	40	5	▲				
TIMBER	TILGHMAN STREET	120	20				▲	
STONE	WEST END OF "THE STRAND"	40	0	▲				
	"THE STRAND"	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STONE	REVETMENT	600	100					
TIMBER	BULKHEAD	130	20				▲	

SURVEY RESULTS

FOR

OXFORD HARBOR MANAGEMENT PLAN

JANUARY 12, 1981

TABLE OF CONTENTS PAGE

1. Do you own a boat?

	Actual No.	Percentage
Yes	112	65.9
No	58	34.1

2. How many boats do you own?

1 Boat	65	59.1
2 Boats	30	27.3
3 Boats	10	9.1
4 Boats	3	2.7
5 Boats	2	1.8

3. Where is/are your boat(s) kept?

Trailered	11	10.3
In the Harbor	57	53.3
Elsewhere	22	20.6
Trailered and in the Harbor	8	7.5
In the Harbor and Elsewhere	5	4.7
Trailered and Elsewhere	4	3.7

4. What type of dockage do you use?

Town Slips	23	21.7
Public Marina	16	15.1
Private Slip	58	54.7
Other	5	4.7

5. What type of boat do you own?

Sailboat	42	38.5
Powerboat	45	41.3
Both	22	20.2

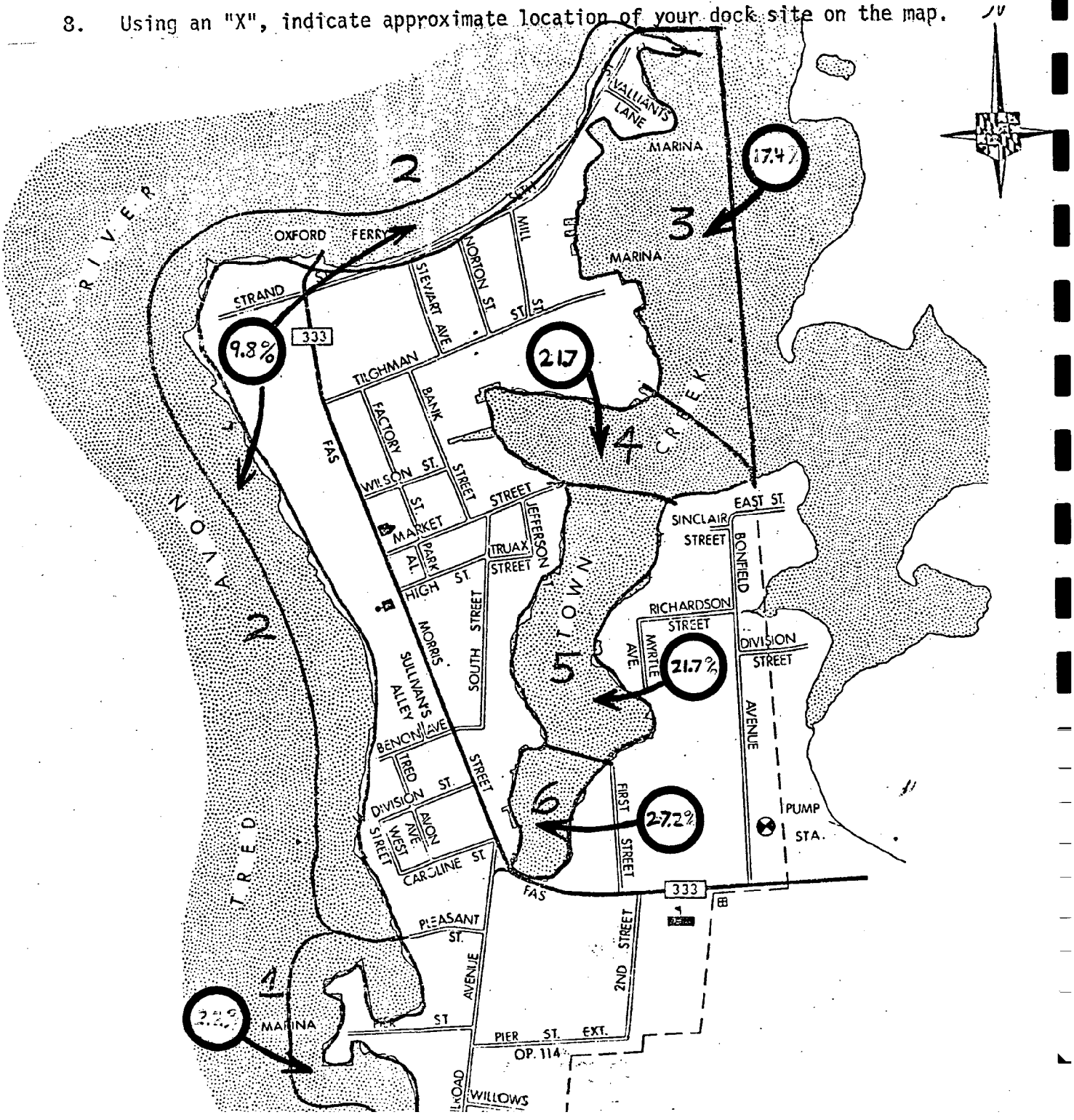
6. What size is your boat?

15 Feet or Less	21	19.3
16 to 25 Feet	47	43.1
26 to 40 Feet	35	32.1
Over 40 Feet	6	5.5

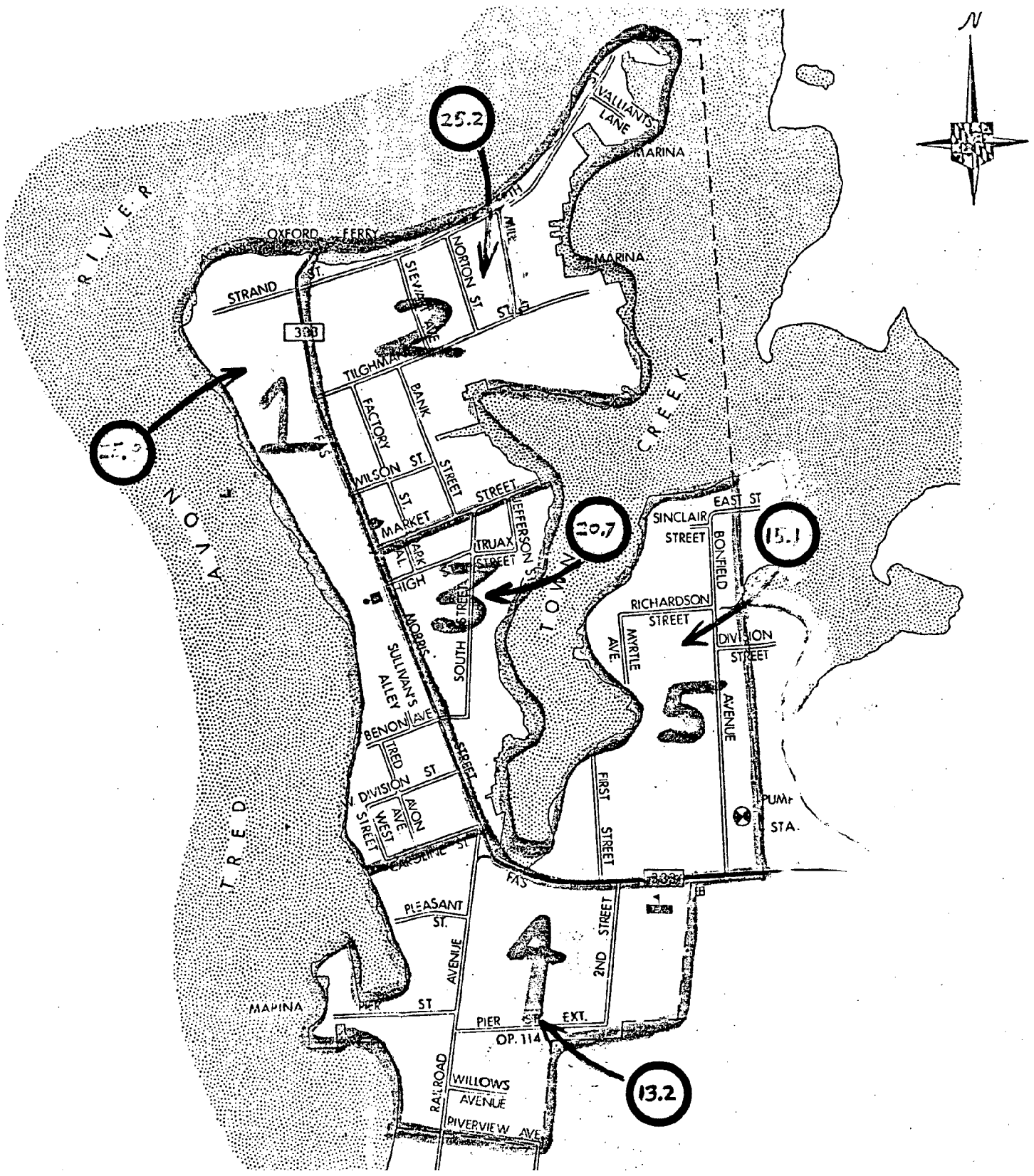
7. On an average, how many times a year do you use your boat?

1 - 6	6	5.6
6 - 12	8	7.4
12 - 24	33	30.8
Over 24	60	56.1

8. Using an "X", indicate approximate location of your dock site on the map.



9. If you live in Oxford where in town do you live? Using a circle "O" indicate the approximate location on the map.



10. In your opinion, what is the biggest problem in the town harbor?

	Actual No.	Percentage
Congestion	51	34.5
Pollution	38	25.7
No Organized Mooring Pattern	10	6.8
Need More Slips	6	4.0
Need Dredging	2	1.3
Better Channel Marking	-	-
Another Buying Station for Watermen	-	-
Need Better Parking Facilities Around Harbor	-	-
No Problems in Harbor	7	4.7
Don't Know of any Problems	13	8.8
Watermen Need Private Mooring Area	-	-
Miscellaneous	11	7.4
Expansion of Marinas	10	6.8

11. Which of these best fits the kind of work that the head of the household does?

Retired	77	45.3
Professional or Executive	67	39.4
Sales or Clerical	8	4.7
Craftsman	11	6.5
Waterman	6	3.5
Student, Apprentice	1	0.6
Laborer, Semi-Skilled, etc.	-	-

11A. How much of your personal income comes from commercial fishing?

	Actual No.	Percentage
0 - 25%	2	50.0
25 - 50%	-	-
50 - 75%	1	25.0
75 - 100%	1	25.0

11B. What type of commercial fishing do you do?

Crabbing	-	-
Oystering	-	-
Clamming	1	20.0
Finfishing	1	20.0
Charter Fishing	1	20.0
Crabbing ¢ Oystering	2	40.0
Crabbing, Oystering & Clamming	-	-
Oystering & Clamming	-	-

11C. As a waterman how would you rank the harbor as a homeport for your operation?

Excellent	3	60.0
Good	1	20.0
Average	-	-
Poor	1	20.0
Terrible	-	-

11D. As a waterman what do you see as the three biggest problems with having your operation based in this harbor?

	1st	2nd	3rd
Movement in Harbot	2	-	-
Inadequate Parking	-	-	-
Lack of Unloading Space	-	-	-
Insufficient Mooring or Slip Locations	-	-	-
Added Costs Involved With Harbor Use	-	-	1
Other	1	1	-

12. Are You

	Actual No.	Percentage
Male	136	78.6
Female	37	21.4

13. What is your age?

Under 20	-	-
20-30	2	1.2
30-44	33	19.2
45-64	66	38.4
65 or over	71	41.3

14. How many years have you lived in town?

0-5	56	33.3
6-15	57	33.9
16-25	14	8.3
25-50	24	14.3
Over 50	17	10.1

15. Where do you live?

	Actual No.	Percentage
In Town	152	87.9
Out of Town But in the County	12	6.9
Elsewhere	9	5.2

16. How adequate are parking areas, with respect to the docks and mooring spaces?

Very Adequate	26	18.3
Adequate	90	63.4
Inadequate	25	17.6
Very Inadequate	1	0.7

17. How adequate are mooring and docking facilities?

Very Adequate	21	15.1
Adequate	91	65.5
Inadequate	23	16.5
Very Inadequate	4	2.9

18. How adequate are services available to boaters?

Very Adequate	31	22.5
Adequate	82	59.4
Inadequate	21	15.2
Very Inadequate	4	2.9

20. How adequate is trash collection and removal?

Very Adequate	17	13.2
Adequate	86	66.7
Inadequate	19	14.7
Very Inadequate	7	5.4

21. How adequate is security, for the protection of boats and property?

	Actual No.	Percentage
Very Adequate	14	11.2
Adequate	92	73.6
Inadequate	16	12.8
Very Inadequate	3	2.4

22. Is control and regulation of traffic within the harbor a problem?

Serious Problem	17	12.2
Minor Problem	43	30.9
Slight Problem	29	20.9
No Problem	50	36.0

DATA BY BOAT OWNERSHIP

DATA BY BOAT OWNERSHIP

	Boat Owners Number	%	Non-Boat Owners Number	%
1. In your opinion, what is the biggest problem in the town harbor?				
Congestion	31	31.0	20	41.7
Pollution	23	23.0	15	31.2
Miscellaneous	10	10.0		
No Organized Mooring Pattern	9	0.9		
Don't Know			4	8.3
2. How adequate are parking areas, with respect to the docks and mooring spaces?				
Very Adequate	21	20.4	5	12.8
Adequate	68	66.0	22	56.4
Inadequate	13	12.6	12	30.8
Very Inadequate	1	1.0	-	-
3. How adequate are mooring and docking facilities?				
Very Adequate	17	16.5	4	11.1
Adequate	66	64.1	25	69.4
Inadequate	17	16.5	6	16.7
Very Inadequate	3	2.9	1	2.8
4. How adequate are services available to boaters?				
Very Adequate	27	26.0	4	11.8
Adequate	62	59.6	20	58.8
Inadequate	12	11.5	9	26.5
Very Inadequate	3	2.9	1	2.9
5. How adequate is trash collection and removal?				
Very Adequate	13	13.3	4	12.9
Adequate	65	66.3	21	67.7
Inadequate	16	16.3	3	9.7
Very Inadequate	4	4.1	3	9.7
6. How adequate is security, for the protection of boats and property?				
Very Adequate	12	12.4	2	7.1
Adequate	75	77.3	17	60.7
Inadequate	10	10.3	6	21.4
Very Inadequate	-	-	3	10.7

	Boat Owners		Non-Boat Owners	
	Number	%	Number	%
7. Is control and regulation of traffic within the harbor a problem?				
Serious Problem	12	11.1	12	12.4
Problem	31	28.7	12	40.0
Minor Problem	25	23.1	3	10.0
No Problem	40	37.0	10	33.3

DATA BY TYPE OF BOAT OWNED

DATA BY TYPE OF BOAT OWNED

	Sailboat		Powerboat		Both	
What size is it?						
15 or Less	5	11.9%	16	35.6%	-	-
16 to 24	19	45.2%	18	40.0	10	45.5%
25 to 40	16	38.1%	9	20.0	10	45.5%
Over 40	2	4.8%	2	4.4%	2	9.0%
How often do you use it?						
1 - 6	3	7.1%	3	7.0%	-	-
6 - 12	2	4.8%	5	11.6%	1	4.5%
12 - 24	14	33.3%	13	30.2%	6	27.3%
Over 24	23	54.8%	22	51.2%	15	68.2%
What is the biggest problem?						
1 Congestion	12	31.6%	11	29.7%	6	27.3%
2 Pollution	10	26.3%	8	21.6%	4	18.2%
3 No Organized Mooring	3	7.9%	6	16.2%	-	-
4 Need More Slips	2	5.3%	3	8.1%	-	-
5 Need Dredging	1	2.6%	-	-	1	4.5%
6 Better Channel Marking	-	-	-	-	-	-
9 No Problem	-	-	2	5.4%	2	9.1%
10 Don't Know	2	5.3%	6	16.2%	1	4.5%
12 Miscellaneous	3	7.9%	-	-	7	31.8%
13 Expansion of Marinas	5	13.2%	1	2.7%	1	4.5%

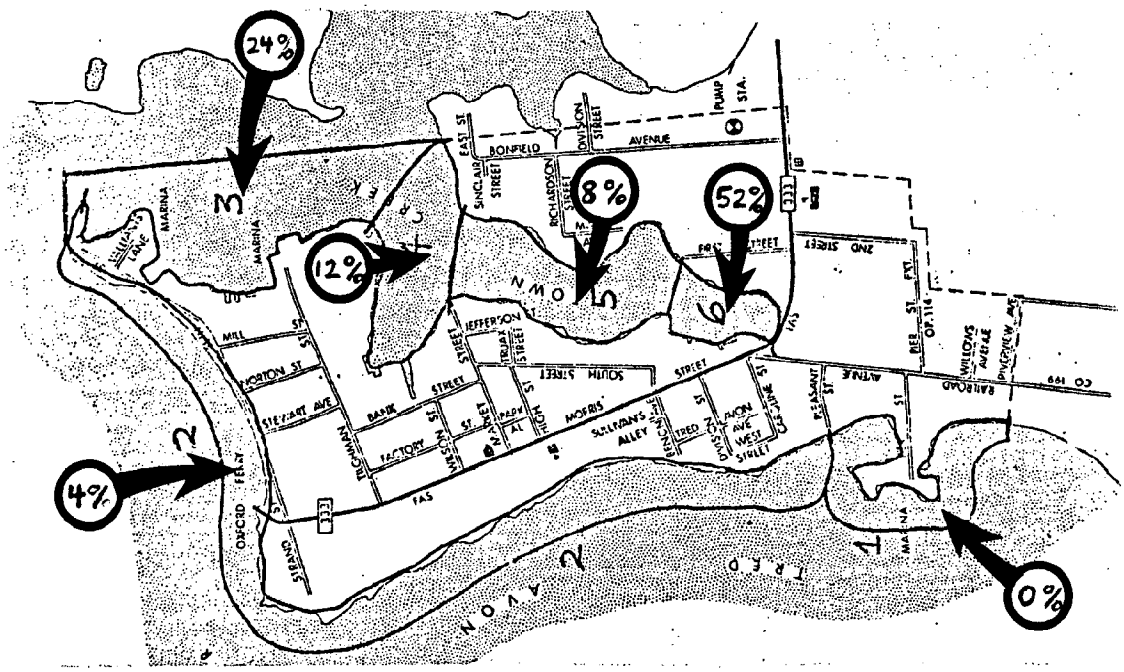
DATA BY TYPE OF DOCKAGE

DATA BY TYPE OF DOCKAGE

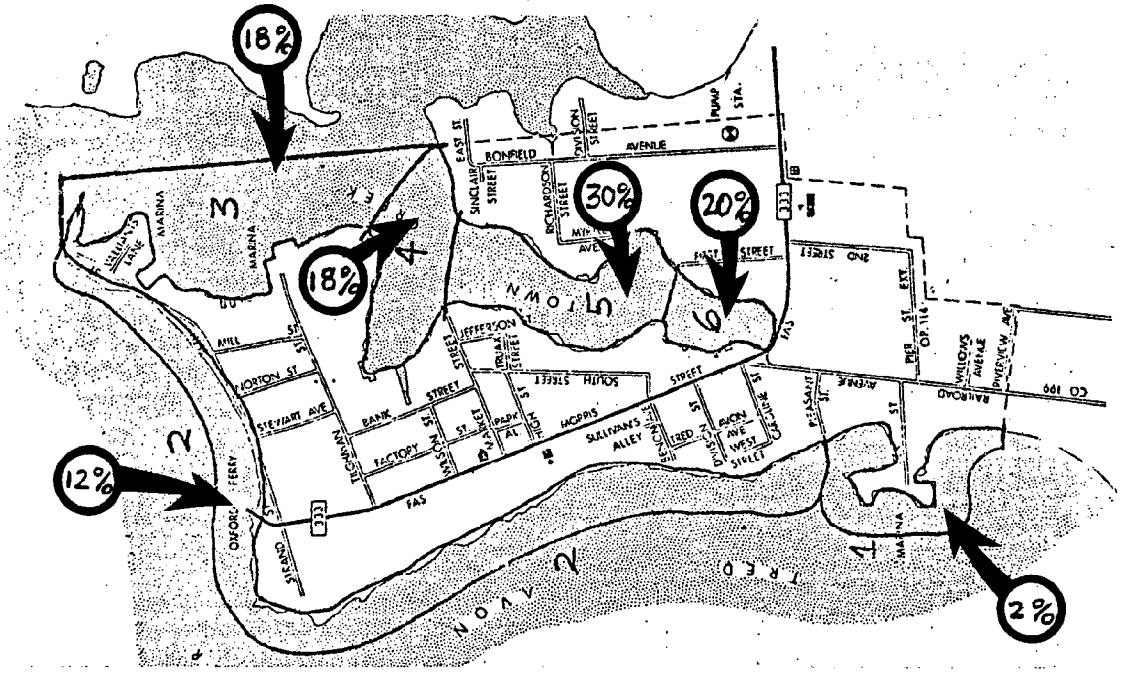
	Town Slip Renter Number	%	Private Slip Number	%
1. What type of boat do you own?				
Sailboat	10	38.5	18	30.0
Powerboat	13	50.0	27	45.0
Both	3	11.5	15	25.0
2. What size is your boat?				
15 or Less	3	11.5	12	20.0
16 to 25	14	53.8	25	41.7
26 to 40	9	34.6	19	31.7
Over 40	-	-	4	6.7
3. On an average, how many times a year do you use your boat?				
1-6	1	3.8	2	3.4
6-12	-	-	7	11.9
12-24	11	42.3	18	30.5
Over 24	14	53.8	32	54.2
4. In your opinion, what is the biggest problem in the town harbor?				
1. Congestion	6	26.1	17	30.9
2. Pollution	6	26.1	14	25.5
3. No Organized Mooring	2	8.7	4	7.3
4. Need More Slips	1	4.3	3	5.5
5. Need Dredging	-	-	1	1.8
6. Better Channel Marking	-	-	3	5.5
10. Don't Know	4	17.4	3	5.5
12. Miscellaneous	2	8.7	6	10.9
13. Too Much Commercial Expansion	2	8.7	4	7.3
5. How adequate are parking areas, with respect to the docks and mooring spaces?				
Very Adequate	8	30.8	9	17.0
Adequate	14	53.8	37	69.8
Inadequate	4	15.4	6	11.3
Very Inadequate	-	-	1	1.9
6. How adequate are mooring and docking facilities?				
Very Adequate	6	23.1	5	9.6
Adequate	14	53.8	37	71.1
Inadequate	5	19.2	8	15.4
Very Inadequate	1	3.8	2	3.8

	Town Slip Renter		Private Slip	
	Number	%	Number	%
7. How adequate are services available to boaters?				
Very Adequate	6	23.1	15	27.8
Adequate	14	53.8	34	63.0
Inadequate	3	11.5	5	9.3
Very Inadequate	3	11.5	-	-
8. How adequate is trash collection and removal?				
Very Adequate	3	11.5	7	13.7
Adequate	17	65.4	35	68.6
Inadequate	5	19.2	8	15.7
Very Inadequate	1	3.8	1	2.0
9. How adequate is security, for the protection of boats and property?				
Very Adequate	4	15.4	7	14.6
Adequate	18	69.2	37	77.1
Inadequate	4	15.4	4	8.3
Very Inadequate	-	-	-	-
10. Is control and regulation of traffic within the harbor a problem?				
Serious Problem	3	12.0	6	10.3
Minor Problem	6	24.0	20	34.5
Slight Problem	4	16.0	15	25.9
No Problem	12	48.0	17	29.3
11. If you have a town slip, what type of work do you do?				
Retired	10	38.5	19	32.2
Professional or Executive	11	42.3	27	45.8
Sales or Clerical	1	3.8	4	6.8
Craftsman	-	-	7	11.9
Waterman	4	15.4	2	3.4

If you have a town slip, using an "X", indicate approximate location of your dock site on the map.

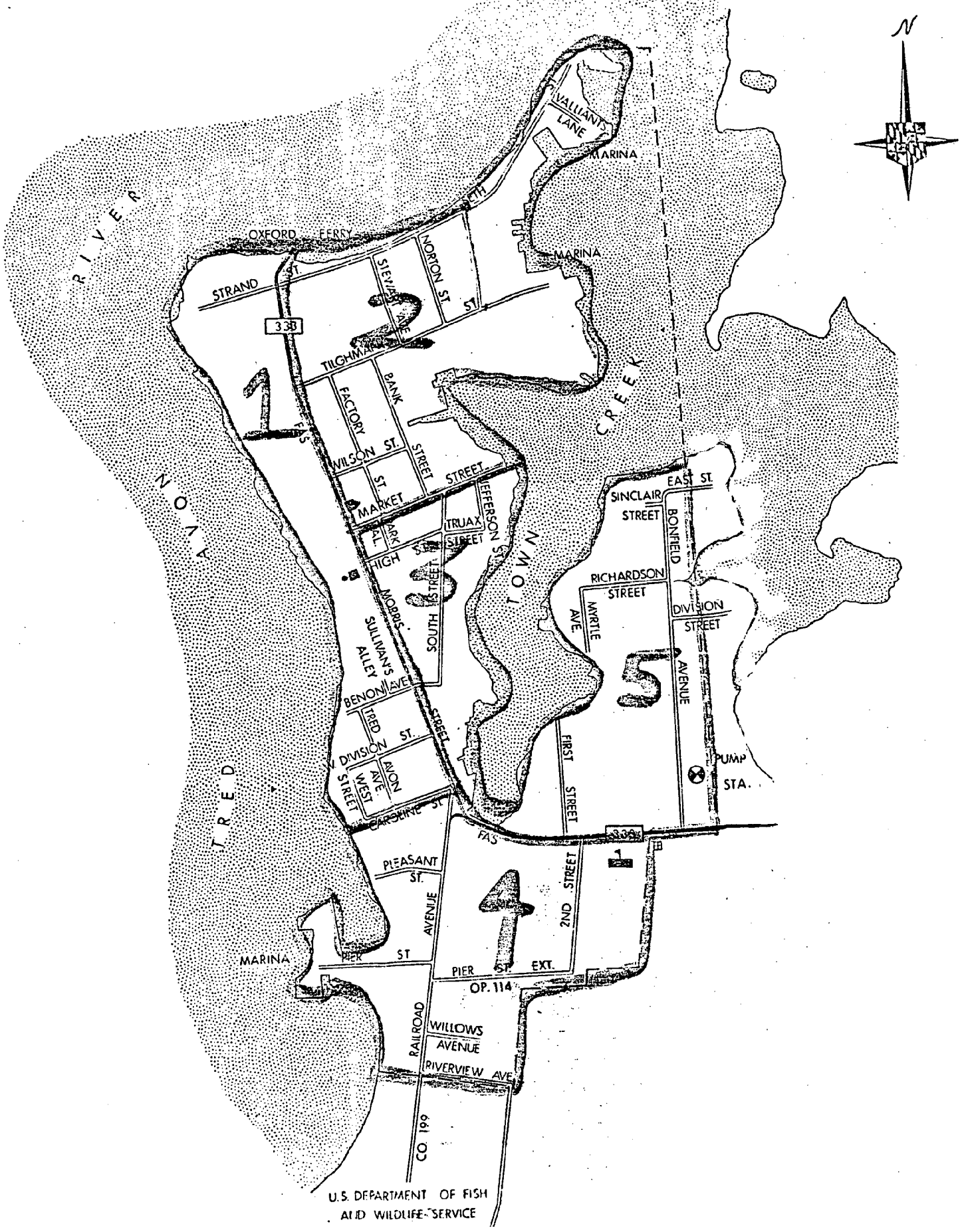


If you have a private slip, using an "X", indicate approximate location of your dock site on the map.



DATA BY BOAT OWNERSHIP AND HOUSE LOCATION

OXFORD DIVIDED BY SECTORS



BOAT OWNERS BY HOUSE LOCATION

	SECTORS (SEE ATTACHED MAP) 1		2		3		4		5	
In your opinion, what is the biggest problem in the town harbor?										
Congestion	5	25.0%	8	32.0%	8	42.1%	2	25.0%	7	38.9%
Pollution	4	20.0%	5	22.0%	4	21.0%	4	50.0%	3	16.7%
No Organized Mooring Pattern	—	—	4	16.0%	2	10.5%	1	12.5%	1	5.6%
Need More Slips	1	5.0%	—	—	2	10.5%	—	—	2	11.1%
Need Dredging	—	—	—	—	—	—	—	—	1	5.6%
Better Channel Marking	—	—	—	—	—	—	—	—	—	—
Another Buying Station for Watermen	—	—	—	—	—	—	—	—	—	—
Need Better Parking Facilities Around Harbor	—	—	—	—	—	—	—	—	—	—
No Problem in Harbor	—	—	2	8.0%	2	10.5%	—	—	—	—
Don't Know of any Problems	5	25.0%	1	4.0%	—	—	1	12.5%	1	5.6%
Watermen Need Private Mooring Area	—	—	—	—	—	—	—	—	—	—
Miscellaneous	2	10.0%	3	12.0%	1	5.3%	—	—	1	5.6%
Expansion of Marinas	3	15.0%	2	8.0%	—	—	—	—	2	11.1%
How adequate are parking areas, with respect to the docks and mooring spaces?										
Very Adequate	5	19.2%	4	15.4%	7	38.9%	2	25.0%	2	11.8%
Adequate	17	65.4%	20	76.9%	8	44.4%	5	62.5%	12	70.6%
Inadequate	4	15.4%	2	7.7%	2	11.1%	1	12.5%	3	17.7%
Very Inadequate	—	—	—	—	1	5.6%	—	—	—	—
How adequate are mooring and docking facilities?										
Very Adequate	7	26.9%	2	7.7%	4	23.5%	1	12.5%	3	17.6%
Adequate	13	50.0%	21	80.8%	8	47.1%	5	62.5%	12	70.6%
Inadequate	6	23.1%	3	11.5%	2	11.8%	2	25.0%	2	11.8%
Very Inadequate	—	—	—	—	3	17.6%	—	—	—	—
How adequate are services available to boaters?										
Very Adequate	8	30.8%	6	22.2%	6	33.3%	2	25.0%	4	23.5%
Adequate	15	57.7%	17	63.0%	10	55.6%	4	50.0%	12	70.6%
Inadequate	3	11.5%	3	11.1%	1	5.6%	1	12.5%	1	5.9%
Very Inadequate	—	—	1	3.7%	1	5.6%	1	12.5%	—	—

BOAT OWNERS BY HOUSE LOCATION

	SECTORS (SEE ATTACHED MAP) 1		2		3		4		5	
How adequate is trash collection and removal?										
Very Adequate	2	7.7%	3	12.0%	4	23.5%	—	—	4	25.0%
Adequate	17	65.4%	18	72.0%	9	52.9%	2	87.5%	11	68.7%
Inadequate	5	19.2%	4	16.0%	3	17.6%	3	12.5%	1	6.3%
Very Inadequate	2	7.7%	—	—	1	5.9%	—	—	—	—
How adequate is security, for the protection of boats and property?										
Very Adequate	3	12.0%	1	4.0%	4	23.5%	—	—	3	21.4%
Adequate	19	76.0%	22	88.0%	12	70.6%	5	71.4%	11	78.6%
Inadequate	3	12.0%	2	8.0%	1	5.9%	2	28.6%	—	—
Very Inadequate	—	—	—	—	—	—	—	—	—	—
Is control and regulation of traffic within the harbor a problem?										
Serious Problem	2	7.7%	2	7.4%	4	21.0%	—	—	3	15.8%
Minor Problem	3	11.5%	11	40.7%	7	36.8%	2	25.0%	7	36.8%
Slight Problem	8	30.8%	5	18.5%	3	15.8%	2	25.0%	4	21.0%
No Problem	13	50.0%	9	33.3%	5	26.3%	4	50.0%	5	26.3%

NON-BOAT OWNERS BY HOUSE LOCATION

	SECTORS (SEE ATTACHED MAP) 1		2		3		4		5	
In your opinion, what is the biggest problem in the town harbor?										
Congestion	6	50.0%	6	50.0%	2	28.6%	2	20.0%	3	60.0%
Pollution	3	25.0%	4	33.3%	3	42.9%	4	40.0%	1	20.0
No Organized Mooring Pattern	-	-	-	-	-	-	1	10.0%	-	-
Need More Slips	-	-	1	8.3%	-	-	-	-	-	-
Need Dredging	-	-	-	-	-	-	-	-	-	-
Better Channel Marking	-	-	-	-	-	-	-	-	-	-
Another Buying Station for Watermen	-	-	-	-	-	-	-	-	-	-
Need Better Parking Facilities Around Harbor	-	-	-	-	-	-	-	-	-	-
No Problem in Harbor	2	16.7%	-	-	-	-	1	10.0%	-	-
Don't Know of any Problems	-	-	-	-	1	14.3%	2	20.0%	1	20.0
Watermen Need Private Mooring Area	-	-	-	-	-	-	-	-	-	-
Miscellaneous	-	-	1	8.3%	-	-	-	-	-	-
Expansion of Marinas	1	8.3%	-	-	1	14.3%	-	-	-	-
How adequate are parking areas, with respect to the docks and mooring spaces?										
Very Adequate	1	8.3%	2	22.2%	1	16.7%	1	16.7%	-	-
Adequate	6	50.0%	5	55.6%	3	50.0%	4	66.7%	3	60.0%
Inadequate	5	41.7%	2	22.2%	2	33.3%	1	16.7%	2	40.0%
Very Inadequate	-	-	-	-	-	-	-	-	-	-
How adequate are mooring and docking facilities?										
Very Adequate	1	8.3%	1	11.1%	1	20.0%	1	20.0%	-	-
Adequate	8	66.7%	6	66.7%	4	40.0%	3	60.0%	4	100.0%
Inadequate	2	16.7%	2	22.2%	-	-	1	20.0%	-	-
Very Inadequate	1	8.3%	-	-	-	-	-	-	-	-
How adequate are services available to boaters?										
Very Adequate	1	8.3%	1	12.5%	1	20.0%	1	16.7%	-	-
Adequate	8	66.7%	4	50.0%	3	60.0%	4	66.7%	1	50.0
Inadequate	2	16.7%	3	37.5%	1	20.0%	1	16.7%	1	50.0%
Very Inadequate	1	8.3%	-	-	-	-	-	-	-	-

NON-BOAT OWNERS BY HOUSE LOCATION

	SECTORS (SEE ATTACHED MAP) 1		2		3		4		5	
How adequate is trash collection and removal?										
Very Adequate	1	9.1%	-	-	2	50.0%	1	20.0%	-	-
Adequate	9	81.8%	5	71.4%	1	25.0%	3	60.0%	2	66.7%
Inadequate	-	-	1	14.3%	1	25.0%			1	33.3%
Very Inadequate	1	9.1%	1	14.3%	-	-	1	20.0%	-	-
How adequate is security, for the protection of boats and property?										
Very Adequate	-	-	1	14.3%	-	-	-	-	-	-
Adequate	5	55.6%	4	57.1%	3	75.0%	2	100.0%	-	-
Inadequate	2	22.2%	1	14.3%	1	25.0%	-	-	2	100.0%
Very Inadequate	2	22.2%	1	14.3%	-	-	-	-	-	-
Is control and regulation of traffic within the harbor a problem?										
Serious Problem	2	20.0%	2	25.0%	-	-	1	20.0%	-	-
Minor Problem	3	30.0%	5	62.5%	-	-	1	20.0%	2	100.0%
Slight Problem	1	10.0%	-	-	2	50.0%	-	-	-	-
No Problem	4	40.0%	1	12.5%	2	50.0%	3	60.0%	-	-

APPENDIX 2

BULKHEAD EVALUATION

FOOT OF PLEASANT STREET

A. SITE DESCRIPTION

Pleasant Street
Concrete bulkhead and riprap - 40 feet

B. STRUCTURE USES

Bank Support

C. CONSTRUCTION MATERIALS

Concrete bulkhead & armorstone

D. STRUCTURAL EVALUATION

Armorstone is slumping forward

Bank stabilization problem

E. REQUIRED MAINTENANCE

New riprap to build up above the overtopping wave action

Bank grading and stabilization

F. YEAR OF CONSTRUCTION

Unknown

G. ESTIMATED ADDITIONAL LIFETIME

20 years with maintenance of armorstone

FOOT OF BENONI STREET

A. SITE DESCRIPTION

Benoni Avenue - 55 feet of bulkhead with armor stone at base.

B. STRUCTURE USES

Bank support

C. CONSTRUCTION MATERIALS

Cinder block wall with riprap and rubble

D. STRUCTURAL EVALUATION

Cinder block is beginning to break up

Bank stabilization problem

E. REQUIRED MAINTENANCE

Regrade bank and stabilize soil with plantings

Cinder block bulkheading will not properly support bank for long.

F. YEAR OF CONSTRUCTION

Unknown

G. ESTIMATED ADDITIONAL LIFETIME

10 years if armor stone is maintained.

FOOT OF WEST DIVISION STREET

A. SITE DESCRIPTION

West Division St. Timber bulkhead 40 feet

B. STRUCTURE USES

Bank support

C. CONSTRUCTION MATERIALS

LENGTH OF:		SIZE OF:
a. Sheathing	Unknown	a. Walers 8x8 inches
b. Pilings	Unknown	b. Pilings 8x8 inches
c. Deadmen	Unknown	
d. Tie rods	Unknown	DISTANCE BETWEEN:
		a. Pilings 8 feet
CAP BOARD Yes		b. Deadmen 16 feet

BATTEN BOARD Yes

D. STRUCTURAL EVALUATION

Sheathing	Severe deterioration
Pilings	Several members weakened
Walers	Sound
Tie Rods	Sound

E. REQUIRED MAINTENANCE

Sheathing - replacement immediately
Pilings - reinforcement of weakened members
Hardware - coating of exposed hardware with asphalt cement

F. YEAR OF CONSTRUCTION

Unknown

G. ESTIMATED ADDITIONAL LIFETIME

5 years

WEST END OF "THE STRAND"

A. SITE DESCRIPTION

West end of "The Strand" - open beach area
property length - 40 feet, beach depth 35 feet

B. STRUCTURE USES

Small boat launching
and similar access

C. CONSTRUCTION MATERIALS

D. STRUCTURAL EVALUATION

Stone groins have failed

E. REQUIRED MAINTENANCE

Determine if groins are required and rebuild if necessary

F. YEAR OF CONSTRUCTION

Unknown

G. ESTIMATED ADDITIONAL LIFETIME

Not applicable

FOOT OF TILGHMAN STREET

A. SITE DESCRIPTION

East end of Tilghman St. 120 feet of bulkhead

B. STRUCTURE USES

Bulkhead used for town slips and boat launching ramp

C. CONSTRUCTION MATERIALS

LENGTH OF:		SIZE OF:	
a. Sheathing	Unknown	a. Walers 8 inch x 8 inch	
b. Pilings	Unknown	b. Pilings 10 inches	
c. Deadmen	Unknown		
d. Tie rods	Unknown	DISTANCE BETWEEN:	
		a. Pilings	7 inches
CAP BOARD	No	b. Deadmen	7 inches

BATTEN BOARD Yes

D. STRUCTURAL EVALUATION

Sheathing	Deterioration in certain locations
Pilings	Sound
Walers	Sound
Tie rods	Sound

E. REQUIRED MAINTENANCE

Cement on hardware
Capboard
Replacement of deteriorated sheathing

F. YEAR OF CONSTRUCTION

Unknown

G. ESTIMATED ADDITIONAL LIFETIME

20 years if properly maintained

BULKHEAD AT THE HEAD OF TOWN CREEK

A. SITE DESCRIPTION

Approximately 225 feet of timber bulkhead which is adjacent to a macadam parking area.

B. STRUCTURE USES

This bulkhead has attached fingerpiers for town slips used by both recreational boaters and commercial fishermen.

C. CONSTRUCTION MATERIALS

LENGTH OF:		SIZE OF:	
a. Sheathing	Unknown	a. Walers	6x6 inches
b. Pilings	Unknown	b. Pilings	variable 8 inches
c. Deadmen	Unknown		to 12 inches
d. Tie rods	Unknown		
		DISTANCE BETWEEN:	
		a. Pilings	7 feet
CAP BOARD	No	b. Deadmen	14 feet
BATTEN BOARD	Yes		

D. STRUCTURAL ELEVATION

Sheathing	Sheathing at corners is beginning to separate
Pilings	Timbers are sound but no caps
Walers	Sound
Tie Rods	Severe rust at exposed portions behind bulkhead

E. REQUIRED MAINTENANCE

Weakening of the tie rod is a potential threat. If this tie rod fails then there will be a 24 foot portion of the bulkhead without support. Replacement of capboard.

F. YEAR OF CONSTRUCTION

Early 1970's

G. ESTIMATED ADDITIONAL LIFETIME

15 years.

BULKHEAD AT END OF MORRIS STREET

A. SITE DESCRIPTION

Morris Street - North End
Parking area with bulkhead in two sections
95 feet of bulkhead and armorstone

B. STRUCTURE USES

Bank Support

C. CONSTRUCTION MATERIALS

LENGTH OF:		SIZE OF:	
a. Sheathing	Varied 6 feet-10 feet	a. Walers	6x8 inches
b. Pilings	Varied 10 " 14 "	b. Pilings	10 inches
c. Deadmen	Unknown		
d. Tie Rods		DISTANCE BETWEEN:	
		a. Pilings	
CAP BOARD	Yes	b. Deadmen	
BATTEN BOARD	Yes		

D. STRUCTURAL EVALUATION

1. Materials are in good condition
2. Armor Stone at base of bulkhead in good condition
3. Fill behind bulkhead is insufficient and several tie rods are exposed and being damaged.

E. REQUIRED MAINTENANCE

Fill and grade as required

Maintain proper height of armorstone

F. YEAR OF CONSTRUCTION

First section - unknown

Second section - 1977

G. ESTIMATED ADDITIONAL LIFETIME

30 years with armorstone properly maintained

BULKHEAD ADJACENT TO "THE STRAND"

A. SITE DESCRIPTION

130 feet of bulkhead adjacent to "The Strand" near the roads northern end. Timber bulkhead with riprap at base of structure serving as armorstone.

B. STRUCTURE USES

Bulkhead serves as bank support adjacent to road, however, timber is not typically in contact with the river during normal tides.

C. CONSTRUCTION MATERIAL

LENGTH OF:		SIZE OF:
a. Sheathing	Variable 7 to 5 feet	a. Walers 6x6 (top) 2x6 bottom
b. Pilings	Unknown	b. Pilings 6 x 8 inches
c. Deadmen	N/A	
d. Tie Rods	N/A	DISTANCE BETWEEN:
		a. Pilings 7 feet
CAP BOARD	Yes	b. Deadmen N/A
BATTEN BOARD	No	

D. STRUCTURAL EVALUATION

All members are apparently sound at present

E. REQUIRED MAINTENANCE

None at present, maintain armorstone at proper height

F. YEAR OF CONSTRUCTION

1977

G. ESTIMATED ADDITIONAL LIFETIME

20

TOWN SQUARE

A. SITE DESCRIPTION

Town Square on the Tred Avon River

250 ft. of shoreline

B. STRUCTURE USES

Bank Support

Beach Access

C. CONSTRUCTION MATERIALS

1. Concrete bulkhead
2. Concrete & stone groins
3. Armor Stone

D. STRUCTURAL EVALUATION

1. Concrete bulkhead sound
2. Concrete groins have failed
3. Riprap groins are beginning to fail
4. Bulkheading armorstone requires additional stone.

E. REQUIRED MAINTENANCE

Grading & Bank stabilization
Building up armorstone as needed
Building up groins as required

F. YEAR OF CONSTRUCTION

Unknown

G. ESTIMATED ADDITIONAL LIFETIME

30 years with armorstone maintenance

DOCK EVALUATION

HEAD OF TOWN CREEK MUNICIPAL DOCK # 1

A. SITE DESCRIPTION

Head of Town Creek Linear Dock

B. STRUCTURE USES

Dock used for access to Town Slips

C. CONSTRUCTION MATERIALS

LENGTH OF		SIZE OF:	
a. Pilings	Unknown	a. Pilings	9 inches
b. Dock	180 feet	b. Stringers	3x8 inches
c. Fingerpier	16 feet	c. Cross Sill	3x8 or 3x4
		d. Bracing	N/A
		e. Decking	2x4 inches

DISTANCE BETWEEN:

a. Pilings (horz.)	4 feet
b. Pilings (perp)	15 feet
c. Stringers	4 feet
d. Bracing	N/A

DECKING STYLE

Perpendicular

D. STRUCTURAL EVALUATION

Sound condition

E. REQUIRED MAINTENANCE

Maintenance as required

HEAD OF TOWN CREEK - MUNICIPAL DOCK #2

A. SITE DESCRIPTION

Head of Town Creek "L" "Head" Dock

B. STRCUTURE USES

Dock used for access to town slips

C. CONSTRUCTION MATERIALS

LENGTH OF:
a. Pilings 7 feet
b. Dock 78 feet
c. Fingerpier 15 feet

SIZE OF:
a. Pilings 12 inches
b. Stringers 3x8 inches
c. Cross Sills 3x8 inches
d. Bracing N/A
e. Decking 2x10 inches

DISTANCE BETWEEN:
a. Pilings (horz.) 4 feet
b. Pilings (perp.) 15 feet
c. Stringers 4 feet
d. Bracing N/A

DECKING STYLE

perpendicular

D. STRUCTURAL EVALUATION

Sound condition

E. REQUIRED MAINTENANCE

New caps on piling where needed

TILGHMAN STREET DOCK

A. SITE DESCRIPTION

Linear dock at foot of Tilghman Street

B. STRUCTURE USES

Dock is used for access to Town slips

C. CONSTRUCTION MATERIALS

LENGTH OF:
a. Pilings Unknown
b. Dock 45 feet
c. Fingerpier 24 feet

SIZE OF:
a. Pilings 10 inches
b. Stringers 4x8 inches
c. Cross Sill 4x4 inches
d. Bracing N/A
e. Decking 2x12 inches

DISTANCE BETWEEN:
a. Pilings (horz.) 5 feet
b. Pilings (perp.) 15 feet
c. Stringers 5 feet

D. STRUCTURAL EVALUATION

Sound condition

E. REQUIRED MAINTENANCE

Replacement of weakened members as needed

MARKET STREET DOCK - MUNICIPAL DOCK

A. SITE DESCRIPTION

Linear Dock on 35 feet of waterfront

B. STRUCTURE USES

Dock is used for access to town slips

C. CONSTRUCTION MATERIALS

LENGTH OF:
a. Pilings Unknown
b. Dock 67 feet
c. Fingerpier N/A

SIZE OF:
a. Pilings 8 inches
b. Stringers 3x8 inches
c. Cross Sill 2x8 inches
d. Bracing 3x4 inches
e. Decking 2x12 inches

DISTANCE BETWEEN:
a. Pilings (horz.) 4 feet
b. Pilings (perp.) 15 feet
c. Stringers 4 feet
d. Bracing 15 feet

D. STRUCTURAL EVALUATION

Minor ice damage due to lifting of piling in middle of dock

E. REQUIRED MAINTENANCE

Redrive piling when possible

Waterfront Structures - Minimum Specifications

Introduction

Establishing minimum design standards for waterfront structures can prevent inadequate construction and premature failure of town owned structures. The criteria presented below are intended to provide guidelines for construction and are not meant to be used as an actual design.

Minimum Specifications for Bulkheading

Material Dimensions

Wales	6x8 Inches
Sheathing	2x10 or 2x12 Inches
Piles	12" Butt Measurement
Tie Rods	3/4" Diameter
Capboard	2x10 or 2x12 CCC treated

Structural Guidelines

Typical Bulkhead, Elevation and Plan View

Typical Bulkhead, Sectional View

Typical Bulkhead, Pile Layout

Typical Bulkhead, Flankwall Elevation

Typical Bulkhead, Connection to Existing Bulkhead

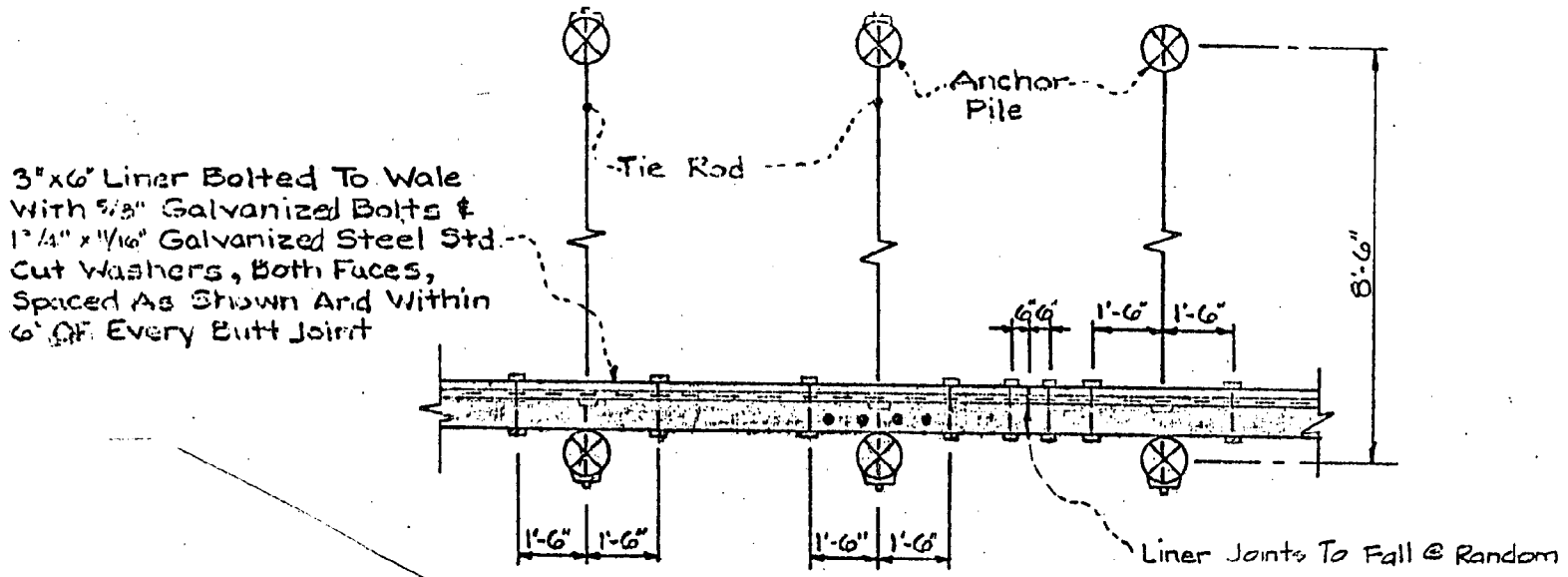
Butt Block, Detail

Outfall Pipe Sleeve, Detail

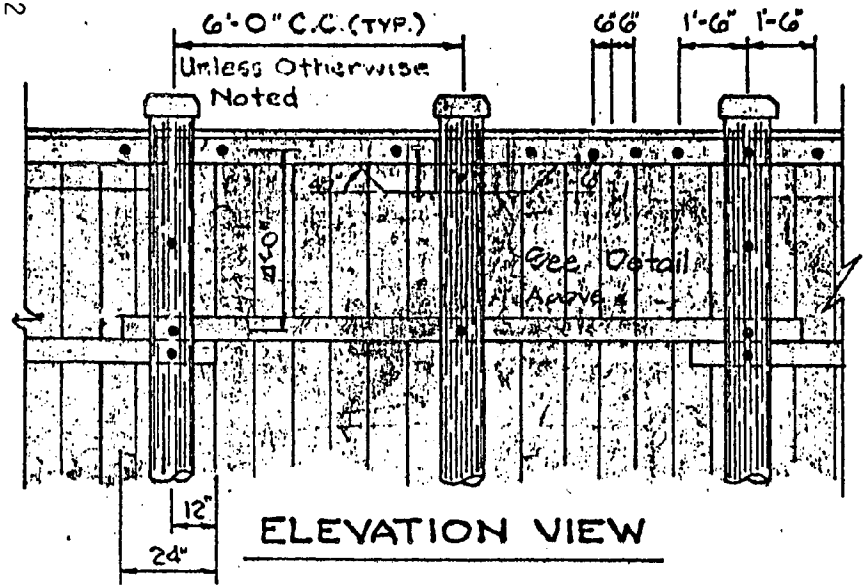
Cantilevered Bulkhead, Sectional View

Cantilevered Bulkhead, Elevation View

Cantilevered Bulkhead, Wale Details



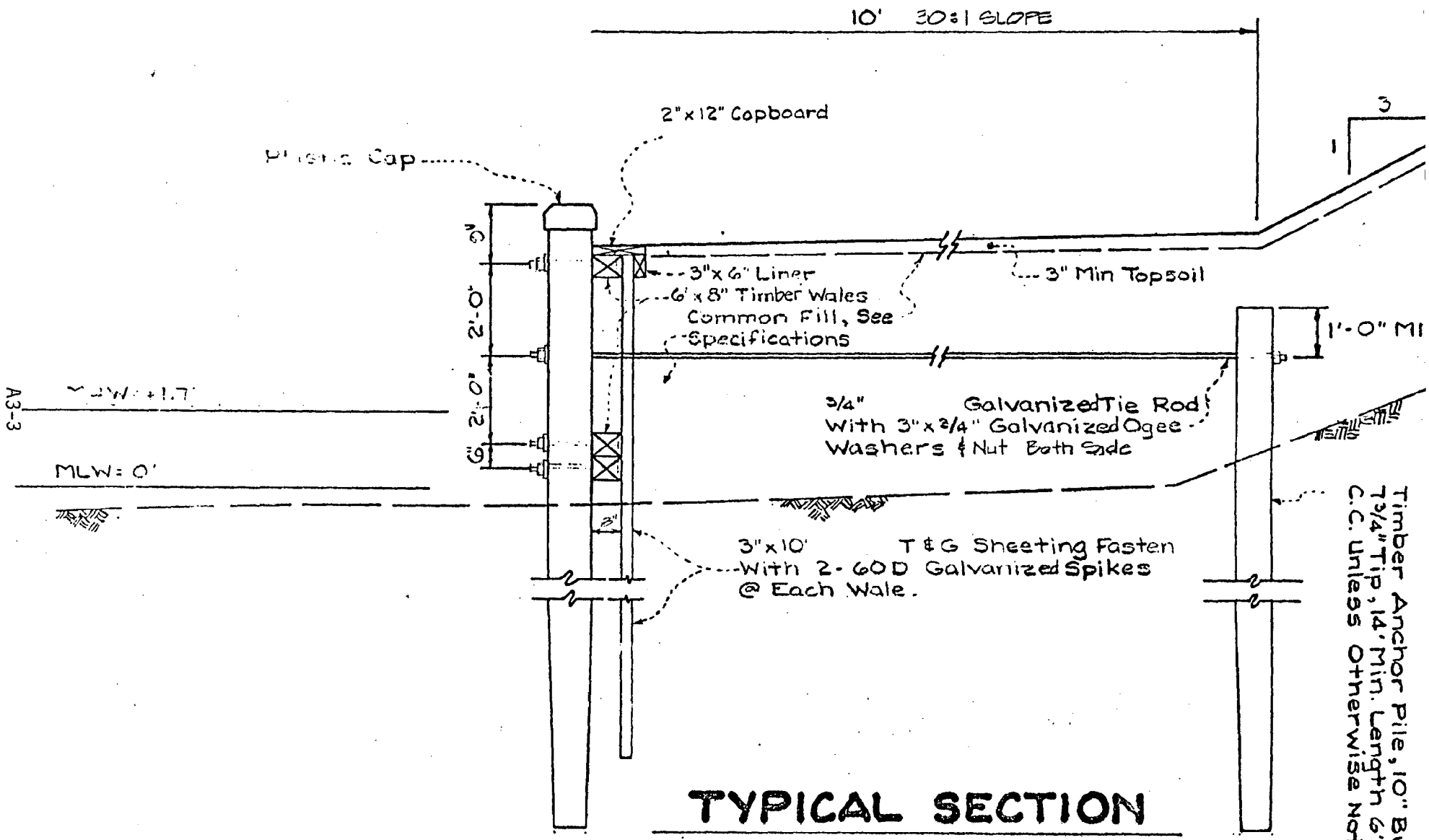
PLAN VIEW



ELEVATION VIEW

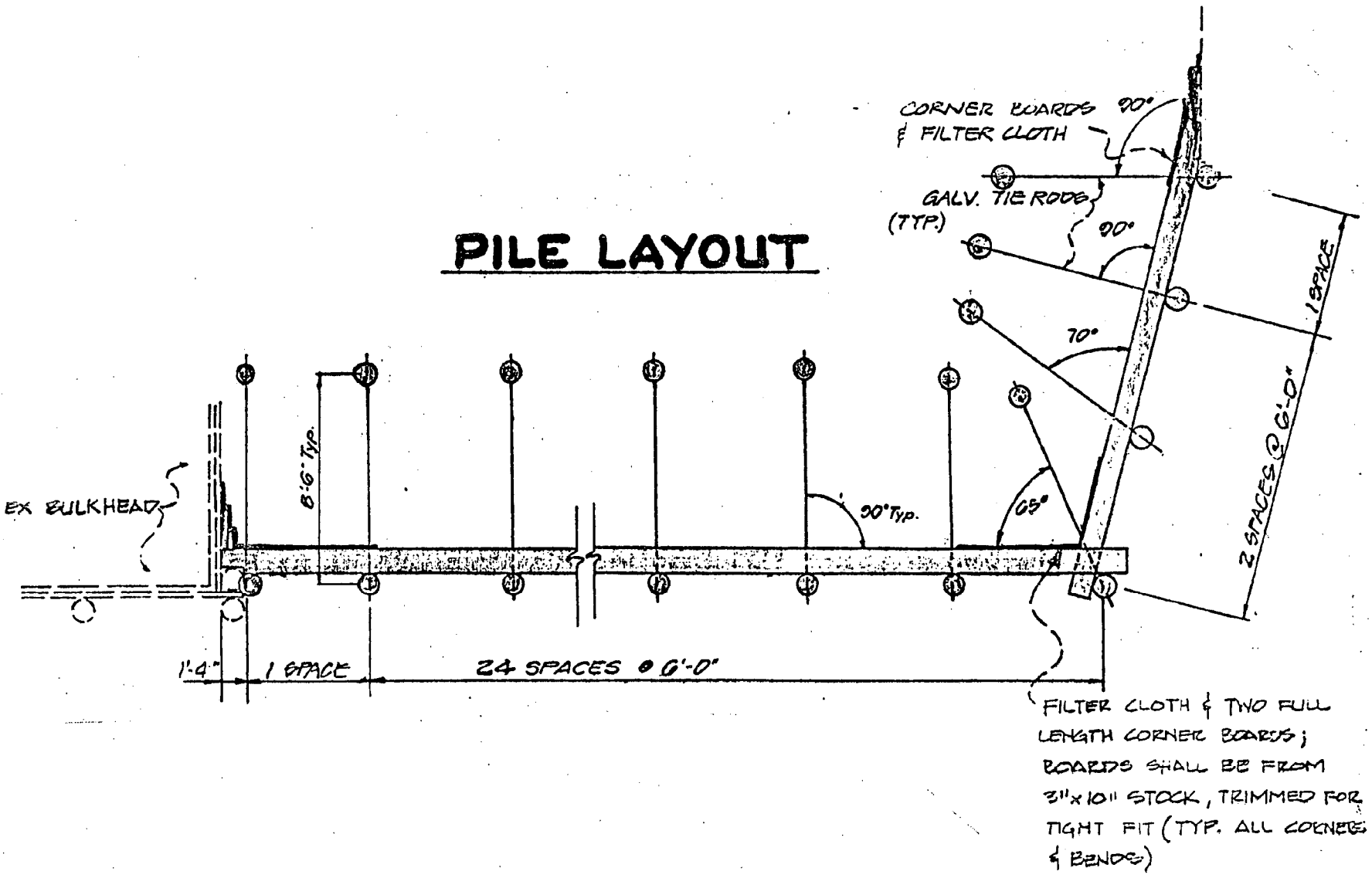
NOTE:
Stagger Joints Upper & Lower Wales
Splices To Fall @ Piles Only.

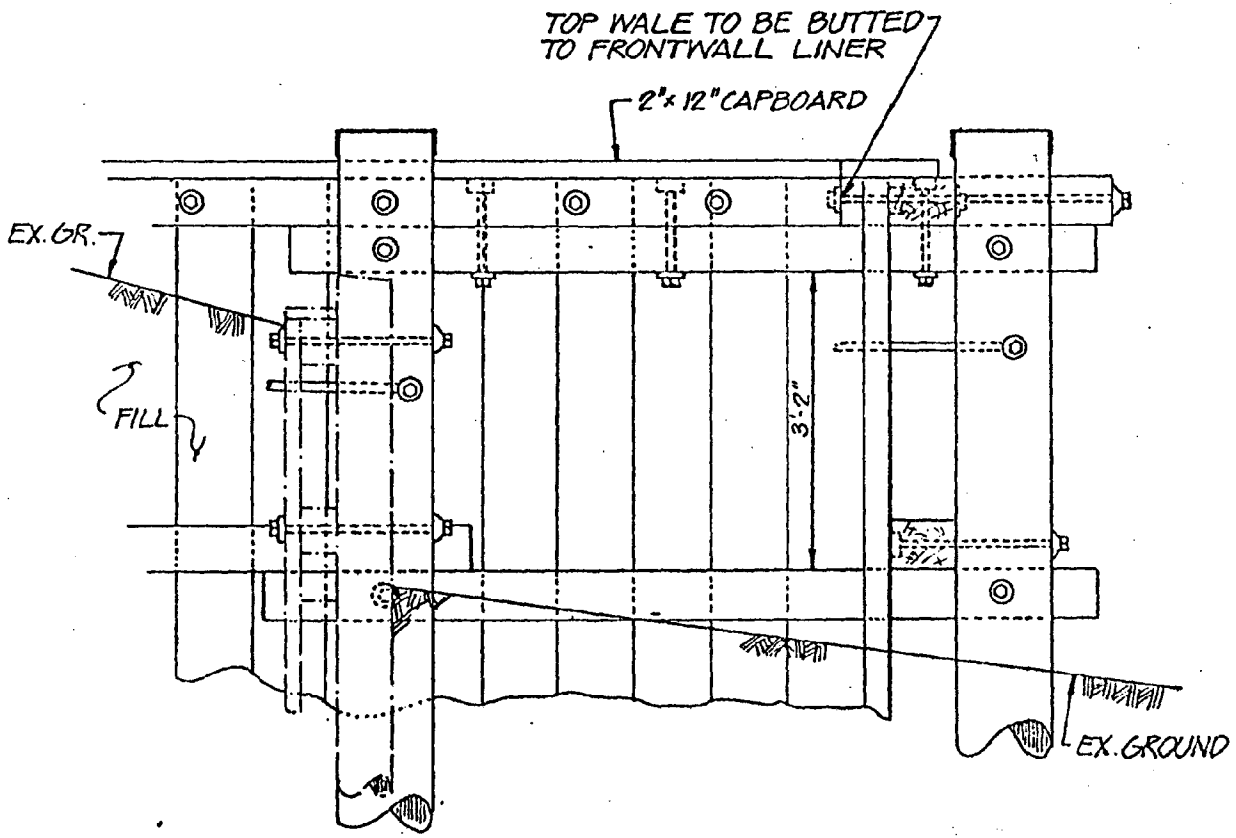
A3-2



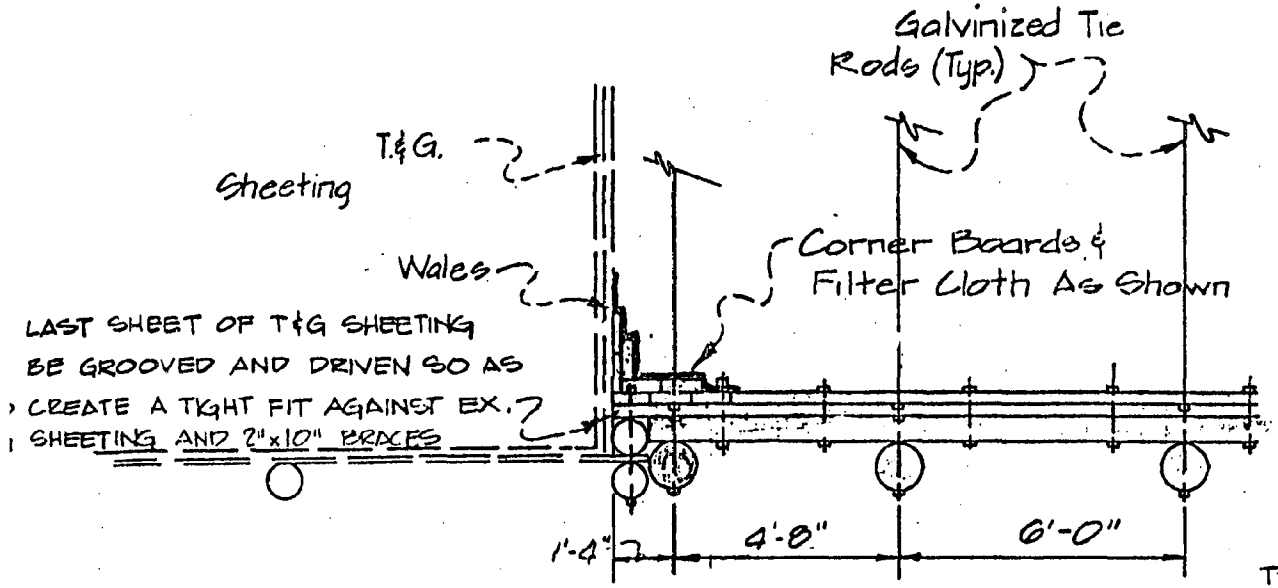
TYPICAL SECTION

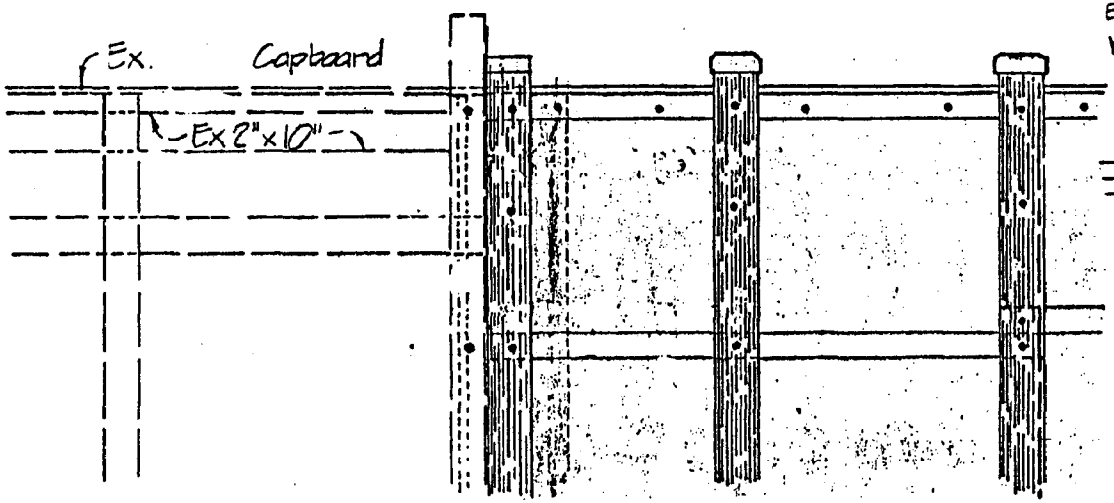
PILE LAYOUT


CORNER BOARDS & FILTER CLOTH
90°
GALV. TIE RODS (TYP.)
90°
1 SPACE
70°
2 SPACES @ 6'-0"
EX BULKHEAD
8'-6" Typ.
90° Typ.
65°
1'-4"
1 SPACE
24 SPACES @ 6'-0"
FILTER CLOTH & TWO FULL LENGTH CORNER BOARDS; BOARDS SHALL BE FROM 3"x10" STOCK, TRIMMED FOR TIGHT FIT (TYP. ALL CORNERS & BENDS)

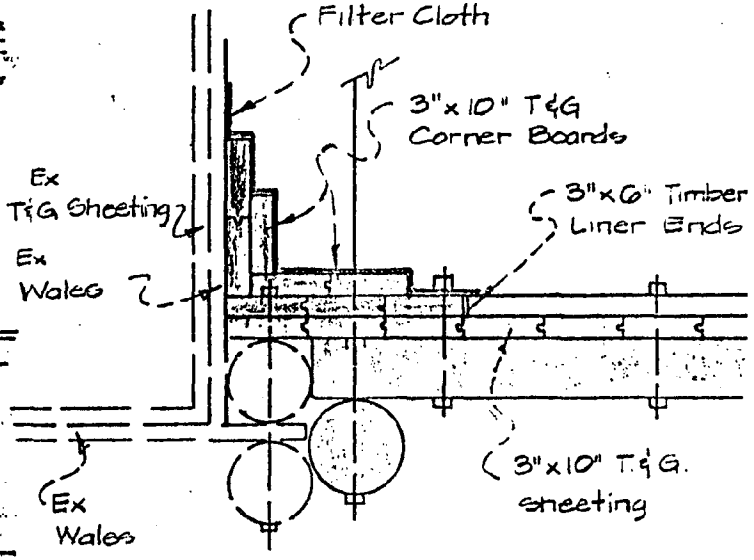


FLANKWALL ELEVATION

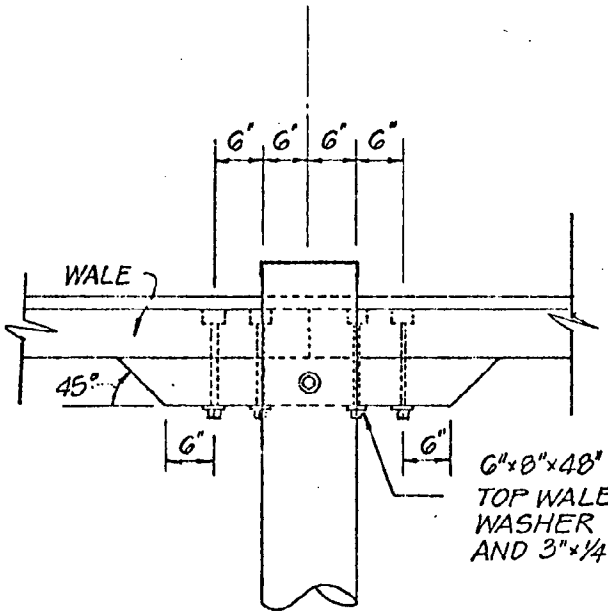




CONNECTION OF EXISTING BULKHEAD

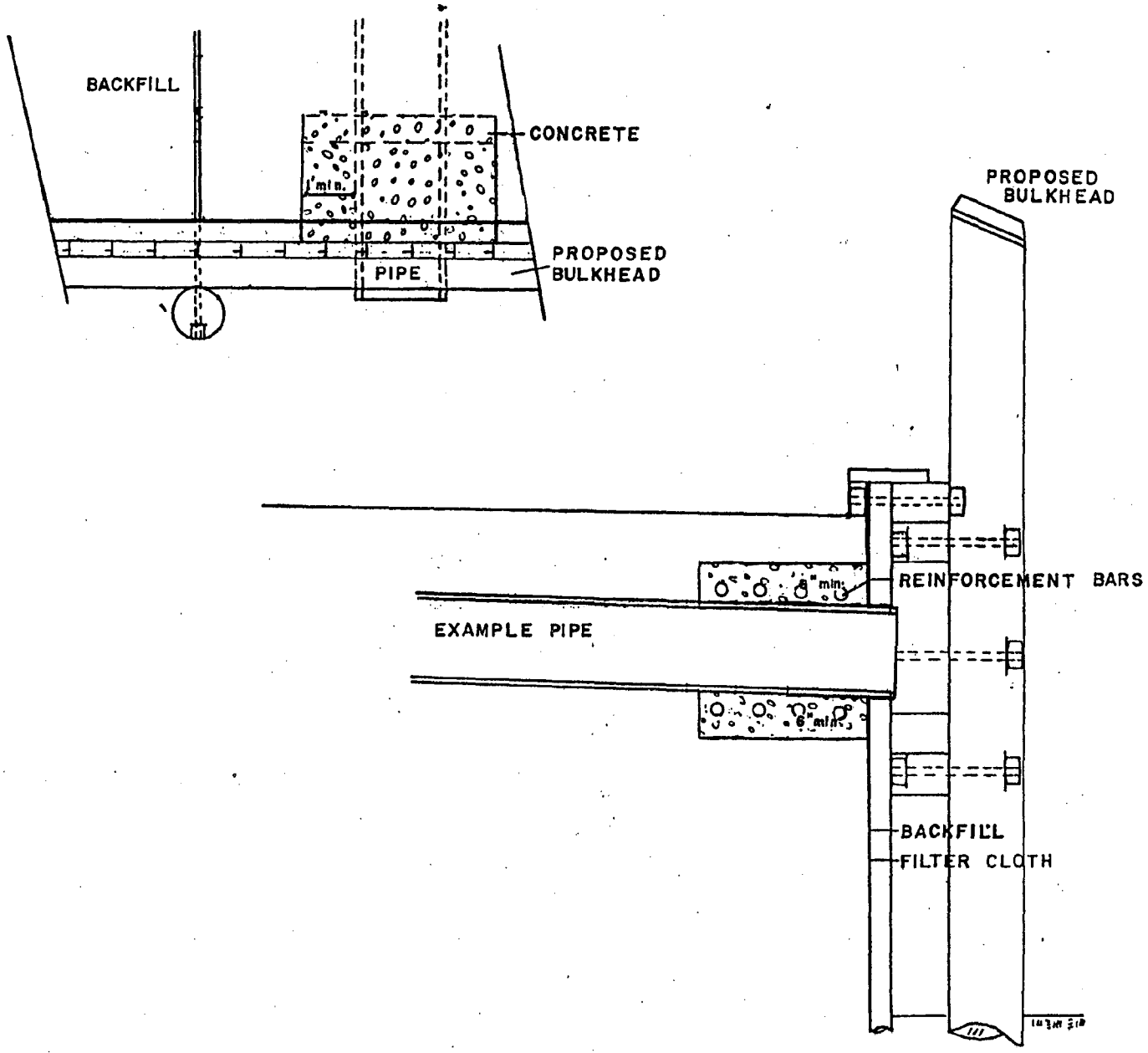


DETAIL AT END OF BULKHEAD

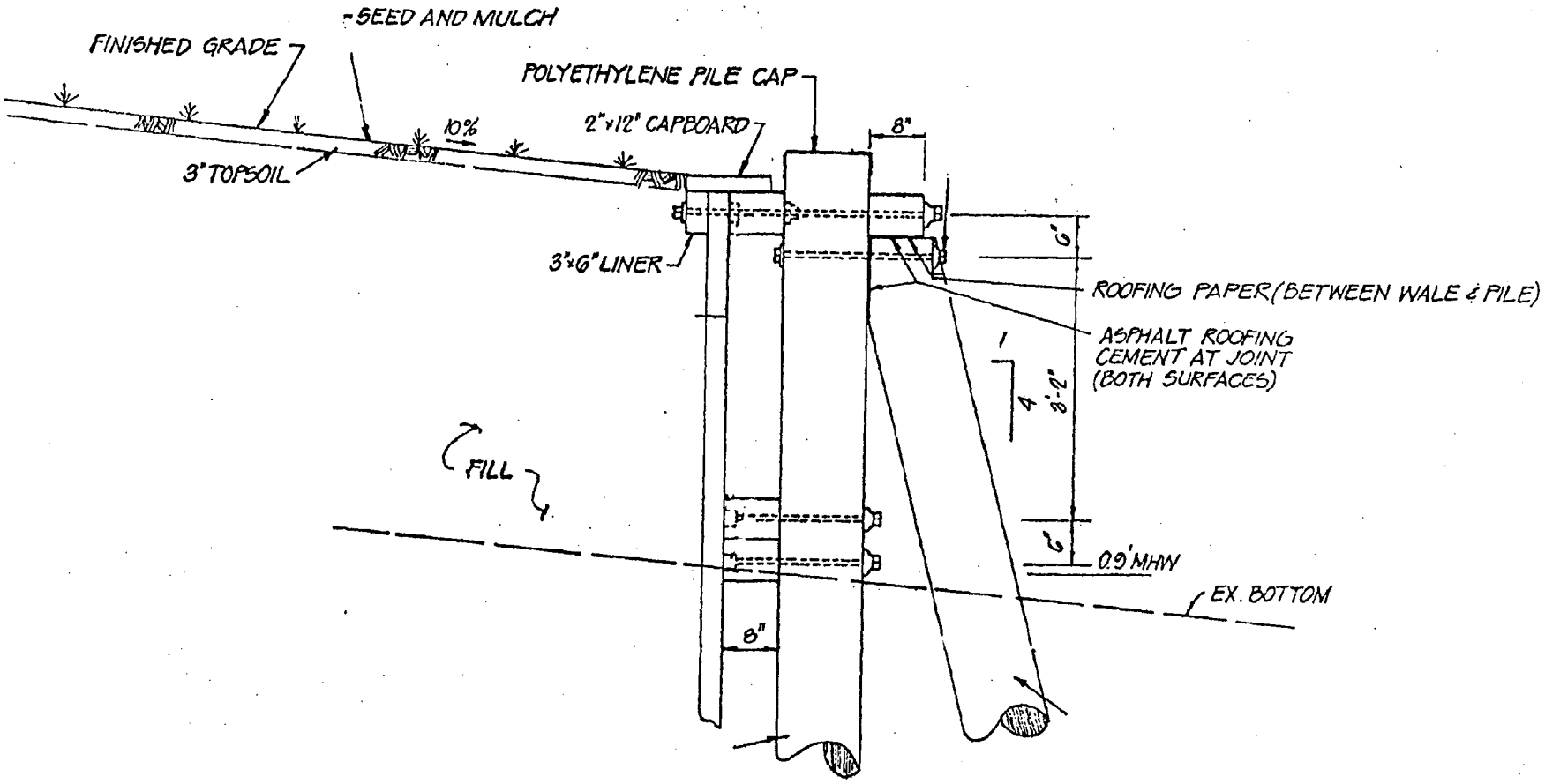


6"x8"x48" TIMBER BUTT BLOCK BOLTED TO TOP WALE W/ 3/4" BOLTS AND 3"x1/4" NYDD WASHER COUNTERSUNK IN WALE AND NUT AND 3"x1/4" NYDD WASHER ON BOTTOM.

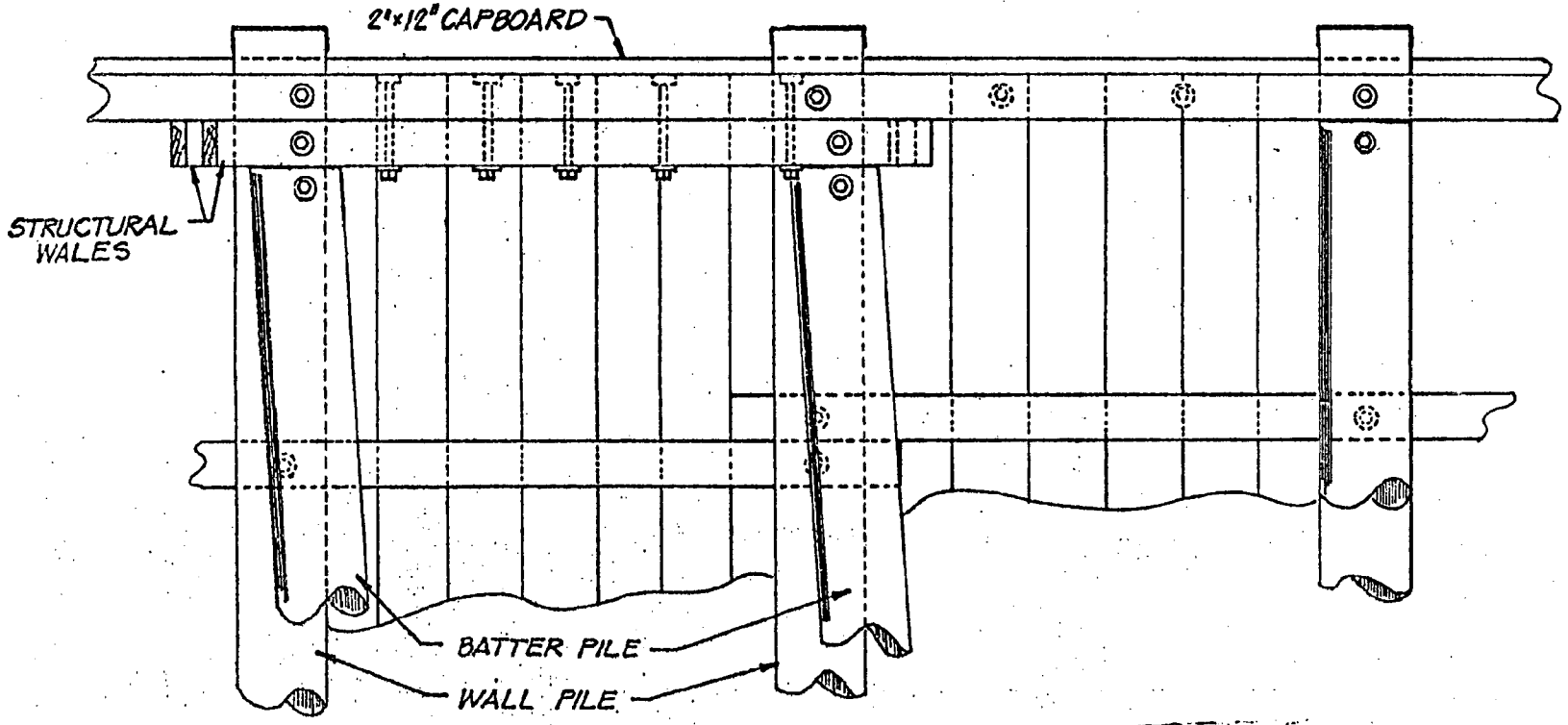
BUTT BLOCK DETAIL



OUTFALL PIPE SLEEVE

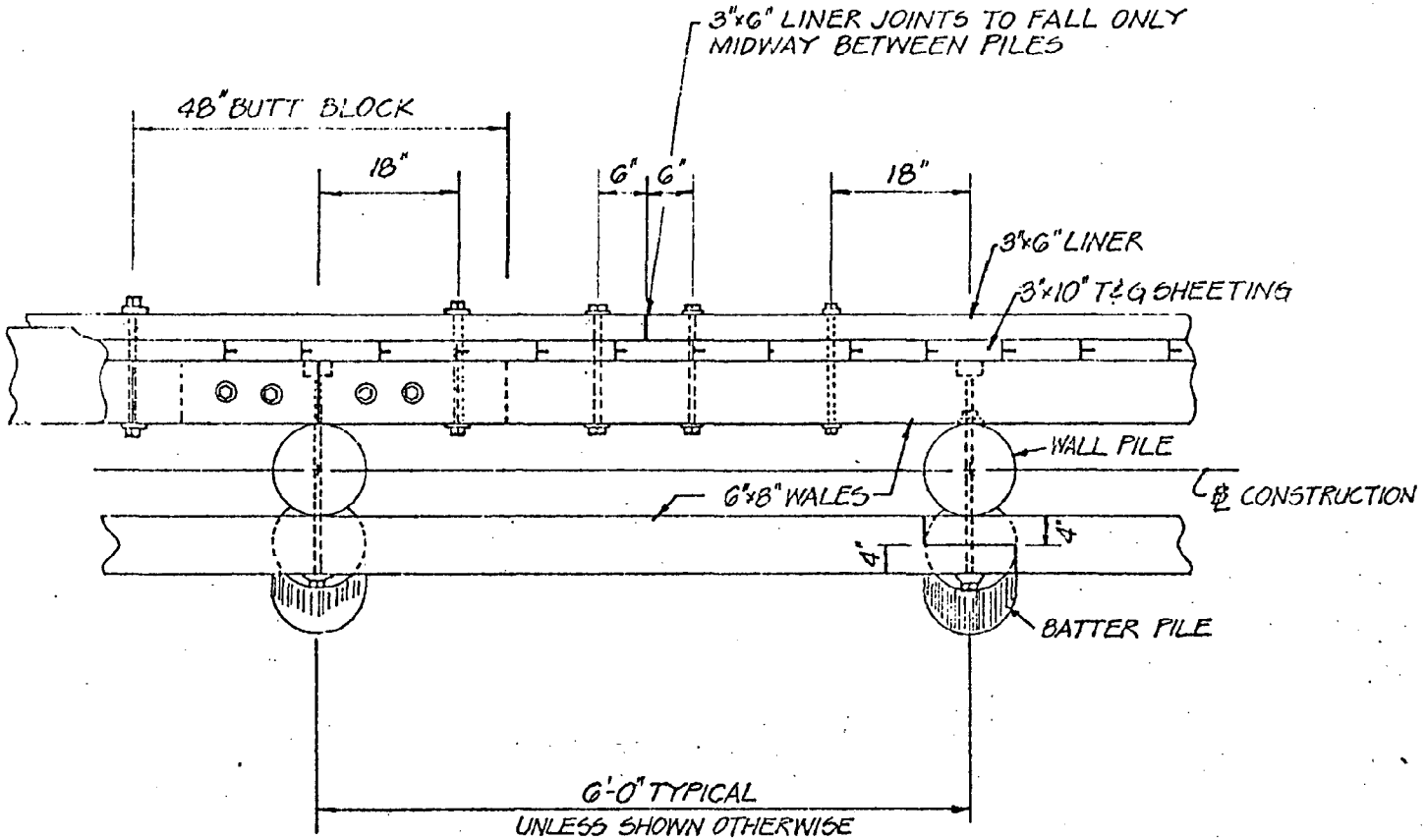


TYPICAL SECTION



ELEVATION

FRONTWALL BEND DETAIL



TYPICAL WALE DETAILS

BOARD MEETING:
2ND AND 4TH WEDNESDAY OF EACH MONTH

226-5122

ALL ACCOUNTS PAYABLE AT OFFICE

COMMISSIONERS OF OXFORD

OXFORD, MARYLAND 21654

August 26, 1980

Mr. Anthony D. Redman
County Planner
Talbot County Planning Office
County Building
Easton, Maryland 21601

Dear Mr. Redman:

We are pleased to advise you that we have selected your office to carry out the waterfront planning program for Oxford along the lines described in your proposal.

Our thanks to you and Mr. Hutto for your help in organizing the proposal and presenting your ideas to us.

Sincerely,

COMMISSIONERS OF OXFORD

James R.M. Farmar (P.S.H.)

James R.M. Farmar
President

cc. Board of Port Wardens

TALBOT COUNTY PLANNING OFFICE
COURT HOUSE
EASTON, MARYLAND 21601
PHONE 301-822-2030

ANTHONY D. REDMAN
Planner

DEBORAH A. BAKER
Zoning Administrator

November 12, 1981

Fletcher Hanks, Chairman
Oxford Harbor Management Study Committee
Oxford Town Office
Oxford, MD 21654

Dear Sir:

Presented herewith is the Final Draft of the Recommended Oxford Harbor Management Plan as requested in Appendix "B" (Oxford Harbor Management Plan - Scope of Work) of the Third Party Contract (#7-78-440)-81 entered into by myself and the County Council of Talbot County on May 26, 1980.

This study has been prepared by myself with assistance from the Talbot County Planning Office Staff under the supervision of your committee.

I have appreciated the opportunity to work with the Harbor Management Study Committee during the last year and hope that this document will provide you with the guidance and assistance requested.

Sincerely,

James M. Hutto

James M. Hutto, Project Planner
Oxford Harbor Management Plan

encl.
c.c. Dave Thompson, Town Attorney
Anthony D. Redman, County Planner
William J. Holt, Jr., Committee Member
Arthur D. Welton, Committee Member
Edmund A. Stanley, Jr., Committee Member

TALBOT COUNTY PLANNING OFFICE
COURT HOUSE
EASTON, MARYLAND 21601
PHONE 301-822-2030

ANTHONY D. REDMAN
Planner

DEBORAH A. BAUER
Zoning Administrator

February 11, 1982

Town Commissioner
Attn: Fletcher Hanks, President
Oxford Town Office
Oxford MD 21654

Gentlemen:

As you may recall, our recent efforts to develop the Recommended Harbor Management Plan for Oxford and Town Creek were funded by contract with the Tidewater Administration within Maryland's Department of Natural Resources. The Coastal Resources Division staff, within the administration, has reviewed the final draft of the proposed plan and has recently forwarded their comments to me. (See attached).

Dr. Sarah Taylor, Director of the Division has requested that staff comments be taken into consideration by those responsible for future implementation of the plan. I have reviewed their comments and feel they are supportive of the Board of Port Wardens work efforts to date.

Based on discussions with Jim Hutto and David Thompson it is my understanding that provisions for existing marine facilities are already provided in the proposed zoning changes, similar to those recommended in the attached letter. In addition, Corps of Engineers recognition of harborlines, when adopted, should improve future coordination between the Town and Corps, concerning respective permitting functions within Town Creek.

If I can be of assistance to you concerning this matter or in other community functions, please feel free to contact me at your convenience.

Very truly yours,

TALBOT COUNTY PLANNING OFFICE

Tony Redman

Anthony D. Redman
County Planner

ADR/jc
encl.
c.c.Board of Port Wardens
David Thompson, Town Attorney
Sarah J. Taylor, Ph.D.
James Hutto

JAMES B. COULTER
SECRETARY

LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TIDEWATER ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401

(301) 269-2784

January 26, 1982

Mr. Tony Redman, Director
Talbot County Planning Office
County Office Building
Easton, Maryland 21601

RE: Oxford Management Plan Review

Dear Tony:

We are in receipt of and have reviewed the "Final Draft of the Recommended Oxford Harbor Management Plan." It is the opinion of the Coastal Resources Division staff responsible for reviewing the plan that the Final Draft adequately addresses key Coastal Zone concerns relating to the development and operation of Town Creek Harbor.

In your role as contract manager for this project I am requesting that the following comments be taken into consideration and directed to those individuals chiefly responsible for implementation of the plan.

1. Recommended Zoning changes for Management of Waterfront Structures; pg. IV - 27 section 4; Pre-existing Uses. It is our understanding that the proposed zoning changes will, if accepted, be incorporated into the existing Town zoning ordinance. Not having the opportunity to review the zoning ordinance in its entirety the staff felt that certain provisions should be added in the absence of language specifically relating to procedures for the handling of permit approvals granted prior to the adoption of the proposed zoning changes. Specifically, section 4 should be amended as follows:

   4. Pre-existing Uses and Approvals: Any marine facilities lawfully existing at the time of the adoption of this Regulation may continue to be used though such marine facility or use does not conform to use or dimensional regulations as herein defined. Any marine facilities lawfully approved prior to the time of adoption of this Regulation, but not constructed at the time of adoption of this Regulation may be constructed according to prior approvals though such marine facility or use does not conform to use or dimensional regulations as herein defined.

2. Recognition of the Plan. Those individuals responsible for implementation of this plan are encouraged to officially recognize the plan by resolution or other similar actions.

3. Harborlines Recognition by Army Corps of Engineers. Those individuals responsible for implementation of this plan are encouraged to apprise the Army Corps of Engineers of their intention to adopt harborlines to control waterway construction activities and to request the Corps to formally recognize these harborlines.

I would appreciate receiving a copy of any correspondance to the Town of Oxford concerning these comments.

Thank you for your attention to this matter.

Sincerely,

Sarah J. Taylor, Ph.D.
Director, Coastal
Resources Division

SJT:rrc

HARBOR MANAGEMENT ORDINANCE

COMMISSIONERS OF OXFORD

ORDINANCE NUMBER 173

INTRODUCED BY: The Commissioners

DATE OF INTRODUCTION: April 27, 1982

A BILL ENTITLED AN ORDINANCE TO PROVIDE FOR THE MANAGEMENT, CONTROL AND REGULATION OF CONSTRUCTION, DEVELOPMENT, NAVIGATION, CONGESTION, IN AND AROUND, AND THE QUALITY OF, THE MUNICIPAL WATERS OF OXFORD, MARYLAND.

PREAMBLE AND LEGISLATIVE HISTORY

WHEREAS, the Commissioners of Oxford have heard the concerns of the Community for many years with respect to the care, maintenance, and preservation of Town Creek as a useful harbor and a public resource, available to all members of the public; and

WHEREAS, the Commissioners of Oxford have heretofore created and appointed a Board of Port Wardens to consider the issuance of permits for the placement and erection of structures within the waters of the municipality; and

WHEREAS, in the course of performing their duties, the Port Wardens have developed certain expertise concerning the conditions and problems of the waters within and adjacent to the Town of Oxford; and

WHEREAS, the Commissoners of Oxford have appointed the Port Wardens, together with one of the Commissioners as a Harbor Study Committee, to study the various problems and considerations essential to the continued viability of the waters of Oxford and its harbor known as Town Creek as an efficient and attractive harbor in which the interests of all users are considered; and

WHEREAS, the Harbor Study Committee has commissioned a professional study of Town Creek, together with a survey of said creek; and

WHEREAS, the harbor management proposal developed as a result of that study has been made available to the public, and recommendations and comments from the public including numerous riparian owners and users of the water bodies in question have been received and discussed at at least five public meetings called by the Commissioners; and

WHEREAS, the Commissioners of Oxford have reviewed and considered the following plans and studies: Recommended Oxford Harbor Management Plan, prepared by James M. Hutto with the participation of the Talbot County Planning Office and the Oxford Harbor Management Study Committee, dated November 12, 1981; and Marinas and Recreational Boating, Talbot County, Maryland, by Anthony D. Redman, County Planner, with the participation of the Talbot County Planning Office; as well as more general sources; and

WHEREAS, it has been recommended to the Commissioners, all of whom have life long, first hand experience with the Town of Oxford and its waters and harbor, that regulations be adopted to provide for an orderly and managed approach to development, conversion of existing open space, dredging, filling, and placement of structures, buoys, moorings, and floats in, over and upon the waters of the municipality, in order to facilitate navigation within the harbor, to preserve the quality of water in the harbor, to eliminate unnecessary hazards to the health, safety and welfare of persons and property in, upon, and around the harbor, and to preserve the historical access and navigability of the harbor to sailing craft, to avoid increasing congestion, and to preserve the natural charm and character which the harbor contributes to the quality of

life in the Town of Oxford, and to minimize any adverse impact of increasing harbor use upon the land-based facilities of the Town; and

WHEREAS, the Commissioners of Oxford find the following:

1. That there are competing interests for use of the resources and benefits provided by the waters in the Town of Oxford and adjacent thereto, including the harbor known as Town Creek; and
2. Boating traffic and recreational boating use of the waters of the municipality are increasing; and
3. That piers and structures have been steadily proliferating into waters previously open to use by all members of the public; and
4. Construction in and around the municipal waters and harbor area without regulations designed to balance the interests of all users of the waters and harbor, and without measures to control and manage the waters and harbor, will tend to reduce the area available for navigation, fishing, and other activities in and upon the water, and will tend to diminish the charm and character of the municipal waters and harbor area which is an integral part of the charm and beauty of the Town of Oxford, and which is essential to the viability of commerce within the Town; and
5. That increased boat traffic without any measures to control and manage the public waters and related resources within the Town will tend to cause or contribute to pollution of the waters of the municipality by human and animal waste, petroleum products, chemicals, debris and other foreign matter which will create hazards to animal and plant life, to the health, welfare and safety of the lives

and property of residents and visitors to the Town, and to the economic viability of businesses located adjacent to municipal waters; and

6. That the health, safety, and welfare of the residents and visitors to the Town and the continued economic viability of businesses located adjacent to municipal waters are dependent upon high water quality standards in the municipal waters and harbor of the Town; and

7. That the municipal waters and harbor of the Town should remain open to navigation, should be accessible to the residents and visitors of the Town, and should not be unduly congested with marine structures, in order to preserve the charm, character and quality of life in the Town as a residential community, and

8. Whereas, the Maryland Annotated Code, Article 23A, and the Charter of the Town of Oxford empower the Commissioners of Oxford to adopt ordinances which serve the health, safety, and welfare of residents of and visitors to the Town of Oxford.

NOW THEREFORE, BE IT ENACTED BY THE COMMISSIONERS OF OXFORD, pursuant to the authorities set forth above, as follows:

ARTICLE I, (GENERAL PROVISIONS)

SECTION 1: Short Title. This Ordinance shall be known and may be cited as the "Harbor Management Ordinance."

SECTION 2: Background. This Ordinance was passed after full, open and public hearings upon prior notice and opportunity to all interested persons, including riparian property owners, to be heard, and upon the careful consideration by the Harbor Study Committee and The Commissioners of Oxford.

SECTION 3: Purpose: The purpose of this Ordinance is to provide regulations for the orderly management, development, and control of the waters within the corporate boundaries of the Town of Oxford, and the waters adjacent thereto. It is intended to be consistent with and to supplement the provisions of Ordinance 165, by which the Board of Port Wardens was originally created. This Ordinance is not dependent on Ordinance 165, and is intended to apply independently unless the context of a particular section requires otherwise. This Ordinance is not intended to deprive any riparian landowner of any right or privilege associated with riparian ownership of land or ownership or use of any fixed or permanent structure in the harbor which was lawfully installed and lawfully in use prior to the effective date of this Ordinance. The provisions of this Ordinance do not transfer the title or ownership of any waterway or interest in any waterway.

SECTION 4: Applicability: The provisions of this Ordinance and any rules and regulations adopted pursuant hereto shall be applicable, and shall govern, the harbor and waters within the Town of Oxford or adjacent thereto, and all other maritime or marine facilities within the corporate boundaries of the Town of Oxford, or which are otherwise subject to the police power regulations of the Commissioners of the Town of Oxford.

SECTION 5: Severability: If any provisions or applications of this Ordinance are held invalid or inoperative, the remainder shall continue in full force and effect as though such invalid or inoperative provisions had not been made, it being the intent of the Commissioners of Oxford that the Ordinance be operative without any invalid provisions or applications, and to that end, each provision of this Ordinance is hereby declared to be independent and severable.

SECTION 6: Authority: Whenever, by the provisions of this Ordinance an enforcement power is granted to the Board of Port Wardens or an enforcement duty is imposed upon the Board, the power may be exercised or duty performed by a deputy of the Board of Port Wardens or by any other person authorized pursuant to law, unless it is expressly otherwise provided.

ARTICLE II, (DEFINITIONS)

SECTION 7: Definitions: For the purpose of this Ordinance, the following words, terms, phrases, and their derivations, shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future tense, words used in the plural number include the singular number, words used in the singular number include the plural number, and pronouns of any gender shall include all other genders. The word "shall" is always mandatory and not merely directory.

a. Anchor: To secure a watercraft to the bed of a body of water by dropping an anchor or anchors or with a buoy or other ground tackle.

b. Beach: Shall mean a public or private beach, including areas of rip rap, bulkhead, or other material, bordering the waters of the municipality.

c. Bulkhead: A structure or partition to retain or prevent sliding of the land into the water, or to protect the fast land from wave or tidal action.

d. Channelward: Toward the center of the body of water, river, waterway, creek or cove, or toward any dredged channel therein.

e. Distress: Shall mean a state of disability or a present or obviously imminent danger which if unduly prolonged could endanger life or property.

f. Emergency: Shall mean a state of imminent or proximate danger to life or property in which time is of the essence.

g. Facilities: Shall mean any and all facilities of a harbor or maritime facility either publicly or privately owned that are intended primarily to be used by or for the service of small craft (including ramps, hoists, parking areas, leased water areas, concessions and service facilities) located on land or in the waters of the municipality.

h. Fairway: Shall mean the parts of a waterway kept open and unobstructed for navigation.

i. Fishing: The term fishing includes commercial and recreational fishing, crabbing, or otherwise harvesting fin fish, shell fish, or crabs.

j. Float: Shall mean any floating structure normally used as a point of transfer for passengers and goods and/or for mooring purposes, but shall not include floats used in the painting and repair of vessels.

k. Harbor: All tidal waters within Town Creek which are within the corporate limits of the Town of Oxford, and all waters adjacent thereto.

l. Harbor Line: The line defining the maximum channelward limits for the placement or construction of structures, piles or moorings to be installed or placed in the harbor, which line is shown and delineated on the attached harbor line map.

m. Harbormaster: An officer of the Town who enforces the regulations respecting the use of the harbor, the municipal waters and facilities therein, after being appointed by the Commissioners of Oxford.

n. Moor: Shall mean to secure a vessel other than by anchoring.

o. Mooring: Shall mean (1) a place where buoyant vessels are secured other than a pier; (2) the equipment used to secure a vessel; and (3) the process of securing the vessel other than by anchoring.

p. Public Area: Shall mean all areas of the harbor and municipal waters except those areas under specific lease to private persons or firms or owned privately.

q. Slip: Shall mean berthing space for a single vessel alongside a pier, finger float, or walkway, or other structure.

r. Shore: Shall mean that part of the land in immediate contact with a body of water, including the area between high and low water lines.

s. State: Shall mean the State of Maryland.

t. Waterway: Shall mean any water area providing access from one place to another, principally a water area providing a regular route for water traffic.

u. Waters of the municipality: Means all waters within the corporate boundaries of the Town of Oxford, and all waters in which the tide ebbs and flows adjacent thereto over which the Town of Oxford may exercise zoning or police power authority whether or not the ordinary or mean high tide line has been fixed by ordinance, statute, court action or otherwise and whether or not the lands lying under said tidal water are privately or publicly owned.

ARTICLE III, (GENERAL REGULATIONS)

SECTION 8: Permits, Suspensions or Revocations: All permits granted by the Board of Port Wardens shall be valid only for such period as may be determined by the Board of Port Wardens and permits of unqualified duration shall not be granted. A violation of the provisions of this Ordinance or of any other applicable Ordinance by any permittee shall be grounds for suspension or revocation of any permit or permits issued by any Town agency, department, board, or official. The Board of Port Wardens shall request comment by the

Planning and Zoning Commission concerning zoning requirements applicable to all proposed construction or uses of property within municipal waters. The provisions of Oxford's zoning ordinance shall be taken into account before any permit is issued by the Board of Port Wardens. It shall not be necessary for any applicant to seek a separate building permit from the Planning and Zoning Commission.

SECTION 9: Damage to Harbor or Other Property: It shall be unlawful to willfully or carelessly destroy, damage, disturb, deface or interfere with any public or municipal property in or adjacent to the waters of the municipality.

SECTION 10: Signs, Buoys, and Markers, erection and maintenance: The Board of Port Wardens may place and maintain, or cause to be placed and maintained, either on land or water, such signs, notices, signal buoys, markers, or control devices as they deem necessary to carry out the provisions of this Ordinance, or to secure public safety and the orderly and efficient use of the waters of the municipality, including the designation of anchorage or mooring areas, provided, however, that no public funds shall be expended unless specifically approved by the Commissioners.

SECTION 11: Swimming and Water Skiing: Swimming and water skiing in the waters of the municipality may be regulated by the Board of Port Wardens, subject to approval of said regulations by the Commissioners of Oxford.

SECTION 12: Structures, Construction of: Within or on the waters of the municipality, no person may place, erect or construct any bulkhead, wharf, or pier, or carry out any earth or other material for the purpose of building a wharf or pier, nor shall any person place or erect mooring piles, floating wharves, buoys, anchors or other obstructions, or carry out any dredging, or

alter the natural shoreline, without a valid permit issued by the Board of Port Wardens. The placement, erection, or construction of structures or other barriers within or on the waters of the municipality without a permit from the Port Wardens, or the building of any wharf or pier a greater distance into the waters of the municipality, or in a different form, or of different materials than determined and allowed by the Port Wardens, is a municipal infraction as described in Article 23A, §3, Annotated Code of Maryland. A fine of $100.00 shall be imposed for each conviction for a violation of this section. Each day in violation shall be considered a separate offense and subject to separate citations. A fine of $200.00 shall be imposed for each repeat offense.

SECTION 13: In the event that any structure, pile, mooring, float, or other device of a stationary nature, is erected or placed within the waters of the municipality without a permit from the Board of Port Wardens, the Port Wardens may, after reasonable notice, have said structure, pile, mooring, float, or other device removed from the municipal waters. The owner, agent, lessee, or other person, entity, or organization who places or erects any object described herein, or who permits or directs the placement or erection, shall be responsible for the costs of removal.

ARTICLE IV, (REGULATIONS CONCERNING ANCHORING, MOORING AND SECURE BERTHING OF VESSELS)

SECTION 14: Placement of Moorings: It shall be a municipal infraction with the penalties as set forth in Section 27, to place any mooring in the harbor without a permit from the Board of Port Wardens.

SECTION 15: Obstructing Channels: It shall be a municipal infraction with the penalties as set forth in Section 27 knowingly or willfully to obstruct the free use of any channel, fairway, or waterway within the harbor.

SECTION 16: Secure Berthing and Anchoring of Vessels: The owner of any vessel moored or anchored within the municipal waters shall be responsible for causing such vessel to be at all times tied and secured or anchored with proper care and equipment and in such manner as may be required to prevent breakaway and resulting damage.

SECTION 17: Unseaworthy Vessels Prohibited in Harbor: A person shall not moor or permit to be moored in any harbor a vessel which is unseaworthy or in a badly deteriorated condition or which is likely to sink or to damage docks, wharves, floats or other vessels or which may become a menace to navigation, except in cases of distress or emergency when reasonable precautions for the safety of the persons and property of others have been taken.

SECTION 18: Obstructions of Fairways, Channels or Berthing Spaces and Removal of Sunken Vessels: It shall be a violation of this Ordinance and a municipal infraction as set forth in and with the penalties in Section 27 to tie up or anchor a vessel in the waters of the municipality in such a manner as to obstruct the fairways or channels or to prevent or obstruct the passage of other vessels; or to voluntarily or carelessly sink or allow to be sunk any vessel in any channel, fairway, berthing space; or to float loose timbers, debris, logs or piles in any channel, fairway, or berthing space in such a manner as to impede navigation or cause damage to vessels therein; or to fail to remove any sunken vessel after having been requested to do so by the Board of Port Wardens.

ARTICLE V, (SANITATION REGULATIONS)

SECTION 19: Discharge of Refuse: It shall be a violation of this Ordinance to discharge or permit the discharge into the waters of the harbor of any refuse or waste matter, petroleum or petroleum matter, paint, varnish or any other noxious chemical or foreign matter of any kind.

SECTION 20: Use of Vessel as Abode: Living aboard vessels in the harbor is prohibited except as may be specifically authorized by permit issued by the Board of Port Wardens. In this regard, the Port Wardens shall consider whether there are adequate systems being used for the removal of wastes, refuse and other debris from such a vessel so as to insure that the public waters are protected. An inspection of any such vessel by the Board of Port Wardens or its designee shall be conducted before any permit is issued. If the Port Wardens shall find the systems referred to above to be adequate to protect the public waters, the applicant shall be entitled to a permit which may be renewed every six months. The Port Wardens may establish a reasonable fee for such permits. For the purpose of this section, the term "living aboard" means the use of a vessel as a primary residence or domicile within the waters of the Town of Oxford for a period or periods exceeding in the aggregate sixty days in a year.

SECTION 21: Responsibility for Sanitation of Facilities: The Owner and any lessee, agent, manager or person in charge of a facility, beach, or water area owned, controlled or under lease shall at all times maintain the premises under his charge or control in a clean, sanitary condition, free from malodorous materials and accumulations of garbage, refuse, debris, chemicals and any other waste materials. The Board of Port Wardens shall have the authority to enter

any facility for purposes of inspection to determine or verify the existence of the conditions described herein. Should the Board of Port Wardens find that any premises are not being maintained free from the conditions described above, the Board may order any owner, lessee, agent, manager or other person in charge of said facility or area to immedately commence and diligently prosecute to completion the necessary correction of the unsanitary condition to the satisfaction of the Board of Port Wardens. Failure to do so with reasonable dispatch after notice shall be a violation of this Ordinance, and the Board of Port Wardens may then cause said condition to be corrected and the cost of such correction shall be charged to said owner, lessee, agent, manager or person in charge, who shall be liable for the payment of such charges.

ARTICLE VI, (HARBOR LINE)

SECTION 22: Harbor Line: Attached hereto as a part hereof is a harbor line map entitled "Oxford Harbor Line Map," consisting of two sheets, each showing a different part of Town Creek. Said harbor line map, with all notations, dimensions, references, and other data shown thereon is intended to be a part of this Ordinance, and shall be identified by the attestation of the Clerk-Treasurer of Town of Oxford and the signature of the President of the Commissioners.

SECTION 23: No structures channelward of harbor line: It shall be unlawful for any person, firm, entity, or organization to place any structure, piling, mooring or other device of a stationary nature channelward of the harbor line as shown on the attached map.

SECTION 24: No variance from harbor line: In no case shall the Board of Port Wardens issue a permit for the placement or erection of any structure,

piling, mooring, or other device of a stationary nature channelward of said harbor line. The location of the harbor line shall not restrict the authority of the Board of Port Wardens to further limit or proscribe the placement or erection of structures, piles and/or moorings, or other devices of a stationary nature, on a case by case basis upon consideration of the factors set forth elsewhere herein or in Ordinance 165 of the Town of Oxford.

SECTION 25: Basis of harbor line: The harbor line delineated on the attached map is based upon the location of structures lawfully in existence at the effective date of this ordinance, the configuration of the shoreline, the depth of the water, the traffic frequency and density and potential for congestion in the particular part of Town Creek affected by the harbor line, and the need to preserve open space for use by the public generally and for use by the sailing craft historically attracted to Town Creek. In addition, the harbor line is intended to balance the interests of the boating public, fishermen and crabbers, riparian owners, marina and boatyard owners and operators, and residents of and visitors to the Town of Oxford who enjoy access to and use of Town Creek.

SECTION 26: Pre-existing structures; grandfather provision: Any structures in existence which are lawfully constructed and in place upon the effective date hereof shall be considered lawful, and may be repaired or replaced within one year after any accidental destruction. Any structures not lawfully constructed or in place at the time of the adoption hereof, or which are more than 50% destroyed and not repaired or replaced within a year, shall conform to the provisions of this Ordinance in all respects. This provision is not intended to prevent routine maintenance or replacement of nonconforming structures.

ARTICLE VII, (VIOLATIONS)

SECTION 27: Violations (General Penalty): No person, firm, entity or organization shall violate the provisions hereof, nor shall any person, firm, entity or organization knowingly permit a person using its facilities to violate any provision hereof. Violations hereof, including knowingly permitting violations, shall be considered municipal infractions as further defined in Maryland Annotated Code, Art. 23A, §3, and a fine of up to $100.00 shall be imposed for each violation of this Ordinance, unless a more specific penalty is contained in another section hereof. Each day in violation shall be considered a separate offense and subject to a separate citation. A fine of up to $200.00 shall be imposed for each repeat offense by the same person, firm, entity or organization. Any police officer or Harbormaster of the Town of Oxford may issue citations for violation of this Ordinance.

SECTION 28: Violations of Section 9 and 19: Violations of Sections 9 and 19 of this Ordinance shall be misdemeanors. A fine of up to $500.00 and/or imprisonment not to exceed 90 days shall be imposed for each such violation.

SECTION 29: This Ordinance shall be effective upon the date adopted by the Commissioners of Oxford.

Read for the second time and passed this 11th day of May, 1982, after a hearing duly advertised on May 5, 1982 and May 6, 1982 in the Star-Democrat, a newspaper circulated generally in the Town of Oxford.

BY ORDER:

VOTE(Yea/Nea)

Yea
FLETCHER HANKS

Yea
EMORY BALDERSON

Yea
G. W. KOUZOULAS

7B/T