

Program

Coastal Zone Management

NORTH DULUTH AVENUE  
PUBLIC PROPERTY DEVELOPMENT  
FEASIBILITY STUDY  
STURGEON BAY, WISCONSIN

1983

COASTAL ZONE  
INFORMATION CENTER

TC  
333  
.W53  
1983

DONALD C. WIGGINS, P.E.  
14 South Third Avenue  
Sturgeon Bay, Wisconsin

NORTH DULUTH AVENUE  
PUBLIC PROPERTY DEVELOPMENT  
FEASIBILITY STUDY  
STURGEON BAY, WISCONSIN

Property of the Admiralty

U.S. DEPARTMENT OF COMMERCE NOAA  
COASTAL SERVICES CENTER  
2234 SOUTH HOBSON AVENUE  
CHARLESTON, SC 29405-2413

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INTRODUCTION/BACKGROUND:

The City of Sturgeon Bay owns an unimproved breakwater extending into the waters of Sturgeon Bay at the north terminus of Duluth Avenue. It is known as "Bullhead Point". The breakwater extends 350 ft. into the Bay. At about 120 ft. off shore the breakwater widens from a width of 50 ft. to over 175 ft., creating a small protected harbor to the southwest of the breakwater.

The original breakwater structure was constructed in the early 1900's to facilitate the shipping of rock from the quarry immediately west of the property. In accordance with records of historical publications, in the early 1900's, three steel barges were floated into place and sunk off the end of the south side projection. The barges were used as platforms; docks were built over the top, and the sunken barges were used to secure large (long) boats at the end of the land projection. The barges can be seen in the water and show on aerial photographs; the barges are a hazard to boating as parts extend just below water surface (in low water times these parts are exposed).

A new Owner, in the early 1940's, expanded the breakwater structure to receive ship loads of sand to be used in a concrete manufacturing plant located at the old quarry site. In the late 1940's, the property was deeded over to the City. The ownership as part of a lake bed grant, defines or describes the property as 220 ft. of original shore line, and perpendicular to that line a north and south property line extending 500 ft. into the lake. At the northwest, interior corner of the property is a 22 ft. wide neck (strip) of land extending from the property to the center of Duluth Avenue (an access way).

In 1973, the City granted a local sailing group (a club) permission to utilize the property as a harbor for boat launching and storage. A Lease Agreement was drawn up but apparently never executed. The City and the sailing group, cooperating to improve the property, filled and leveled the surface and installed simple launching facilities. The property, being located in the outer bay, is well suited for launching small boats and especially sail boats, due to the direct access to the outer bay and Green Bay. Most other harbors and launching facilities are located in the inner bay, which is limited in size, has restricted access to Green Bay because of the downtown highway bridge and is becoming increasingly congested. The sailing group's activity at the City property, for lack of numbers and help and organization, only lasted a few years; the club is not active at the present time.

The property has several constraints which presently limit the use and capacity of the property to serve the public. The constraints include: the limited area of the property; depth of water in the harbor; hazard

of the sunken barges; steep and narrow access road, and traffic hazard along the public road; aquatic growth in harbor; unstable fill; inadequate parking, ramp, storage; no public utilities or facilities; no maintenance, management, supervision program.

For the last few years, the property has been used by the public as a small boat launching facility and for shore line fishing. Thus use has been quite limited due to the property's unimproved nature and lack of facilities. It is recognized by the local citizens as one of the best shore fishing sites of the Sturgeon Bay area. The neighboring property owners are frequently bothered with late hour parties, noise, leaving of rubbish, and, in general, poor maintenance and appearance.

#### OBJECTIVES:

This study will assess the feasibility of developing the Bullhead Point property for better public use as waterfront access, as a waterfront facility, and for related public use. The study will suggest specific site development plans to guide future City action for improvement and use of this unique coastal resource. The study will conduct an environmental analysis and suggest an implementation and management strategy. The report will aid the City in securing financial assistance to implement a development plan. The study will probably lead to future construction of improvements that will improve the aesthetics and utility of this coastal property.

#### PROCEDURE:

A Professional Consultant, Donald C. Wiggins of Sturgeon Bay, has been hired as an expert in land use, land development, engineering, plans, construction, costs, so as to develop and put together in report form, a study (an answer) for the objectives described above. The Consultant proceeded as follows:

1. Performed a boundry and topographic survey for the property - for the land and for the adjacent water area. An existing site plan (the survey) is attached to the report (Plan No.1 ). The survey was performed by Brey-Stuewe & Braun Survey, Ltd., Sturgeon Bay.
2. Performed an underground, soil, test-boring for the expansion and development area of the property. What is the underground material for excavation, piling, foundations? The answers are given in the attached report, Item H, pages 1 to 12, as performed by STS Consultants, Ltd., of Green Bay.
3. Walked the property and adjacent properties a number of times and examined its topography, features, conditions, materials, use, etc., all as required for evaluation of existing property, and recommendations for development and use in the future.
4. Gathered information, maps, such as attached:
  - a. City map showing location of North Duluth Avenue waterfront property. See Item "A".

- b. Sturgeon Bay and Canal Chart #14919, dated 7/21/79. See Item "B".
  - c. The Library Book, "Hollow Pits Sunken Ships", The Story of Wisconsin's Forgotten Stone Fleet by Alan R. Rowe. See Item "D-1 & D-2".
5. Called on and talked to most of the neighboring property owners; wrote to each (see attached Item "F") and announced that the study was in progress; invited each to come for a visit, to look at preliminary plans, and to give their ideas (suggestions or objections). The location and names of the adjacent properties is attached. See Item "C".
  6. Called on and talked to the approval agencies who will be involved with approval of plans and installations at the Bullhead Point City property. These agencies are:
    - Corps of Engineers - District Office, Kewaunee
    - Mr. Donald Olson, Engineer in charge
    - DNR - Ms Jean Binsfeld, Water Management Specialist, DNR, Green Bay
    - DNR - Mr. Terry Lychwick, Fishery Biologist, Fish Management Office, for Door & Kewaunee County, Sturgeon Bay
    - Harbor Commission, City of Sturgeon Bay - John Tenell, Chairman
    - Urban Planner, Mr. William Chaudoir - Door County, Wisconsin
    - Plan Commission, City of Sturgeon Bay, John Taube, Secretary, Ed Allingham, City Administrator.
  7. Called on, met with, and received information from two young men who had been a part of the sailing group (club) who, in 1973, attempted to improve and use the property for their club's sail boat use and training. The men were Eric Stearn and Scott Derenne. Their experience with use of the property was valuable. Their suggestions for development were valuable - each is an expert sail boat operator. Eric is the son of Sue Stearn who owns the property between the City property and Duluth Avenue. As a practicing attorney, he is the counsel to his mother for future use and development of her property. The water depths in the harbor were received from their records. They had made soundings in the winter (on the ice). This was information which the Consultant was not able to obtain and which he had stated in his Contract Agreement would not be included. The soundings are on the plans. A letter is attached from Eric Stearn, Item "G-1 & 2". Samples of leases used in communities for use of public property for boat facilities, were received from the sail group - see Item "I-1-3" in this report.

#### CONSIDERATIONS:

What are the existing conditions and problems to be considered and solved? What is the best use for the property? The considerations are herewith stated and discussed.

The development plan should be a plan and program compatible with the neighborhood and agreeable to the majority of the property owners of the

neighborhood. It is a development in the front yard of a number of fine lakeshore homes. They should be given consideration. The existing unimproved property, and unmanaged use, is not favorable to the neighborhood; but will a new development be better, bring more people, create more traffic problems? All neighbors favor improvement; being attractive, well managed; and having no structures on the point to obstruct clear vision from the shore. All favor tubes thru the neck of the property so as to clear the aquatic growth that develops each summer in the harbor (water flow is needed). All agree: that a launch ramp for small boats is the proper use; there should not be permanent births, slips; facilities and space should be provided for shore fishermen and people to sit and watch; the City should maintain the property; control use; have hours for use. If the property is developed in this vein, the neighborhood would accept it - if not, they will fight it and that can impede development progress and improvement for everyone's benefit.

Traffic and traffic problems is a concern to everyone. The entrance road grade and width must be improved. Improved vision and traffic slow-down must be accomplished on Duluth Avenue.

The sunken barges are a serious problem (a hazard) for all boaters. They are on charts but this is not enough. They can be marked (area restricted) or covered.

There are legal problems. The existing road is on the Stearn property, not in the 22 ft. access corridor. The road has always been there - by "Adverse Possession" the City could claim the right to leave it in the present location. If it is placed in the access corridor, a retaining wall will be required. The Stearn property is land locked - do they know this - do they have waterfront rights? The first two property owners of the south of the property (Hickey & Leiberg) have Riparian Rights - will they give up these waterfront rights if the south side of the point is extended? The indication is they would accept some extension for harbor improvement; if the harbor was cleared by installation of tubes thru the neck of the property, this would be an acceptable trade-off.

It is reported by neighboring property owners that there are rock outcroppings in the south harbor area. The soundings do not show same. Underwater investigation would have to be done so as to locate and remove the outcroppings. More than ever, it confirms that the use of this waterfront property must be for small boats. The neighbor to the north created his own barrier and private small harbor - this will not interfere with use of the public south harbor.

The Corps of Engineers and DNR give verbal approval for development of the property. The preliminary plans were shown and described. Formal approval by these agencies only comes with submittal of a final plan. The Fish Management office of the DNR is the key (control) agency. They will go along with some land fill (south side extension) and want the same type of rubble stone banks as now exist (good for small fish), and will probably want part of the sunken barges left for fish habitat, even though they know the barges are a boating hazard. An ultimate, ideal plan would be to cover the sunken barges - this approval may never be achieved. It will have to be a future consideration.

What are the conditions which control use of the property. The primary wind and wave action is down the channel from the northeast. The shape of the property and the extension to the south gives good protection to the harbor. Wind and wave action from the southeast will not reach the harbor area. The location and shape is excellent for protection of small boats. The only deep water is directly off the end of the point, where large freighters (carriers) used to tie up. The depth of the water in the harbor (1983) varied from

What is feasible what is reasonable to develop on the property. Parking space is needed, improved entrance road, a concrete launch ramp, a dock, tubes thru the neck of land for water movement, toilet facilities, security lighting, landscaping, and a program of controlled use and maintenance.

#### RECOMMENDATIONS:

There is a great demand for a protected small boat launching facility in the less congested outer Sturgeon Bay area and on the west and north side of the City. This is especially true for sailboats which are hampered by the downtown highway bridge in the inner bay.

Development and improvement of the property for a small boat launching facility, maintaining use and availability of the property for shore fishing, make the property attractive, maintaining and managing the use of the property, providing facilities, is the only logical and good and practical use of this City property. The roads and access, residential type area, water depth around the point; limited space now and in foreseeable future, and maintenance of a good fishing habitat, limits the use to small boats and to controlled and managed use. The only hazards for small boats are the sunken barges and reported rock projections in the harbor - the barges to be covered or marked and rock projections to be removed. This is not a parcel of property, a waterfront area, for a marina, a birthing, a commercial facility. This proposed development should improve recreation facilities in the area and increase small boat use and safety in the area.

As a start, and until previously described legal problems are solved, and/or the Stearn property is acquired, or is available for use, the shore area will be limited. Use of the access corridor (City property) will require road relocation and building of a retaining wall to protect adjacent property (no problem). The south end of the projection can be slightly extended, squared up, improved so as to enlarge space for turn around, parking, landscaping and still not create a major conflict of Riparian Right lines with the neighboring properties, or a major conflict with the DNR due to creating bad conditions and losing the good fish habitat.

The recommended installations are hereby listed, regardless of final size and shape of shore area and projecting area:

- Clear Duluth Avenue road side for vision, and provide signs on each side of the entrance.
- New, regraded, widened, entrance road. Two, 48" culverts thru the center of the neck of land, with tops at present water line.

- Rebuilt, widened road onto the property and a turn around and parking area at the outer end.
- Square up and extend the south end of outer area, with matching, rubble rock embankments.
- Concrete launching ramp and finger dock for launching, and tie up dock for loading and unloading boats. An electric hoist is recommended, as not all small boats can use a ramp. Sheet piling is to be used at ramp and docks. Underground conditions are good for use of sheet piling.
- Landscaping of all areas. Green areas are to be provided at the outer end for fishermen and with benches, picnic tables, trash containers.
- A Rest Room facility at the shore. It will have to be self contained, with holding tank and a well.
- Security, safety, low intensity lighting.
- Neat signs - instructions and information signs.

It is recommended that the development and improvement program proceed in stages. Plans A, B, C have been prepared and are a part of this report. Staged construction is an aid to stage financing and it is an aid to determining what installations are best for the operation so improvements can be made for next stage. And, time is an aid to straightening out legal entanglements (disputes), acquiring adjacent property, and developing leases and/or other means of management, operation, financing.

The ideal, ultimate plan for maximum use and elimination of all hazards is obviously Plan C. At present this plan will have much opposition from neighbors and DNR. Time may bring this plan about. If funds are available, the good alternative is Plan B. Plan A is obviously minimum plan, minimum cost and a plan which could proceed with easy approval (no opposition). City certainly has the right to bring about such improvements.

#### FUNDING & OPERATION:

Development of Bullhead Point for a City Park with a small boat launching facility and for public waterfront use for resting, observing, fishing is a development and improvement program to be programmed, budgeted, implemented. The City will probably seek financial assistance from Federal and State sources. Assistance will be helpful (but is limited) from volunteer groups, clubs, organizations. A park for daily, public recreation use is not a commercial establishment for business and income (either to do the improvements or to pay for maintenance). The Yacht Club might be interested in storing a few boats on the Stearn property and thus be able to use the upper (outer) harbor for their Sail Training program. They would pay a yearly rental (use) fee. If the property is improved (developed), the Sailing Club might make a comeback (organize) for renting and operating the installation. The only source of income would be the launch ramp (or hoist) and that means having a City employee at the ramp and having hours for use. The employee would also supervise use of the park and keep it maintained - landscaping, clean up, utilities.

I recommend improvement of Bullhead Point for the public as a waterfront facility for small boat use and picnics, fishing, enjoyment. Keep it a simple, attractive, well maintained public property. The location, access the space, and the neighborhood (adjoining use) is not the right place for a commercial development. Such a purpose, a use, will require special,



public funds (when available), setting aside funds for this purpose for a few years, and doing the improvements in stages (over a period of time). An attractive master plan, a presentation and promotion plan would be a good tool for donations from fishing, waterfowl, boating enthusiasts and clubs. It is a fringe or neighborhood type public park, not in the central area where all people would support a general assessment. It is an unusual, valuable City property available and well suited for waterfront recreation use.

#### COST ESTIMATES:

I started with the intent of producing a normal planning, feasibility study with one ideal, master plan. I became enthusiastic, involved, and have sought out and tried to solve all of the problems related to use of the property. Staged development is a means of problem solving and this requires several plans - programmed development plans.

Attached to this report are three plans, three cost estimates. All plans require the basics of an entrance, good roadway, water flow tubes, turn around and parking, a concrete launch ramp and pier, landscaping, toilet facilities. The variables and items that can be developed or added in stages are land area, additional property (such as Stearn property), amount of parking, size of dock, addition of a hoist, additional facilities and landscaping. The estimates are at the end of this report; the plans are attached and are Nos. 1 (Existing); A (Stage 1); B (Stage 2); C (Stage 3).

#### SUMMARY:

The recommendation for this report is to develop the North Duluth Avenue Public Property (Bullhead Point) for a Public Park, which will be used for launching and landing small boats, shore fishing, picnics, and public enjoyment. It is an unusual, valuable public property and one of the few remaining, shoreline access areas available to the public in this Sturgeon Bay area. It is not adapted to commercial, high traffic use. It is limited space which can be well used by the public as recommended.

The site characteristics are well adapted to the recommended use. Present soils and shoreline are stable. Ground material and condition is good for driving sheet piling for ramp and docks (rock is more than 20 ft. below water surface); water depths for east and south sides (the navigable sides) is fine for small boats; the point and south projection protects the harbor from wave action; the addition of under water tubes through the neck of the point (the projection) will allow water circulation so as to keep the south harbor clear and clean. To the east of Bullhead Point, the water is deep and completely clear and navigable for all size boats to the Sturgeon Bay channel.

Environmental Impact (effect), as typical, is least with Stage 1 and progresses upward with Stages 2 & 3 since more change is made with each stage, relative to effect on neighbors and neighborhood; fish and waterfowl; potential for numbers of people and traffic and safety and cleanliness. However, property, and particularly public property must serve as many people and interests as possible. Stage B, again, is the best

overall, ultimate plan for removal of hazards but it meets with most opposition at the present time for its effect on fish habitat and infringement on neighbors and riparian rights. The hazard of rock outcroppings in the harbor can be removed. Investigation and location of any rocks and the limits and contours of the sunken barges should be completed and recorded and is best done with underwater gear (equipment). This would be a good volunteer project of a scuba diving club.

As far as economic feasibility, a public park with facilities and required maintenance and management and security does not have potential for income. A lease to a commercial waterfront business would be the best return but be the worst and an entirely different and restricted use. A sail boat club, the Yacht Club, would pay a minimal rental for boat storage (on the shore) and launching privileges. This is a year to year, unguaranteed income. This rental would help pay for maintenance, not development cost. A launching fee can be charged to the public, and should be, but this requires personnel to manage and collect the fee - the fee would help pay for this personnel. There is a potential for some volunteer help and donations from interested individuals, from business and industry, and from service and recreation oriented clubs but no dollar amount can be assigned. This project will have to be a City budgeted, financed, special grant program.

Cost estimates are presented in this report and will be useful for financial programming. A presentation and promotion strategy and plan should be developed. As the waterfront parks and properties become more and more used, crowded, limited, the public will support a budget, or matching funds if a State or Federal grant can be available and be obtained.

The report has described a small boat hoist as a part of the boat launch and recovery installations for Plans B and C. This was suggested by many people. This is obviously an optional installation. It has many hazards, insurance would be required and costly, and an experienced operator should be provided (another cost). This installation is questionable.

The recommendations for North Duluth Avenue Public Property Development, is to start by improving and maintaining the roadway; to clean up the property and keep it clean (few rubbish containers); to put up neat signs as to use and hours; to supervise the use; and have it as a part of regular police patrol. The Stearn property should be acquired, whether by purchase or donation, and the legality of leaving the entrance road where it is (now on the Stearn property) should be cleared. Another installation that is important to do, for improvement of the property, and present use, is to install the two culverts through the neck of the property. This will improve water condition and be in great favor with the neighboring property owners and people who presently use the property.

I state again, this is an unusual, valuable public property and an asset to the City of Sturgeon Bay for public use. It should be improved, carefully developed, and treated as a valuable part of the Sturgeon Bay public property.

NORTH DULUTH AVENUE  
PUBLIC PROPERTY DEVELOPMENT  
FEASIBILITY STUDY  
COST ESTIMATE

PLAN A - Stage 1

-Road - Fill, Grade, Gravel Surface	\$ 4,500
-Parking Area	4,800
-Landscaping	3,000
-Retaining Wall (Alternate consideration is to purchase Stearn property)	15,000
-Comfort Station - Building, Holding Tank, Well	22,000
-Concrete Ramp	3,800
-Pier	2,000
-Piling & Dock	30,000
-Electric Lights - Lights (5), Pump, Building Service, Property Service	4,000
-Markers (floats) for barge area	1,500
-Culverts (tubes) two, 4 ft.	<u>7,500</u>
TOTAL	\$ 98,100
+10% Contingency	<u>9,810</u>
GRAND TOTAL	\$108,000

Note: No Equipment  
Tables  
Benches  
Fireplaces  
Boat Hoist  
Dredging  
Optional Item of Hoist  $\approx$  \$7,500

NORTH DULUTH AVENUE  
PUBLIC PROPERTY DEVELOPMENT  
FEASIBILITY STUDY  
COST ESTIMATE

PLAN B - Stage 2

Items and cost of Stage 1	\$108,000
Plus, Stage 2 Items:	
-Fill	40,000
-Additional Parking Area	3,500
-Additional Landscaping	2,000
-Additional Piling & Dock	<u>12,000</u>
TOTAL	\$165,500
+10% Contingency	<u>16,550</u>
GRAND TOTAL	\$182,000

Note: No Equipment  
Tables  
Benches  
Fireplaces  
Boat Hoist  
Dredging  
Optional Item of Hoist  $\pm$  \$7,500

NORTH DULUTH AVENUE  
PUBLIC PROPERTY DEVELOPMENT  
FEASIBILITY STUDY  
COST ESTIMATE

Plan C - Stage 3

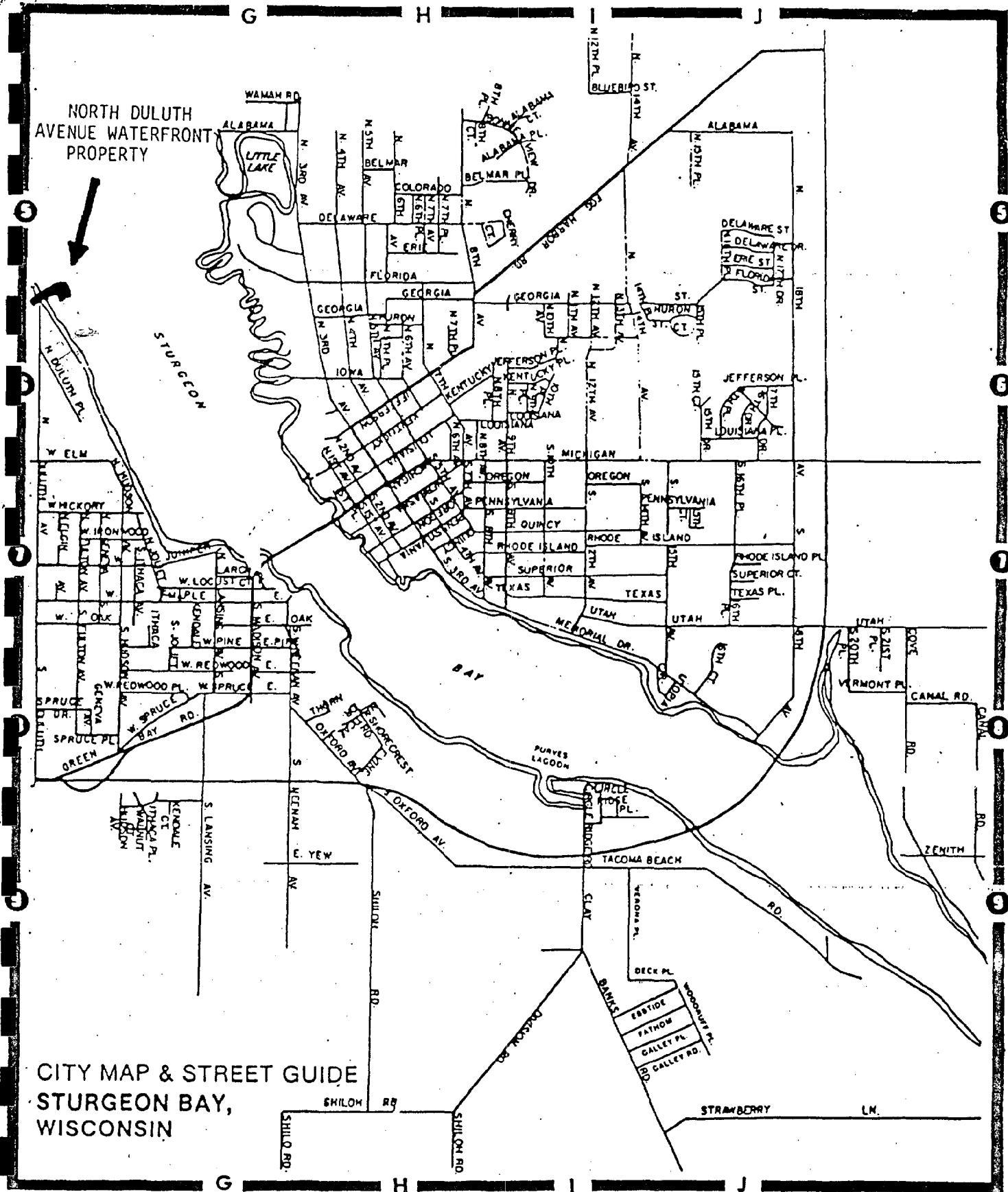
Items and Cost of Stage 1		\$108,000
Items and Cost of Stage 2		74,000
Plus, Stage 3 Items:		
-Fill		46,000
-Additional Parking Area		4,000
-Additional Landscaping		2,500
-Additional Piling & Dock		<u>18,000</u>
	TOTAL	\$252,500
-Omit Markings at Barges		(-) <u>2,500</u>
	Balance	\$250,000
	+ 10% Contingency	<u>25,000</u>
		\$275,000

GRAND TOTAL \$275,000

Note: No Equipment  
Tables  
Benches  
Fireplaces  
Boat Hoist  
Dredging  
Optional Item of Hoist ± \$7,500

# PROJECT LOCATION

ITEM "A"



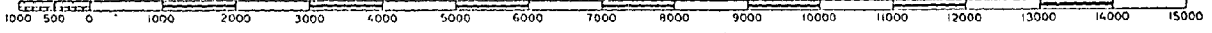
CITY MAP & STREET GUIDE  
STURGEON BAY,  
WISCONSIN

Scale: 1=30000

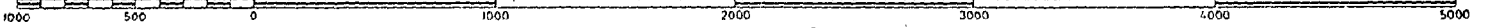
# Sturgeon Bay & Canal" Chart No. 14919

Ⓟ Pump-out facilities

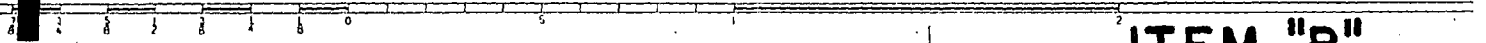
FEET



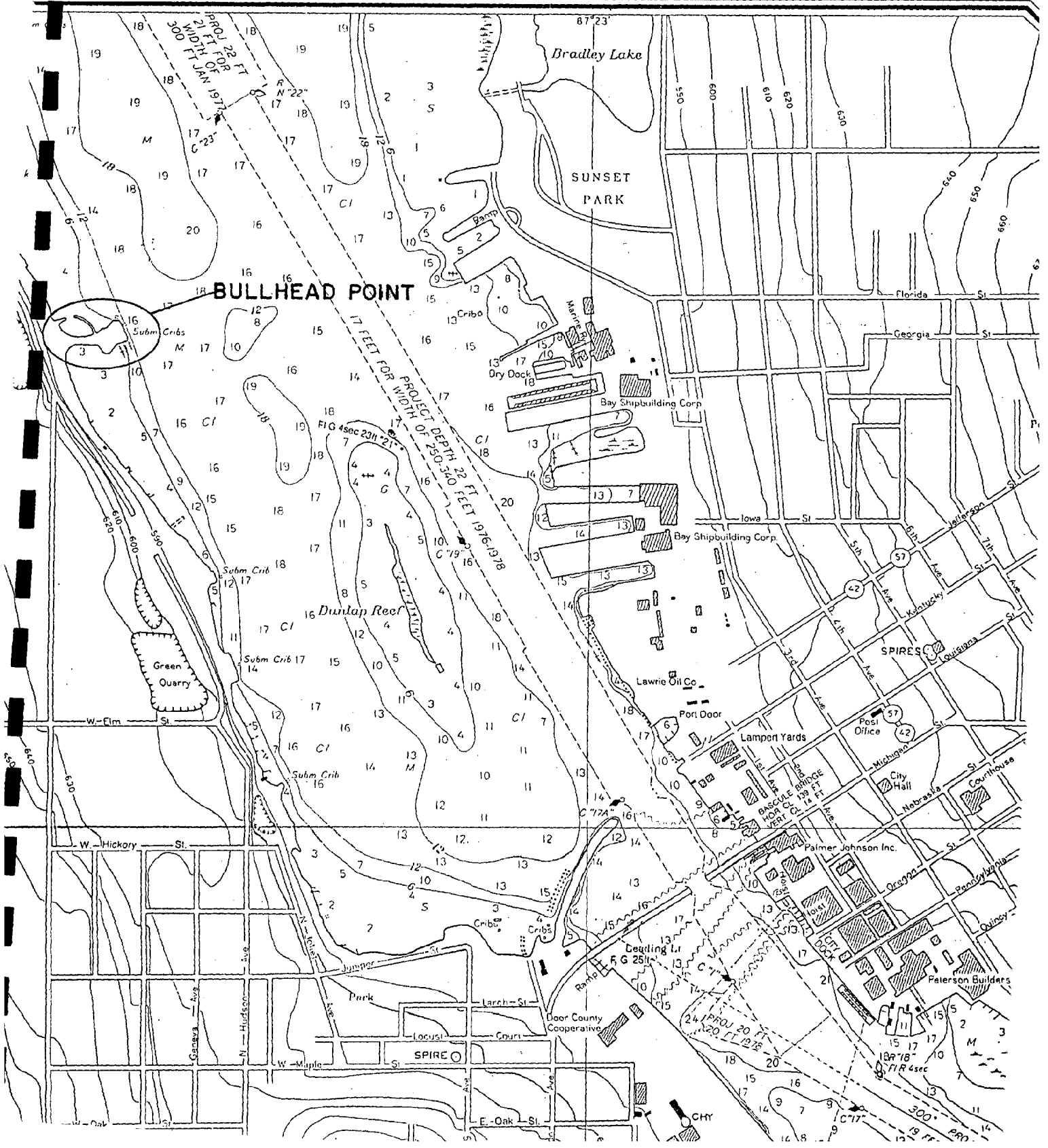
METERS



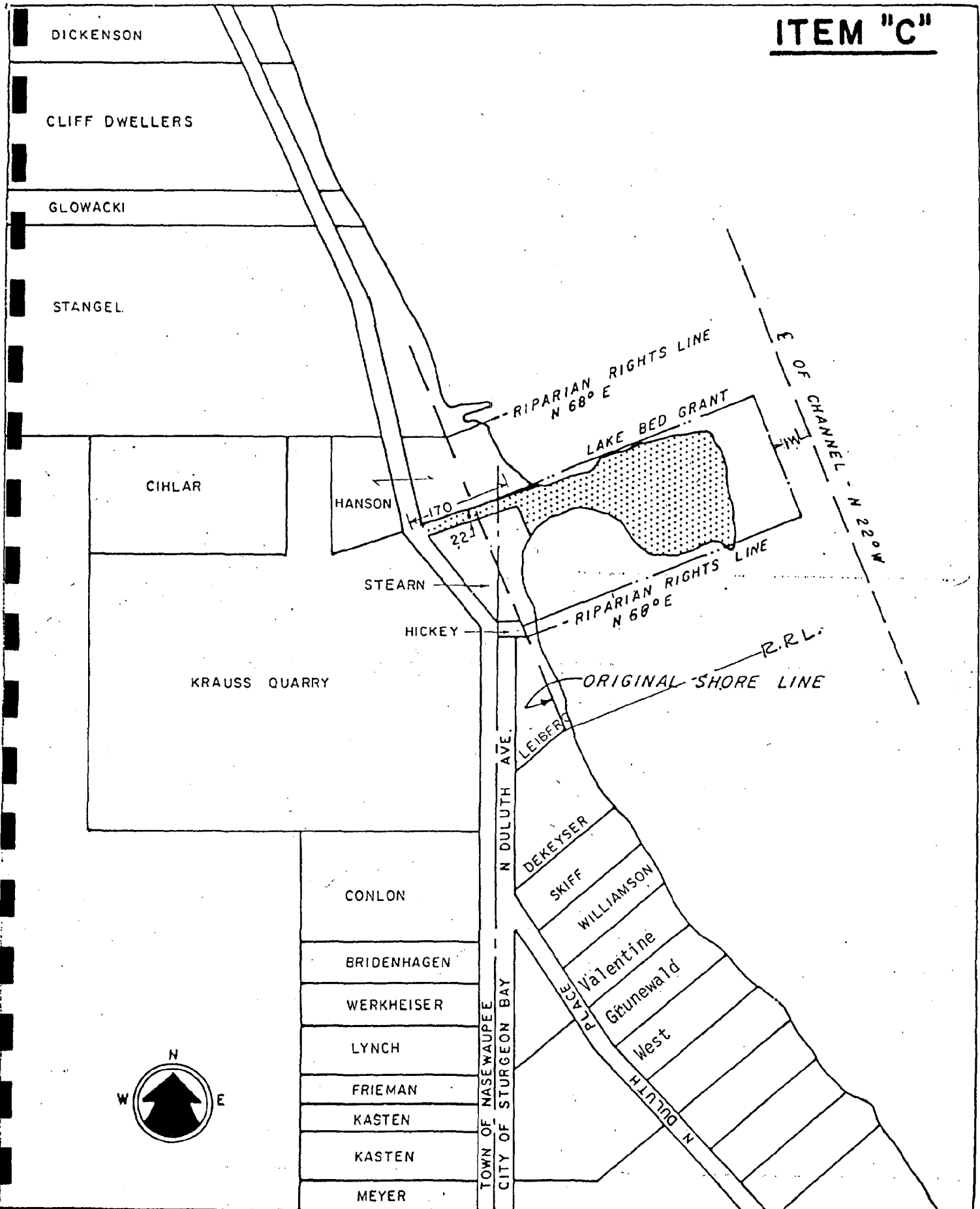
STATUTE MILES



## ITEM "B"



**ITEM "C"**



DICKENSON

CLIFF DWELLERS

GLOWACKI

STANGEL

CIHLAR

HANSON

STEARNS

HICKEY

KRAUSS QUARRY

CONLON

BRIDENHAGEN

WERKHEISER

LYNCH

FRIEMAN

KASTEN

KASTEN

MEYER

N DULUTH AVE.  
TOWN OF NASEWAUPEE  
CITY OF STURGEON BAY

DEKEYSER

SKIFF

WILLIAMSON

Valentine

Grunewald

West

N DULUTH PLACE

RIPARIAN RIGHTS LINE  
N 68° E

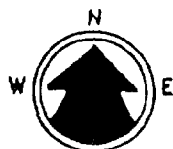
LAKE BED GRANT

RIPARIAN RIGHTS LINE  
N 68° E

E OF CHANNEL - N 22° W

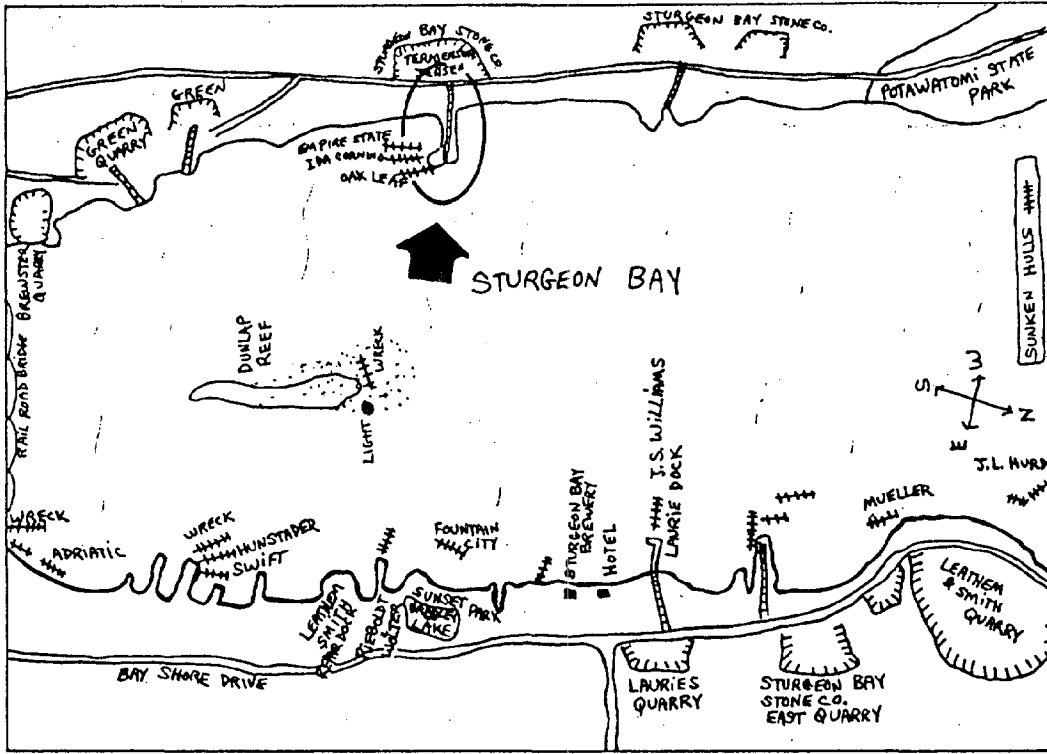
ORIGINAL SHORE LINE

R.R.L.



FEET





# HOLLOW PT'S SUNKEN SHIPS

THE STORY OF WISCONSIN'S FORGOTTEN STONE FLEET

by

Alan R. Rowe

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Library of Congress Catalog Card No. 79-63344

ROWE PUBLICATIONS

brisk. A chilled steady wind from the west produced a barrage of white caps. Entering the water was difficult. Rolling waves crashed over the embankment of the pier, forcing me to cling to rocks for support. I fumbled around trying to get a foothold on the wet beach stones. My slippery rubber wet suit didn't help matters.

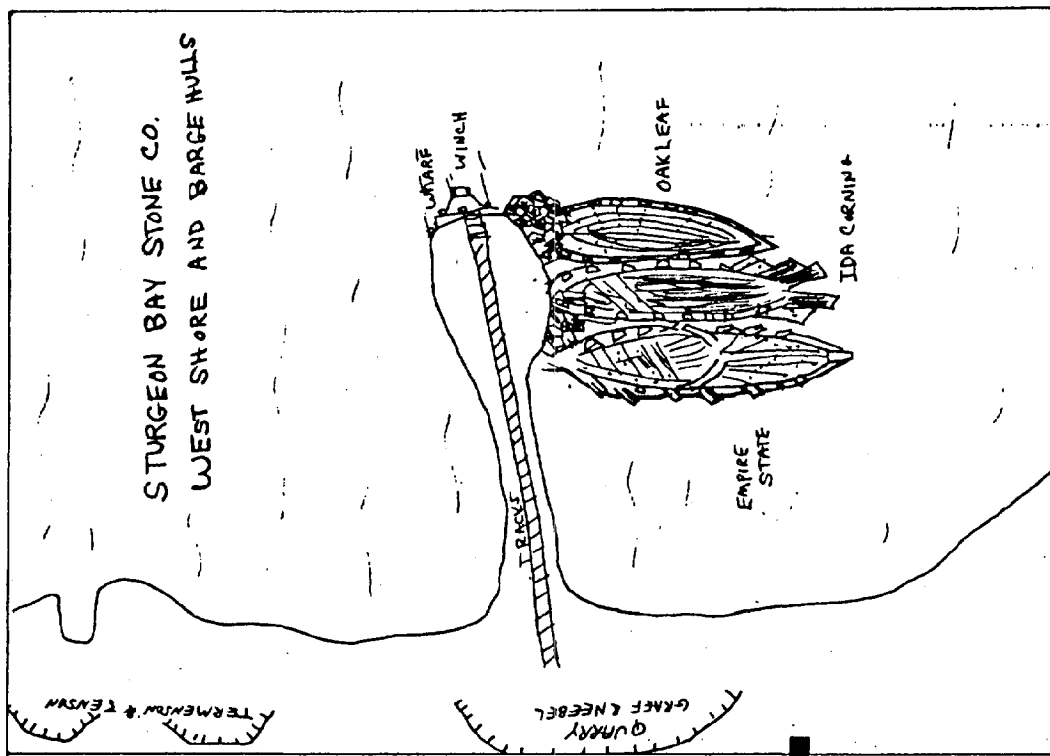
I had good intentions of completing several dives at this site, but during my entry of the surf, my one and only inflated raft ripped open on a sharp outcrop. My first thought was to save the excavation tools while precious air screamed out of the puncture. One huge roller lashed in and sent tools and marker bouys flying. To make things worse, another wave swept away one of my two flotation drums. By the time I thrashed my way after it, all I could see of it was a painted blur a mile down the shore. I was off to a good start!

By now the winds had risen even higher. Three foot waves crashed over the wharf, making standing upright impossible. Unable to keep any semblance of order, I found a solution in adding twenty more pounds of lead weights to my belt. Reluctantly I crawled under the torrential surface. The real struggle began while fighting the surge created by water rumbling against the rocks and returning to build up again. By hugging the wreckage and grappeling anything in sight, I managed to explore the hulls.

The three wrecks in this cover were once consorts of the tugs, *Irma Wheeler* and *I.N. Foster*. They had traveled to the same ports as their sister ships, the *Empire State*, *Ida Corning* and the *Oak Leaf*. The trips they made however, were not as often. Their names didn't appear in the marine news columns as frequently.

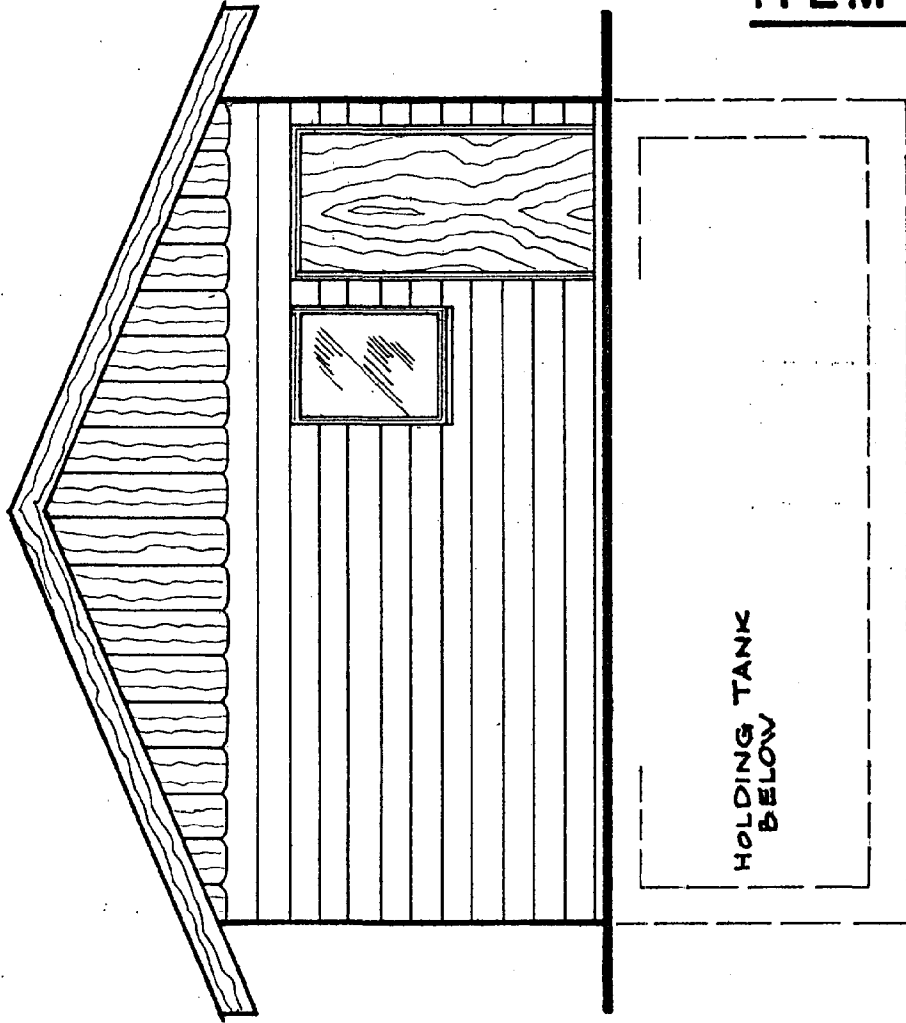
The *Andrew* and *Emerald* were smaller and had a shallower draft than most of the other barges. Their lightness was needed at this point on the bay because the depth here was no more than ten feet. From lack of machinery in the wrecks, I concluded that they had been either schooner type barges or scows. Two of them still contained loads of cut rock. The third member of this group was ripped apart and partially covered with drifting sand.

Of all the stone fleet that I had examined, this trio had received the most damage. Where fire had ravaged the

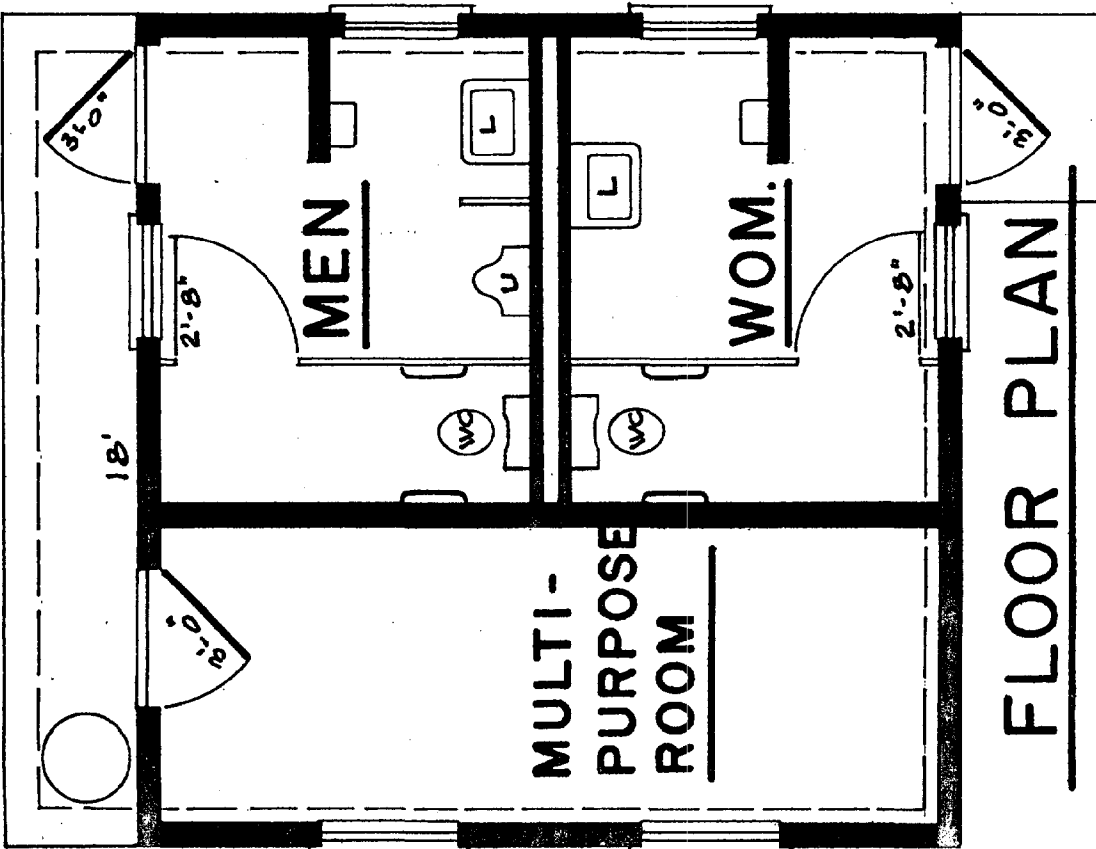


ITEM "E"

A



SCALE: 1/4" = 1'-0" ELEVATION



FLOOR PLAN

ALL OBSCURE GLAZING

REST ROOM FACILITIES

FOR BULLHEAD POINT SURGEON BAY

ITEM "F"

DONALD C. WIGGINS

*Professional Engineer*

14 South 3rd Avenue  
Sturgeon Bay, Wisconsin 54235  
Telephone 414/743-4422

July 21, 1983

TO:

RE: Property Owners Adjacent to Bullhead Point, City of Sturgeon Bay,  
Wisconsin

I have been commissioned to do a land-use study for the City of Sturgeon Bay for their property at the north end of Duluth Avenue at the lake shore; the property is called "Bullhead Point". You live, or have a business, adjacent to this City property.

A logical consideration for use of the property is for an improved small boat launch and docking facility - a day use facility. This is also one of the few public locations where people can fish from the bank (good fishing); this recreation feature should also be maintained. The good consideration is the proposed improvement of an unimproved piece of City property. This could become a City Park - patrolled and maintained.

I invite you to stop at my office at 14 S. 3rd Avenue and inspect the preliminary plan work now in progress. Voice your opinions; be a part of the improvement and solution. If you think there are problems, bring them up. If you have suggestions, tell us. We welcome your visit and appreciate your interest.

Thank you for all considerations. Take a look and lend a hand. I hope to see you or hear from you.

Sincerely yours,

  
Donald C. Wiggins, P.E.

DCW:fg

STEARN & FITZGERALD

ATTORNEYS AT LAW

253 NORTH FIRST AVENUE

P.O. BOX 403

STURGEON BAY, WISCONSIN 54235

ERIC A. STEARN  
E. JIM FITZGERALD  
PAUL L. JONJAK  
OF COUNSEL

STURGEON BAY  
TELEPHONE  
(414) 743-8866

GREEN BAY  
TELEPHONE  
(414) 432-9702

FISH CREEK  
TELEPHONE  
(414) 868-3256

TELEX: 910-270-1375

July 26, 1983

Mr. Don Wiggins  
Professional Engineer  
14 South Third Avenue  
Sturgeon Bay, WI 54235

Dear Don:

Thank you for your letter of July 22, 1983. First of all, I must inform you that my mother, Sue Stearn, is on vacation on a sailboat cruise until August 7, 1983 and won't be able to respond to your inquiries until after that date. However, I can say, that in addition to her reason for purchasing the adjacent property for investment purposes, it was done with the major purpose of having that property used for part of a sailboat storage and landing facility. In any event, I certainly will see that she receives the letter as soon as she returns.

I also have reviewed your plans and also favor Plan A. Of course, I would like to see an amendment to this plan if the joint property becomes available to the city for the yacht club use or the above described purpose. I think a small facility would include rest rooms, bars, sail storage lockers, and a meeting room would be ideal placement on the Stearn property. In addition, I would recommend that either finger piers be constructed or a floating parallel dock be constructed along the Stearn property thorough inner harbor, where feasible. This would allow more storage place for the boats and a potential keeping of some small keel boats in the water. Of course, this could be phased in at some later stage of development.

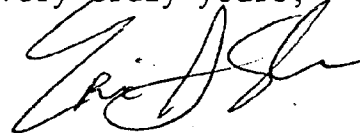
Generally speaking, I like your plan and am very pleased to see the progress you have made. As soon as you have come up with some definitive plan, please let me know. I think one of the key ingredients to this whole project is to show the city that not only does this make the harbor "look good" but that it will be providing a valuable community service.

Mr. Don Wiggins

July 26, 1983  
Page -2-

Thank you for sending these plans and I will be in touch with you as soon as I hear anything further.

Very truly yours,



ERIC A. STEARN

EAS:sjm  
cc Bill Chaudoir  
Scott Derenne  
Tim Burggren  
Tim Graul



STS Consultants Ltd.  
540 Lambeau  
Green Bay, Wisconsin 54303  
(414) 494-9656  
June 29, 1983

Mr. Donald C. Wiggins, P. E.  
14 South Third Avenue  
Sturgeon Bay, Wisconsin 54235

STS Job 12535

RE: Subsurface Exploration for the Proposed Boat Ramp in Sturgeon Bay,  
Wisconsin.

Dear Mr. Wiggins:

The subsurface exploration for the above referenced project has been completed. This report contains the log of 1 soil boring. A discussion of the testing and sampling procedures as well as the subsurface conditions encountered are also presented. This work was authorized in a signed copy of our June 14, 1983 proposal. Three copies of this report have been sent to the above address.

#### INTRODUCTION

A boat ramp has been proposed for construction in Sturgeon Bay, Wisconsin. The site is located east of North Duluth Avenue at Bullhead Point in Sturgeon Bay, Wisconsin. The site was formerly used to load barges with quarry stone, and the existing peninsula was constructed of this material. Three sunken barges are known to exist immediately southeast of the peninsula. We understand that a concrete boat launching ramp will be constructed near these sunken wrecks. Driven sheet piling is under consideration to confine the area of the new construction and to provide erosion protection. Soundings will be taken in this area to determine if submerged piles of stone are present that will require dredging.

FIELD PROCEDURES

The location of the soil boring was selected by Mr. Wiggins, and its approximate location is shown on the Soil Boring Location Diagram in the Appendix. The location and ground surface elevation at the boring were surveyed in the field by others under the direction of Mr. Wiggins. The ground surface elevation is shown near the top of the boring log in the Appendix and is based on the City of Sturgeon Bay datum. The water level in Sturgeon Bay was at elevation 580.3 at the time of this exploration according to Mr. Wiggins.

The boring was made by a two-man drill crew using a CME 55 track mounted rotary drilling rig. The boring was advanced as far as practical using solid-stem continuous flight augers. A wash boring technique was then used at greater depths in order to stabilize the bore hole during drilling. Soil samples were taken at 2-foot intervals to a depth of 10 feet and at 5-foot intervals thereafter.

The soils were sampled in general accordance with ASTM Specification D 1586, "Standard Method for Penetration Tests and Split Barrel Sampling of Soils". A brief description of this sampling procedure is contained in the Appendix.

The depth at which groundwater was encountered while drilling and sampling was observed. Additional water level readings were obscured by the introduction of drilling fluids. However, the depth of drilling mud was measured both before and after removal of the steel casing. These water level observations are shown on the lower left corner of the boring log.



LABORATORY PROCEDURES

The penetration test samples were visually examined by a Geotechnical Engineer to estimate the distribution of grain sizes, plasticity, organic content, moisture condition, color, presence of lenses and seams, and apparent geological origin. The soils were classified according to type using the Unified Soil Classification System. A chart describing this classification system is contained in the Appendix.

Results of the field and laboratory tests were then plotted on the boring log. This log is contained in the Appendix. Similar soils were grouped into strata on the log. Please note that the strata contact lines represent approximate boundaries between soil types; the actual transition between soil types in the field may be gradual in both the horizontal and vertical directions.

SITE CONDITIONS

The soil boring encountered approximately 2 inches of topsoil underlain by quarry stone fill. This fill consisted of a silty fine to coarse sand containing gravel to a depth of about 10.0 feet. Organic silt was intermixed with the fill between depths of 4 and 6 feet and between 8 and 10 feet. This layer of fill was in a medium dense to dense condition. A sandy limestone gravel fill material was then encountered between depths of approximately 10.0 and 18.0 feet. Organic silt was present in this layer above a depth of about 12 feet. This gravel fill was in a dense to very dense condition and a boulder was encountered between depths of 16.5 and 17.5 feet. The fill was underlain by

an extremely dense silty sand deposit. The soil extended to the termination depth of 21.0 feet. A more complete description of the soils encountered is shown on the boring log in the Appendix.

Groundwater was encountered at a depth of about 3.5 feet while sampling. Before and after casing removal, the depth to standing drilling mud in the open bore hole was also 3.5 feet. We anticipate that the groundwater table at this site will be very near to the level of Sturgeon Bay. The groundwater table at this site can also be expected to fluctuate with the level of the Bay.

GENERAL

This report contains information based on the data obtained from one soil boring. Variations can occur around this boring, the nature and extent of which may not become evident until construction. Water level readings have been made in the boring at the times and under the conditions stated on the boring log. However, it must be noted that the period of observation was relatively short and that seasonal and annual fluctuations in the level of the groundwater will occur.

This work was performed in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. STS Consultants Ltd. was not asked to perform professional services beyond preparation of the boring log and a short report outlining the procedures used to obtain that information. However, we would be pleased to provide you with design recommendations upon request.

We have appreciated the opportunity to provide these services for you. If you have any questions regarding the information in this report or should you require any additional services on this project, please feel free to contact us.

Yours very truly,

STS CONSULTANTS LTD.

*Greg M. Terdich*

Greg M. Terdich  
Assistant Project Engineer

*James J. Botz*

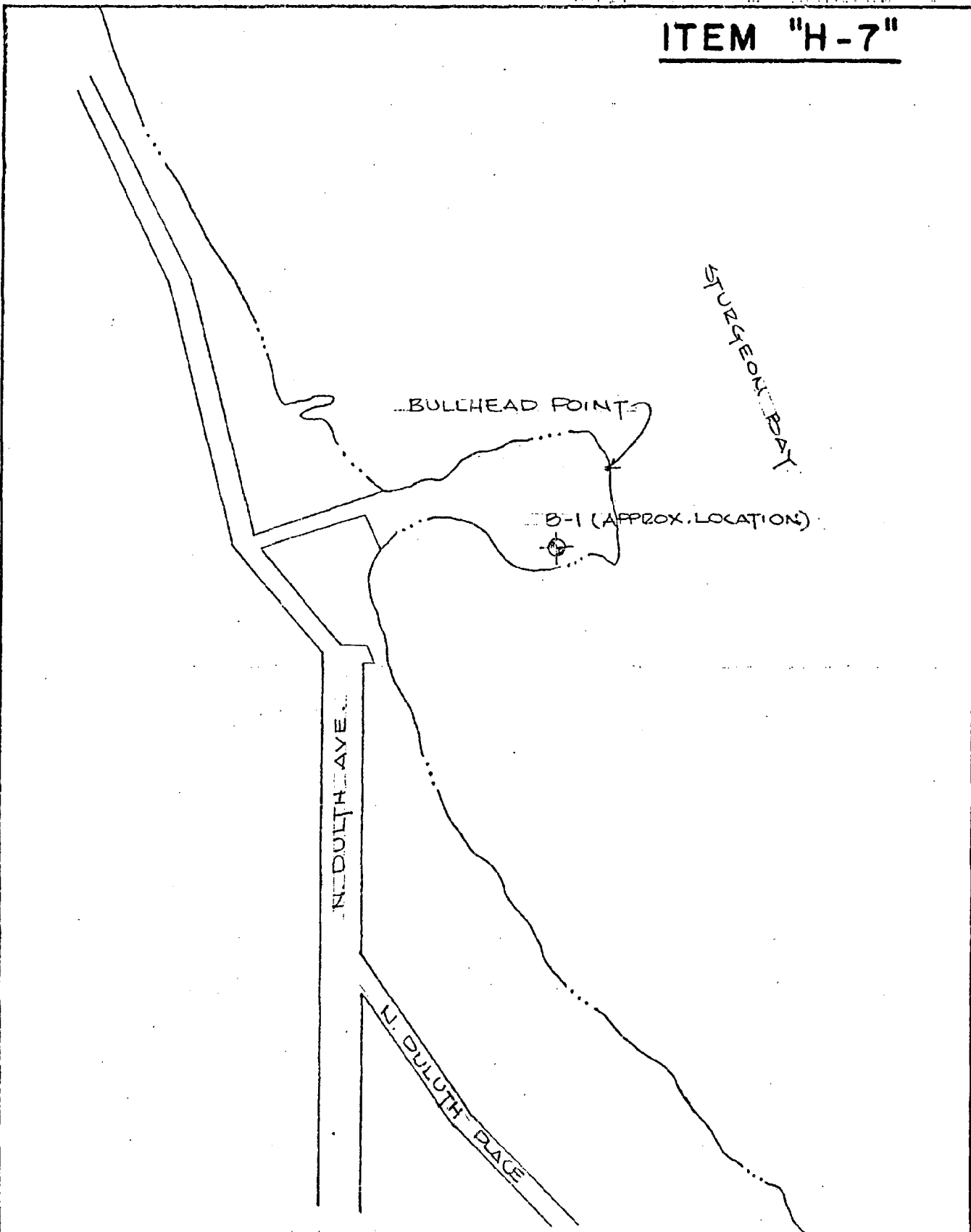
James J. Botz, P. E.  
Geotechnical Group Manager

GMT/dw

APPENDIX

1. Soil Boring Location Diagram
2. General Notes
3. Procedures Regarding Field Logs, Laboratory Data Sheets and Samples
4. Soil Boring Log
5. Unified Soil Classification Chart
6. Penetration Testing Procedure

ITEM "H-7"



SOIL BORING LOCATION DIAGRAM  
PROPOSED BOAT RAMP  
SURGEON BAY, WI.



STS CONSULTANTS LTD.  
540 LAMBEAU STREET  
GREEN BAY, WIS. 54303

KOONTZ 6-27-87 12535

# ITEM "H-8"

## GENERAL NOTES

### DRILLING & SAMPLING SYMBOLS:

SS : Split Spoon - 1 3/8" I.D., 2" O.D., unless otherwise noted	OS : Osterberg Sampler - 3" Shelby Tube
ST : Shelby Tube - 2" O.D., unless otherwise noted	HS : Hollow Stem Auger
PA : Power Auger	WS : Wash Sample
DB : Diamond Bit - NX: BX: AX	FT : Fish Tail
AS : Auger Sample	RB : Rock Bit
JS : Jar Sample	BS : Bulk Sample
VS : Vane Shear	PM : Pressuremeter test - in situ

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch OD split spoon, except where noted.

### WATER LEVEL MEASUREMENT SYMBOLS:

WL : Water Level
WCI : Wet Cave In
DCI : Dry Cave In
WS : While Sampling
WD : While Drilling
BCR : Before Casing Removal
ACR : After Casing Removal
AB : After Boring

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable ground water levels. In impervious soils, the accurate determination of ground water elevations is not possible in even several days observation, and additional evidence of ground water elevations must be sought.

### GRADATION DESCRIPTION & TERMINOLOGY:

Coarse Grained or Granular Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays or clayey silts if they are cohesive, and silts if they are non-cohesive. In addition to gradation, granular soils are defined on the basis of their relative in-place density and fine grained soils on the basis of their strength or consistency, and their plasticity.

<u>Major Component Of Sample</u>	<u>Size Range</u>	<u>Descriptive Term(s) (Of Components Also Present in Sample)</u>	<u>Percent of Dry Weight</u>
Boulders	Over 8 in. (200mm)	Trace	1 - 9
Cobbles	8 in. to 3 in. (200mm to 75mm)	Little	10 - 19
Gravel	3 in. to #4 sieve (75mm to 2mm)	Some	20 - 34
Sand	#4 to #200 sieve (2mm to .075mm)	And	35 - 50
Silt	Passing #200 sieve (0.075mm to 0.005mm)		
Clay	Smaller than 0.005mm		

### CONSISTENCY OF COHESIVE SOILS:

<u>Unconfined Comp. Strength, <math>Q_u</math>, tsf</u>
< 0.25
0.25 - 0.49
0.50 - 0.99
1.00 - 1.99
2.00 - 3.99
4.00 - 8.00
> 8.00

<u>Consistency</u>
Very Soft
Soft
Medium (Firm)
Stiff
Very Stiff
Hard
Very Hard

<u>N - Blows/ft.</u>
0 - 3
4 - 9
10 - 29
30 - 49
50 - 80
80+

<u>Relative Density</u>
Very Loose
Loose
Medium Dense
Dense
Very Dense
Extremely Dense

### RELATIVE DENSITY OF GRANULAR SOILS:

PROCEDURES REGARDING FIELD LOGS,  
LABORATORY DATA SHEETS AND SAMPLES

In the process of obtaining and testing samples and preparing the report, procedures are followed that represent reasonable and accepted practice in the field of soil and foundation engineering.

Specifically, field logs are prepared during performance of the drilling and sampling operations which are intended to portray essentially field occurrences, sampling locations and other information.

Samples obtained in the field are frequently subjected to additional testing and reclassification in the laboratory by more experienced soils engineers, and differences between the field logs and the final logs exist.

The Engineer preparing the report reviews the field and laboratory logs, classifications and test data, and in his judgement in interpreting this data, may make further changes.

Samples taken in the field, some of which are later subjected to laboratory tests, are retained in our laboratory for sixty (60) days and are then destroyed unless special disposition is requested by our client. Samples retained over a long period of time, even in sealed jars, are subject to moisture loss which changes the apparent strength of cohesive soil, generally increasing the strength from what was originally encountered in the field. Since they are no longer representative of the moisture conditions initially encountered, an inspection of these samples could recognize this factor.

It is common practice in the soil and foundation engineering profession that field logs and laboratory test data sheets not be included in engineering reports, because they do not represent the engineer's final opinion as to the appropriate descriptions for conditions encountered in the exploration and testing work. On the other hand, we are aware that perhaps certain contractors and subcontractors submitting bids or proposals on work might have an interest in studying these documents before submitting a bid or proposal. For this reason, the field logs will be retained in our office for inspection by all contractors submitting a bid or proposal. We would welcome the opportunity to explain any changes that have and typically are made in the preparation of our final reports, to the contractor or sub-contractors, before the firm submits its bid or proposal, and to describe how the information was obtained to the extent the contractor or subcontractor wishes. Results of laboratory tests are generally shown on the boring logs or are described in the text of the report, as appropriate.

OWNER City of Sturgeon Bay		ARCHITECT-ENGINEER Donald C. Wiggins									
SITE Sturgeon Bay, Wisconsin		PROJECT NAME Proposed Boat Ramp									
DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST. RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT. 3	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. 1					
						1	2	3	4	5	
						PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %			
						STANDARD "N" PENETRATION (BLOWS/FT.)					
						10	20	30	40	50	
X				SURFACE ELEVATION 583.5							
	1	SS		Topsilt: Brown sandy silt (ML)-with trace of roots and organics-moist.							
	2	SS		Fill: Brown silty fine to coarse sand (SM)-with a little to some limestone gravel-intermixed with a little gray organic silt (OL) between 4 and 6 feet and between 8 and 10 feet-moist becoming wet below 4 feet-medium dense to dense							
	4	SS									
	5	SS									
	6	SS		Fill: Gray sandy limestone gravel (GP)-with trace of silt-intermixed with a little gray organic silt (OL) above 12 feet-wet-dense to very dense-boulder from 16.5 to 17.5 feet							
	7	SS									
	8	SS		Grayish brown very silty sand (SM)-with a little gravel-moist-extremely dense							
				End of Boring Boring advanced to 8.0 feet with solid-stem auger Boring advanced from 8.0 to 21.0 feet with roller bit and Revert drilling mud 12.5 feet of HW casing used							
WATER LEVEL OBSERVATIONS						BORING STARTED		6-20-83			
WL.	3.5' WS				BORING COMPLETED		6-20-83				
WL.	3.5'+ B.C.R.		3.5'+ A.C.R.		RIG		Houb. 55		FOREMAN		
WL.					DRAWN		SJD		APPROVED		
+ mud levels						JOB #		12535		SHEET	
										1 of 1	

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540 LAMBEAU STREET  
GREEN BAY, WIS. 54303

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



UNIFIED SOIL CLASSIFICATION SYSTEM

Major divisions		Group symbols	Typical names	Laboratory classification criteria				
Coarse-grained soils (More than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 per cent . . . . . GW, GP, SW, SP More than 5 per cent . . . . . GM, GC, SM, SC 5 to 12 per cent . . . . . Borderline cases requiring dual symbols	$C_u \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3		
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW		
		Gravels with fines (Appreciable amount of fines)	GM	d		Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols
				c				
		GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits above "A" line with P.I. greater than 7				
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3			
			SP	Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW			
		Sands with fines (Appreciable amount of fines)	SM	d	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are <i>borderline</i> cases requiring use of dual symbols.	
				c				
		SC	Clayey sands, sand-clay mixtures	Atterberg limits above "A" line with P.I. greater than 7				
Fine-grained soils (More than half of material is smaller than No. 200 sieve)	Silt and clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	<p>Plasticity index</p> <p>Liquid Limit</p> <p>Plasticity Chart</p> <p>Equation of A-line: PI = 0.73 (LL - 20)</p>				
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays					
		OL	Organic silts and organic silty clays of low plasticity					
	Silt and clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts					
		CH	Inorganic clays of high plasticity, fat clays					
		OH	Organic clays of medium to high plasticity, organic silts					
	Highly organic soils	Pt	Peat and other highly organic soils					

PENETRATION TESTING PROCEDURE

The penetration testing procedure essentially followed ASTM Specification D 1586-67, "Standard Method for Penetration Tests and Split-Barrel Sampling of Soils". Briefly, the sampling procedure involved driving a 2-inch OD standard sampler 18 inches with a 140-pound hammer freefalling a distance of 30 inches. The number of blows required to drive the sampler the final foot was recorded as the Standard "N" Penetration. This N-value is used by Soils Engineers to estimate the strength and compressibility of the soil. After driving, the sampler was returned to the surface and opened. The length of sample (recovery) was measured and the soil was preliminarily classified according to type by a Soils Technician. A representative portion of each sample was then sealed in a glass jar, labeled, and returned to our laboratory for further examination and testing.

KED/jcc

*John:  
Good luck w/ your club.  
Think the lease from S.Y.C. w/ City  
of Tulsa will be helpful.  
Dew*

*Approved & Executed*

*5-31-74*

CITY OF TULSA  
FILED

ITEM "I-1"

9:30 AM  
MAY 31 1974  
FRANCIS F. CAMPBELL, City Auditor

A G R E E M E N T

*May* THIS AGREEMENT made and entered into this *31st* day of 1974, by and between the CITY OF TULSA, OKLAHOMA, a municipal corporation, hereinafter referred to as "CITY" and the SEQUOYAH YACHT CLUB, an Oklahoma corporation, hereinafter referred to as "CLUB,"

W I T N E S S E T H:

WHEREAS, the CITY and CLUB did heretofore and on the 17th day of April, 1964, enter into an agreement whereby CLUB was granted the use and development of a designated area of land owned by CITY at Yahola Lake, under the terms of which agreement CLUB was to use such area for the development of sail boating facilities for a period of ten (10) years; and

WHEREAS, during that aforesaid period of use, the CLUB has continued to use and improve the facilities leased to it in strict accordance with all the terms, conditions and limitations imposed within the terms of the aforesaid lease agreement; and

WHEREAS, the CLUB now desires to renew the lease of such property for the ten (10) year period beginning April 17, 1974, and continuing to and including April 16, 1984, and CITY believes such a lease agreement to be in the best interest of all parties involved;

NOW, THEREFORE, the parties hereto enter into an extension of said lease agreement under the following terms and conditions:

1. For and in consideration of the sum of One Dollar (\$1.00) and the covenants and agreements hereinafter set forth, receipt of which is hereby acknowledged, the CITY does by these presents demise, lease and let unto the CLUB the use of a site for a clubhouse and docking facilities on the shore of Yahola Lake, the site being the same as that occupied by the CLUB at the time of the signing of this contract plus one hundred and sixty-five (165) feet which shall be an extension of the present enclosed lift area referred to by the CLUB as Dock B southward along the cement curb and wall; said extension to occupy no more area on top of the wall than does Dock B.

2. The CLUB shall hereby be entitled to hold, develop and use the same for a period of ten (10) years from the date of this agreement unless sooner terminated pursuant to provisions hereinafter contained and subject to the following conditions and covenants:

a. The CLUB agrees that all improvements made to or constructed upon said property shall be and become the property of the CITY, (subject to the provisions of subparagraph f, hereinafter), and said CLUB shall keep said premises and improvements in good condition to the satisfaction of the CITY.

b. The CLUB agrees that its clubhouse and all sewer facilities which may be constructed by the CLUB will be constructed and maintained in a manner approved by the City Engineer and by the Commissioner of Waterworks and Sewerage.

## ITEM "I-2"

c. The CLUB agrees that its use of the premises leased herein will be subject to all rules and regulations of the CITY and of the Park & Recreation Board of CITY, and it is specifically agreed that CITY shall have the right to make inspections of said premises at any reasonable time and for the purpose of enforcing the ordinances, rules and regulations of said CITY, and the provisions of this agreement, and CITY shall have the right to enter upon said premises at any reasonable hour.

d. The CLUB hereby agrees to indemnify CITY against any and all liability, loss or claim for any personal injuries that may be sustained on said premises or on said lake or lakes in operating its boats or those of its members.

e. The CLUB may erect and maintain for its sole use, a suitable pier and necessary boat docks or anchorages along the east side of Lake Yahola, directly west and opposite the above described premises, said pier not to project further than two hundred (200) feet into said lake from the present cement curb and wall of said lake.

f. This lease may be terminated by CITY by giving sixty (60) days' notice in writing to the CLUB of its intention to terminate, if in the judgment of the Board of Commissioners of the CITY it is necessary to use the above described premises for a public purpose, but not otherwise. In the event CITY terminates and cancels said lease by reason of the necessity to use said premises for some public purpose, CLUB agrees to give up peaceable possession of the premises to CITY, provided that if the lease is terminated prior to the expiration of the primary term hereof, CLUB shall have the right to remove any and all improvements placed or constructed thereon by CLUB, provided such removal is accomplished within sixty (60) days after receipt by CLUB of notice to terminate this lease.

g. CLUB shall not assign this lease or sublet the premises or any part thereof, without the written consent of CITY first had and obtained.

h. CLUB further agrees, during the life of this agreement, to maintain at CLUB's expense and in full force and effect, insurance policies written by some insurance company authorized to do business in the State of Oklahoma, in such form and with such endorsements necessary to protect CITY against any and all loss, claim or expense resulting from the use of the premises described herein. To this extent, CLUB shall obtain a liability insurance policy having limits of not less than \$100,000.00 for any single injury from any single accident, \$300,000.00 for multiple injuries from any single accident, and \$5,000.00 for property damage resulting from any single accident. Such policy shall reflect therein, the CITY as co-insured of said policy, and must provide for notice to CITY at least ten (10) days prior to termination of said policy for any reason. Until such policies or certificates of same have been approved by the City Attorney and filed with the City Auditor of the CITY, this agreement shall be without force and effect. In the event of cancellation or termination of any of the aforesaid policies of insurance, this agreement shall immediately become null and void.

ITEM "I-3"

i. In the event the dikes of Yahola Lake are damaged as a result of CLUB's use to support its dock facilities, CLUB shall be fully responsible and shall repair the dikes to the full and complete satisfaction of CITY.

j. It is specifically understood and mutually agreed that CITY has no obligation to maintain the water surface elevation of Lake Yahola within any specific range.

k. The CLUB agrees that it shall not obstruct the right-of-way of vehicles on the dike which are engaged in CITY's business.

IN WITNESS WHEREOF, the parties hereto have executed this agreement in multiple copies on the date first hereinabove written.

CITY OF TULSA, OKLAHOMA,  
a municipal corporation

By Robert J. La Fortune  
Mayor

ATTEST:

Fred Scott  
Deputy City Auditor

APPROVED:

Woods Sales  
City Attorney

Howard Cowan  
Chairman, Tulsa Park and  
Recreation Board

"CITY"

SEQUOYAH YACHT CLUB,  
an Oklahoma Corporation

Edward B. Butler  
President

ATTEST:

William C. [Signature]  
Secretary

"CLUB"

DATE DUE			
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