Dredge permit applications and public notices

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LAKE WINONA DREDGING RECOMMENDATIONS

BY

THE LAKE WINONA COMMITTEE

INTRODUCTION

We believe that Lake Winona is one of the area's most valuable natural resources. It provides recreation and scenic beauty for thousands of local residents and has great potential as a tourist attraction. Unfortunately, Lake Winona is slowly dying. Tonight we will outline, for your consideration, a plan to prolong the life of the lake and increase its value as a recreational resource.

BACKGROUND INFORMATION

Beginning in the 1880s, the Lake Winona watershed was intensively cultivated, grazed and burned with little regard for soil conservation. As a consequence, Lake Winona received soil-laden flood waters from Gilmore Creek and Rollingstone Creek (Garvin Brook). Rollingstone Creek was redirected into the Mississippi River in 1899, but Gilmore Creek still frequently flooded western sections of the City.
and poured soil into Lake Winona. Portions of Lake Winona were dredged for the first time in 1913, creating park land, residential areas and the Huff Street Causeway. Sediment input continued, however, and by the 1930s the lake had become very shallow. A City-owned dredge, employed in the 1930s, extracted sediments from several areas to fill lowlands east of Franklin Street. In 1944, Gilmore Creek was redirected so that it passed through Boller Lake, which has since served effectively as a flood reservoir and sediment trap. Dredging, which had been suspended during World War II, was resumed in selected areas in 1950 through 1953. The dredging cost $485,900 and created additional City land. The lake was dredged again, on a small scale, in 1957 and 1958 to improve it for swimming. It should be noted that none of the dredging operations encompassed the entire lake or was designed specifically to improve fisheries habitat. Because they wanted good fill material, the dredgers mined sand deposits from selected areas of the lake, creating holes and trenches as deep as 40 feet. Most of Lake Winona, however, is very shallow. Its average depth is only 8 feet.

Although Gilmore Creek and Rollingstone Creek no longer bring sediment into Lake Winona, over 75% of the lake bottom is blanketed with about seven feet of their sediments. These silty sediments have buried all saleable sand deposits and are, in turn, covered with rich organic ooze produced by decaying aquatic plants which thrive due to nutrient-rich
effluent from 16 miles of storm sewers.

Lake Winona suffered severe winter kills in 1965 and 1969, allowing rough fish to dominate the lake and destroy all aquatic plant beds until 1973 when the lake was reclaimed as a sport fishery. Since then, winter kills have been prevented by aeration. Aquatic plants, which returned to the lake after the rough fish were killed, have been partially controlled by cutting and harvesting. Fishing has been generally good although bluegills and crappies have become stunted, primarily because of excessive protective cover provided by dense plant beds. Aquatic plants have proliferated in the lake because most of it is shallow and because it has been storing nutrient-rich sediments for over 100 years. Lake Winona's useful life has been prolonged since 1973 by a "life support system" of aeration and aquatic plant harvest, but it could be vastly improved by dredging out accumulated sediments and nutrients and making it too deep for rooted plants to grow.

During the past year we have gathered information and consulted with Robert Bollant, Robert Welch and knowledgeable contractors about the feasibility of improving portions of Lake Winona by dredging (see attached technical report by Robert Bollant). Our studies have shown that only one site is presently suitable for disposal of dredged lake sediments. Our recommendations follow:
RECOMMENDATIONS

1. As a pilot project, dredge approximately 15 acres of the west end of the east lake to a depth of 15 feet, thus creating a basin which would be too deep for aquatic plant growth. Estimated cost $200,000.

2. Use the 17-acre natural ponding area between Lake Winona and Highway 61 east of Huff Street as a dredged sediment disposal area. Permits have not been applied for, but we are confident they can be obtained for this specific site.

3. Fill the disposal area with sediment, allow it to dry for a year and use it to raise sunken areas of City parks and athletic fields. Sell the remainder as top soil at $1.00 per cubic yard.

4. When the dried sediment has been excavated, dredge an equivalent area of the west lake, pumping sediment via the Huff Street culvert into the disposal area.

5. Repeat the process as desired, until pumping distances and costs become prohibitive. It is important to recognize that the disposal area would be a construction site during the entire period.
6. When the disposal area has been filled the last time, transform most of it into an attractive, low-maintenance natural area by planting trees and shrubs which will enhance the area for wildlife and increase its value for people using the bike path. The area immediately adjacent to the intersection of Highway 61 and Huff Street and the tourist information center would be landscaped and mowed, thus improving the appearance of the main entrance to the City.

7. Long range plans should include construction of an interceptor sewer line which would prevent storm sewers from draining nutrients, tree leaves, grass clippings, etc. into the lake.
FEASIBILITY REPORT

REDREDGING

OF

LAKE WINONA

Date: APRIL 27, 1987

Robert J. Bollant
Director of Public Works
During 1974, the carp and rough fish in Lake Winona were killed off with chemical treatment and removed from Lake Winona. Once the rough fish were removed, the water in Lake cleared up and the weeds began to grow.

The Lake Winona Committee is of the opinion that much of the weed growth is due to the lake being so shallow. The lake is generally eight feet deep. If the lake were dredged to a 15 foot depth, the weed problem would be greatly curtailed. This report will look at the feasibility of dredging Lake Winona to a 15 foot depth.

On May 28, 1986, a preliminary sounding of Lake Winona was conducted by La Crosse Dredger, Charles Roberts, with his crew and the help of City Park Department Employees. A total of 40 soundings covering both the east and west lakes were made. These soundings confirmed that Lake Winona is generally eight (8.0) feet deep and is underlain with 8 to 20 feet of silt which is underlain with sand. These soundings are attached to the back of this report.

I Dredging in General

The west lake has an area of 82 acres and the east lake an area of 206 acres. To dredge these lakes to a 15 foot depth it would involve the following amount of dredging and cost.

1. West Lake

   82 acres x 7' x 1,613 cu. yd/ac.-ft. = 925,862 cu yds.
   Estimate $1.50/cu.yd.
   925,862 x $1.50 = $1,388,793

2. East Lake

   206 acres x 7' x 1,613 cu yd/ac.-ft. = 2,325,946 Cubic Yards
   Estimate $1.50/cu yd.
   2,325,946 x $1.50 = $3,488,919

   Total cost $4,877,712

Being the cost is so great to reach the desired goal of dredging Lake Winona to a 15 foot depth, beneficial uses of the dredge spoil must be found to make
the project feasible. We will now look at some possible uses of the dredge spoil.

A) Riverbend Industrial Park

The Port Authority of Winona desires to fill Riverbend Industrial Park between the Lake Winona Outlet Ditch and T.H. 61 for use as an industrial park. Excluding the land leased to Badger Foundry there is 96 acres to be filled. This area would need 8 feet of fill or a total of 1,238,784 cubic yards for the site to be usable as an industrial park; good clean sand fill is required. Silt cannot be used for industrial fill. Fleet Farm recently used 315,000 cubic yards of Mississippi River dredge spoil sand to fill their site east of the Holiday Inn. This was clean sand that was barged to Winona by the Corps of Engineers and trucked from the Mississippi River to the Fleet Farm Site by the developer.

Being that the silt is not usable for industrial park fill, the sand would have to be pulled out from under silt and pumped to Riverbend. This would require dredging to a 30 to 35 foot depth. With this type of dredging plan there would be 25 to 30 percent silt pumped also. The silt would tend to separate and be pushed ahead of the sand to the outlet of the disposal area. Thus, approximately 25 acres of the 96 being filled in would be filled with silt and would have to be used as contractor storage yards, or industrial storage yards. The value of the silt filled industrial land would not be as valuable as the sand filled industrial land. Another problem with filling Riverbend Industrial Park is that presently the Corps of Engineers is only granting permits in Riverbend Industrial Park as the City shows a needed use of the land. In 1985, the Port Authority applied for permits to fill all of Riverbend Industrial Park between the Lake Outlet Ditch and T.H. 61, but these permits were denied. The Corps in denying this permit application to
fill all of Riverbend Industrial Park between the Lake Outlet Ditch and T.H. 61 said that permits would only be granted as the City showed need for the land. Approximately the east half of the east lake would be dredged out with this plan.

Another question that would have to be addressed is whether the dredge pipe force main can be placed through the Lake Outlet Culvert under Mankato Avenue with the fish weir in it.

The estimated cost of dredging in 96 acres of Riverbend Industrial Park from Lake Winona based on the assumption that the dredge pipe force main can be laid through the outlet culvert would be:

\[
1,240,000 \times \frac{1.50}{\text{cu yd}} = 1,860,000 \\
\text{or } $19,000 \text{ per acre of filled land}
\]

B) Other Disposal Areas

Lake Park on the northerly side of Lake Winona was dredged in during the early 1950's. Due to the large percentage of organics in the fill, Lake Park has continued to settle. Much of the area has settled to where it needs to be refilled to maintain good drainage. Two large areas that could be dredge filled are Lake Park west of Huff Street between Lake Winona and Lake Park Drive and the area east of Hamilton Street between Lake Winona and Sarnia Street. However, to dredge fill these areas under present Minnesota Pollution Control Agency Dredging Regulations would require that these areas be turned into holding ponds during the dredging operation. This plan would not be acceptable as the holding ponds would raise the water level in the nearby residential areas and cause flooding of the basements. The west area would only take silt from 6 acres of the lake and the east area would only take silt from 4 acres of the lake. Thus, it appears that these two sites are not feasible.
One area that looks more feasible for filling is the area between Lake Winona and T.H. 61 east of Huff Street. This area is a natural ponding area of 17 acres. It would take approximately 13 feet of fill to bring the area up to same level of T.H. 61, the pavement surface of which is elevation 660. Actually the fill in the center could be raised to an elevation higher than 660. Filling to an elevation of 660 would accommodate approximately 25 acres of silt (pumping the lake to a 15 foot depth). One possibility would be to use this area as a permanent ponding area and dredge fill with silt out of the lake.

The Lake Winona Committee has been working with private contractors to find a reuse for the silt. Use as a fertilizer was studied but not found feasible. It appears that the best reuse of the material would be for black dirt topsoil.

The Lake Winona Committee recommends that this 17 acre site be dredged fill with silt. The silt would be allowed to dry and then reused as topsoil. Contractors have the biggest demand for topsoil.

The Park Department could also use some of the topsoil to fill in low areas in Lake Park northerly of Lake Winona.

Drainage off T.H. 61 would have to be maintained through the disposal area.

II Conclusions & Recommendations

The Lake Winona Committee would like to deepen the lake from 8 feet to 15 feet to enhance the value of the lake. The top 7 feet of the lake bottom is almost all silt which is not very desirable for fill, but appears to be useable as a topsoil.

It appears that the only site feasible for silty fill is the area between T.H. 61-14 and Lake Winona east of Huff Street.
The Lake Winona Committee recommends that the City Council fund a pilot project of $200,000 for the dredging of Lake Winona at an estimated cost of one dollar per cubic yard and dredging the lake to a water depth of 15 feet. ($200,000 \div 8 \times 1,667 \text{ cubic yard per acre foot} = 15 \text{ acres}) Fifteen acres could be dredged out. The committee recommends that the dried silt be sold as a topsoil for one dollar per cubic yard. Hopefully 20,000 cubic yards could be disposed of per year. Most of the $200,000 original investment could be recovered and used to fund dredging out another 15 acres of silt to refill the disposal area.

The Lake Winona Committee will make this formal presentation to the City Council for consideration during the 1988 budget hearings. If Council approved funding for this pilot project, the Director of Public Works would begin work immediately on permits. Permits could be difficult to obtain.

Another item to consider is whether the public would accept changing this area into a permanent construction site.
AMMENDEMENT

TO

APRIL 27, 1987

FEASIBILITY REPORT

OF

DREDGING OF

LAKE WINONA

Date: July 18, 1988

[Signature]
Robert J. Bollant
Director of Public Works
A) 1987 Permits

On April 27, 1987, the Director of Public Works presented a Feasibility Report on dredging Lake Winona. The City Council then directed Public Works to apply for permits. The City Council wanted permits for dredging the whole 295 acre lake; however, the only disposal areas that looked feasible were three disposal areas along T.H. 61 consisting of the area easterly of K-Mart and the two areas along T.H. 61 on either side of Huff Street. The disposal areas covered 26.7 acres which would have permitted 34.5 acres of the lake to be dredged. The total amount of dredging was estimated to be 443,560 cubic yards. Permits from the Corps of Engineers and Minnesota Department of Natural Resources were applied for in September 1987. A public meeting was held in Winona on November 5, 1987, with the regulatory agencies and was attended by the Mayor, City staff and Lake Winona Committee. None of the regulatory agencies had any problem with dredging Lake Winona but all had problems with the disposal sites; said problem areas were the disposal sites being wetlands, disposal sites containing purple loosestrife and disposal sites being too small for proper sediment settlement. In November a letter was received from the Minnesota Department of Natural Resources and in December, 1987, a letter was received from the Corps of Engineers; both letters denied the permits for all three disposal areas.

B) Weed Problem

In 1988, the weed problem in Lake Winona became worse than ever especially in the West lake. The park department cut weeds during one shift a day in 1988 compared with two shifts per day in 1987 due to hiring less part-time help and setting a higher priority on grass mowing. The weed complaints grew. As a result of the complaints, a new approach to dredging Lake Winona was considered
because dredging the lake from the present average depth of 8.0 feet in weed areas to 16.0 feet may be the most acceptable way to control the weeds. Rooted aquatic weeds will not grow at depths greater than 15 feet because sunlight cannot penetrate to depth of 15 feet. The report includes a plan to dredge both the West Lake and the East Lake in phases with the East Lake being Phase I and the West lake being Phase II.

C) Phase I - East Lake

The East Lake has a surface area of 215 acres and contains 163 acres of water area less than a 15.0 foot depth.

The Port Authority was approached about using Riverbend Industrial Park as a dredge disposal area. The Port Authority is very interested in filling the remainder of Riverbend Industrial Park but will only accept sand fill. All the material proposed to be dredged above the 15.0 foot level consists of silt and is not acceptable to the Port Authority.

There is 74 acres of land in Riverbend Industrial Park southerly of Frontenac Drive and easterly of the land leased to Badger Foundry as shown on the attached map that the Port Authority desires to see filled. It would take 950,000 cubic yards to fill the 74 acres in Riverbend 8.0 feet.

In working with the Lake Winona Committee, a plan was developed to dredge sand out of 20 acres of Lake Winona northerly of the hospital and easterly of Hamilton Street. This part of the lake is quite deep now and is overlain with only 4 to 7 feet of silt. There is good sand beneath the silt. To fill 74 acres 8.0 feet deep would require dredging 30 feet of material from this 20 acres of the lake. The silt could be mixed in and would end up being pushed to the easterly part of the dredge disposal site in Riverbend Industrial Park. The ideal plan would be to dredge the silt to another area of the lake and then redredge it back into the area where the sand was dredged out, but this would add $213,000 to the cost of the project.
It is herein recommended that the silt overburden from the sand borrow area be pumped to Riverbend with the sand.

The next part of the plan is to dredge as much of the lake as possible into the hole from which the sand was excavated. Approximately 80 acres of the lake could be dredged to a 16 foot depth with the silt being placed in the excavated hole. Cal Fremling and the Public Works Director selected the critical area to be dredged and it is shaded on the attached Lake Winona Map. It is the area of the East Lake that is most heavily used and the most visible. The silt would be placed with a pipe elbowed down to insure we had at least 12 feet of depth upon completing the dredging. It would then settle over a period of time to a 16.0 foot depth. Instead of placing all the silt back into the lake, the Lake Winona Committee strongly recommends that 2 to 4 feet of the silt be stored temporarily atop the filled area in Riverbend to be used later for raising low areas in city parks. This would add to the cost of developing the land in Riverbend as the silt would have to be removed prior to developing the property. The Port Authority is opposed to this part of the plan.

The proposed fill area in Riverbend would have to be cleared. Being that an average of 8.0 feet of fill is being placed, it is not recommended to grub the trees. In this area of Riverbend there is 4 to 8 feet of heavy soil over the sand. Most industrial buildings could then be constructed without special footings; however, each building should be carefully analyzed before being constructed. A containment dike would be constructed with existing soil in Riverbend prior to dredging. A secondary ponding area would also be constructed. A containment boom (silt curtain) would be constructed from the point by the hospital to a point southerly of Hamilton Street to contain the silt during the silt dredging operation. Mr. Robers of Robers Dredge has used these containment curtains and they are quite effective.

The cost of pumping the East Lake as outlined above is as follows:
1. Clearing in Riverbend Industrial Park
   Lump Sum $20,000

2. Dredging 950,000 cubic yards to Riverbend Industrial Park at $2.00 per cubic yard $1,900,000

3. Dredging 950,000 cubic yards of silt into area where sand was dredged out at $1.20 per cubic yard $1,140,000

   Total cost $3,060,000

Dredging out 80 acres of East Lake would then make 132 acres out of 215 deeper than 15 feet. The 83 acres less than 15 feet would be along the south shore and not very noticeable to the public. The 132 acres would cover that part of the lake that is most used. Having 132 acres along the northerly half of the lake the part most used by the public would be a real benefit.

Another disposal site looked at was the old landfill site along Pleasant Valley Creek. The DNR views this area as a first class marsh. We are also concerned about the dredge water percolating through the soil and causing the rubbish to leach out into the ground water.

The DNR finds the plan of using the Riverbend Disposal Site as the most acceptable and favors the plan for dredging the East Lake over the West Lake.

One point the Lake Winona Committee desired to make is that dredging will not make the lake crystal clear. Dredging will improve the algae problem but not eliminate it.

The condition of the lake will be enhanced by dredging but the water will not be crystal clear after dredging and we will still have algae. There will still be weeds in areas less than 15 feet deep.

D) Phase II - West Lake

The West Lake has an 80 acre water surface and contains 60 acres of water area less than 15.0 foot in depth. It takes approximately an acre of disposal area to dredge an acre of lake area. Finding disposal areas within dredging distance of the lake that meet the regulatory agencies criteria is difficult. The Lake Winona
Committee looked at the Bronk Farm which would take half of the West Lake dredge spoil if the whole farm area between Goodview Road and Gilmore Creek were used as a spoil area. In checking with the Corps of Engineers, they verified that approximately one-half of the Bronk Farm area is in the Gilmore Creek floodway and cannot be filled. The area outside the floodway would require too much diking to be a feasible disposal site. The next area studied is the area bounded by Pelzer street, Riverview Drive, Madison Silo and the Soo Line Main Line Railroad. Most of this area is classified as wetland and also contains an 18.3 acre man-made lake which is classified protected water. This area would make an ideal disposal site from an engineering standpoint as the containment dikes are already in place as well as the discharge piping under Riverview Drive. We met with the landowners to determine if they would be open to allowing their land to be filled with silt from Lake Winona. The industrial use value of the property will not be enhanced by placement of dredge spoil. Keith Schwab, of the Mississippi Development Consortium, who owns the westerly one-third of the area would accept the dredge spoil and still maintain ownership of the land. Bob Brink owns the remaining two thirds of proposed disposal site including the 18.3 acre lake. If we could fill the whole 55 acre area, outlined above, the whole 60 acre area of the West Lake needing dredging could be disposed of in this area. Mr. Brink is not interested in allowing the city to fill the lake.

Mr. Brink purchased 55 acres from Madison Silo part of which is northerly of Riverview Drive. Mr. Brink would be willing to sell the property to the city but would want to sell the whole 55 acres including the land northerly of Riverview Drive. It is not feasible to dike the area to protect the lake. As stated above this area would make an ideal dredge disposal area if the 18.3 acre lake could be filled also. The dredge pipe force main would follow the lake inlet ditch to Town and Country Bank and then would be placed under Broadway and Fifth
Street and then across Westfield Golf Course. It would have to be buried where it would interfere with golf. A casing pipe would be bored under the railroad tracks which has been done on Port Dredging Projects. Approval would be required from the Soo Line to allow dredge spoil to come against their embankment. The railroad has approved this in the past. If approval could not be obtained, a containment dike could be placed along the railroad.

The length of the dredge pipe force main would extend up to 11,100 feet and would require one booster pump beside the pump on the dredge. This is reflected in the cost estimate which is part of this report.

The Lake Winona Committee has consulted with the Minnesota DNR and the DNR opposes this plan of placing dredge spoil in the lake and adjacent wet land. This is the only feasible dredge disposal site for the West Lake. It appears to me that the environmental value of the West Lake (which is so heavily used by the public) by dredging far outweighs the negative effect of filling the 18.3 acre lake in the Madison Silo area and the adjacent wet land.

The estimated cost of dredging the whole West Lake to a 16 foot depth is:

1. Dredging 774,000 cubic yards at $2.00/cubic yard = $1,548,000
2. Land costs - 55 acres $242,000

Total cost $1,790,000

A woven wire fence would have to be constructed along Riverview Drive with signs to keep the public out of the disposal area. It would probably take three years before the dredge spoil would be solid enough to walk on.

E) Conclusions And Recommendations

Being that the Port Authority would receive 74 acres of sand filled land in Riverbend Industrial Park as part of the project, the Port Authority should be asked to provide part of the funding. Seventy-four acres of industrial land filled for development would be very beneficial to the city. An investigation of Federal and State funding should be made. It is my understanding that Wisconsin has received
part of Lock and Dam #26 Mitigation Funds. This funding source should be checked out. The next step should be to meet with regulatory agencies and our legislators to determine if we can obtain permits on either plan. The regulatory agencies have been opposing fill permits for Riverbend Industrial Park. At the present time it is very difficult to obtain permits to dredge back into the lake as proposed with the silt. However, as stated above the DNR does prefer the Riverbend Plan as being the most environmentally acceptable.

The help of the Lake Winona Committee and Mr. Charles Robers of Robers Dredge in La Crosse in preparing this report is much appreciated.

After meeting with the regulatory agencies, permits should be applied for. Permits are needed from the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency and the U.S. Army Corps of Engineers.

The next step is funding.

Due to the cost of the project and the size of the project, a priority should be established whether to proceed with the East Lake first as proposed herein. If the decision is made to proceed with the East Lake first, we could then concentrate the weed cutting on the West Lake once dredging is commenced.

The Lake Winona Committee feels strongly that now is the time to proceed with dredging the lake. Dredging could be impractical in the future if the disposed sites are already developed.
Riverbend Disposal Area

In Dredging East Lake
LAKE WINONA

PRODUCED BY WINONA STATE UNIVERSITY IN COOPERATION WITH THE WINONA AREA CHAMBER OF COMMERCE, THE CITY OF WINONA AND THE LAKE WINONA COMMITTEE.

SHARED AREA IS AREA OF EAST LAKE TO BE DREDGED TO 16' DEPTH

AREA OF WEST LAKE TO BE DREDGED TO 16' DEPTH

AREA TO BE DEEPENED 30' AND USED AS SILT DISPOSAL AREA – FINISHED DEPTH TO BE 15' AFTER SETTLING

ADAPTED FROM MINNESOTA DNR HYDROGRAPHIC MAP 85-11

DRAFTING: STEPHEN D. RANENBERG; TEXT: CALVIN R. FREMLING; ARTWORK: RICHARD G. DAVIS

1982
Caring for your catch
Lake Winona fish are excellent for eating all year round. Complaints of bad tasting fish caught in warm weather are usually due to improper handling of fish after they are caught. Many fishermen place the fish on a stringer by sliding the stringer into the fish's gill opening and out its mouth. This ruptures delicate blood vessels of the gill filaments, resulting in the death of the fish. Dead fish spoil as rapidly in water as in air of the same temperature, thus a dead fish soon becomes inedible. If a fish must be placed on a stringer it should be attached only by the lower jaw so that the gills are not damaged. The best way to ensure the freshness of fish is to put them on ice as soon as they are caught.

Because the gills are ordinarily red with blood, their appearance is a good indicator of freshness. If they are red, the fish is fresh. If they have turned white, however, decomposition has begun. After cleaning and scaling their white-gilled catch, fishermen frequently complain that fish caught in the summer are "soft" and do not taste good.

Fishing regulations
Lake Winona is part of the Minnesota-Wisconsin boundary waters, therefore it is subject to those fishing regulations pertaining to Minnesota's inland waters. Fishermen should obtain complete up-to-date regulations at area tackle shops. The following is a synopsis of those regulations which are especially important to those who fish Lake Winona.

License restrictions and possession limits are as follows: northern pike - 3, walleye - 6, bass, 6, suckers - 5, bullheads - 100, sunfish - 30, carp, 3, perch - 100, bullheads - 100.

LICENSES: All residents who have attained the age of 16 and are under the age of 65 must have a Minnesota fishing license while angling. Nonresidents who have attained the age of 16 must have on their person a nonresident Minnesota fishing license while angling. A nonresident under the age of 16 does not need a license if his parent or guardian has a nonresident license, but the child's catch must be included in the daily limit of the parent or guardian.

NUMBER OF LINES: Two lines may be used while angling through the ice, but only one line may be used during the surface season. A spinny may be used on fishing lines during the winter, but the owner must be within 40 feet of the lines.

SEASONS: Lake Winona is open continuously for the catching of crappies, sunfish, perch, carp, and bullheads. However, the season closes on February 15, for walleyes, northern pike, bass and sturgeon. The season usually reopens for walleyes and northern pike on the Saturday nearest May 15. The bass season usually reopens on the Saturday nearest June 5. Consult official Minnesota Department of Natural Resources regulations each year to confirm opening and closing dates.

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Lake Winona history
Lake Winona was a man-made, abandoned river channel when the first white settlers arrived in 1851. By 1860, intensive wheat farming had begun in the watershed, and it caused severe silt and erosion problems. Gilmore Creek was diverted into Lake Winona in 1885 in an effort to prevent chronic winter kills of fish by supplying fresh water. However, Gilmore Creek quickly filled the lake with eroded agricultural soil and the lake was dredged for the first time in 1916. The dredged soil was used to construct park land and the Huff Street causeway. Because Gilmore Creek continued to supply frequent floods in the west end of Winona, the creek was recirculated in 1944 through Boiler Lake so that Boiler Lake would act as a flood detention basin. Volunteers cleaned up over 250,000 pounds of dead fish, most of which were stunted buffalo, carp and gizzard shad. The lake was then restocked with northern pike, largemouth bass, smallmouth bass, bluegill, black crappie and pumpkinseed. Volunteers also cleared out 100,000 pounds of curly leaf pond weeds which cause problems for the rough fish. The rough fish became so abundant that they destroyed most weed beds and caused the lake to be constantly muddy. It was apparent that winterkills would occur with increasing frequency because Lake Winona was suffering from oxygen depletion (contamination due to excess fertilizers).

The Lake Winona Committee organized in a non-profit corporation in 1973 to initiate a lake reclamation program in cooperation with the City of Winona, the Minnesota Department of Natural Resources and Winona State University. The main goal of the reclamation program was to provide safe, quality fishing—especially for children, the elderly and the disabled. Winona and area citizens contributed over $22,000 to pay for an aerating system and an electrical fish barrier. The City of Winona agreed to operate and maintain them. The Minnesota Department of Natural Resources, with the aid of the city, retired all fish from Lake Winona to Lake Winona and Boiler Lake with a biologicalelementary school. Volunteers cleaned up over 250,000 pounds of dead fish, most of which were stunted buffalo, carp and gizzard shad. The lake was then restocked with northern pike, largemouth bass, black bullheads. Northern pike, largemouth bass, smallmouth bass, bluegill, black crappie and pumpkinseed. Volunteers also cleared out 100,000 pounds of curly leaf pond weeds which cause problems for the rough fish. The rough fish became so abundant that they destroyed most weed beds and caused the lake to be constantly muddy. It was apparent that winterkills would occur with increasing frequency because Lake Winona was suffering from oxygen depletion (contamination due to excess fertilizers).

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FEASIBILITY REPORT

REDREDGING

OF

LAKE WINONA

Date: APRIL 27, 1987

Robert J. Bollant
Director of Public Works
LAKE WINONA

During 1974, the carp and rough fish in Lake Winona were killed off with chemical treatment and removed from Lake Winona. Once the rough fish were removed, the water in Lake cleared up and the weeds began to grow.

The Lake Winona Committee is of the opinion that much of the weed growth is due to the lake being so shallow. The lake is generally eight feet deep. If the lake were dredged to a 15 foot depth, the weed problem would be greatly curtailed.

This report will look at the feasibility of dredging Lake Winona to a 15 foot depth.

On May 28, 1986, a preliminary sounding of Lake Winona was conducted by La Crosse Dredger, Charles Robers, with his crew and the help of City Park Department Employees. A total of 40 soundings covering both the east and west lakes were made. These soundings confirmed that Lake Winona is generally eight (8.0) feet deep and is underlain with 8 to 20 feet of silt which is underlain with sand. These soundings are attached to the back of this report.

I  Dredging in General

The west lake has an area of 82 acres and the east lake an area of 206 acres. To dredge these lakes to a 15 foot depth it would involve the following amount of dredging and cost.

1. West Lake

   82 acres x 7' x 1,613 cu. yd/ac.-ft. = 925,862 cu yds.
   Estimate $1.50/cu.yd.
   925,862 x $1.50 = $1,388,793

2. East Lake

   206 acres x 7' x 1,613 cu yd/ac.-ft. = 2,325,946 Cubic Yards
   Estimate $1.50/cu yd.
   2,325,946 x $1.50 = $3,488,919
   Total cost $4,877,712

Being the cost is so great to reach the desired goal of dredging Lake Winona to a 15 foot depth, beneficial uses of the dredge spoil must be found to make
the project feasible. We will now look at some possible uses of the dredge spoil.

A) Riverbend Industrial Park

The Port Authority of Winona desires to fill Riverbend Industrial Park between the Lake Winona Outlet Ditch and T.H. 61 for use as an industrial park. Excluding the land leased to Badger Foundry there is 96 acres to be filled. This area would need 8 feet of fill or a total of 1,238,784 cubic yards for the site to be useable as an industrial park; good clean sand fill is required. Silt cannot be used for industrial fill. Fleet Farm recently used 315,000 cubic yards of Mississippi River dredge spoil sand to fill their site east of the Holiday Inn. This was clean sand that was barged to Winona by the Corps of Engineers and trucked from the Mississippi River to the Fleet Farm Site by the developer.

Being that the silt is not useable for industrial park fill, the sand would have to be pulled out from under silt and pumped to Riverbend. This would require dredging to a 30 to 35 foot depth. With this type of dredging plan there would be 25 to 30 percent silt pumped also. The silt would tend to separate and be pushed ahead of the sand to the outlet of the disposal area. Thus, approximately 25 acres of the 96 being filled in would be filled with silt and would have to be used as contractor storage yards, or industrial storage yards. The value of the silt filled industrial land would not be as valuable as the sand filled industrial land. Another problem with filling Riverbend Industrial Park is that presently the Corps of Engineers is only granting permits in Riverbend Industrial Park as the City shows a needed use of the land. In 1985, the Port Authority applied for permits to fill all of Riverbend Industrial Park between the Lake Outlet Ditch and T.H. 61, but these permits were denied. The Corps in denying this permit application to
fill all of Riverbend Industrial Park between the Lake Outlet Ditch and T.H. 61 said that permits would only be granted as the City showed need for the land. Approximately the east half of the east lake would be dredged out with this plan.

Another question that would have to be addressed is whether the dredge pipe force main can be placed through the Lake Outlet Culvert under Mankato Avenue with the fish weir in it.

The estimated cost of dredging in 96 acres of Riverbend Industrial Park from Lake Winona based on the assumption that the dredge pipe force main can be laid through the outlet culvert would be:

\[
1,240,000 \times \$1.50/\text{cu yd} = \$1,860,000 \\
\text{or } \$19,000 \text{ per acre of filled land}
\]

B) Other Disposal Areas

Lake Park on the northerly side of Lake Winona was dredged in during the early 1950's. Due to the large percentage of organics in the fill, Lake Park has continued to settle. Much of the area has settled to where it needs to be refilled to maintain good drainage. Two large areas that could be dredge filled are Lake Park west of Huff Street between Lake Winona and Lake Park Drive and the area east of Hamilton Street between Lake Winona and Sarnia Street. However, to dredge fill these areas under present Minnesota Pollution Control Agency Dredging Regulations would require that these areas be turned into holding ponds during the dredging operation. This plan would not be acceptable as the holding ponds would raise the water level in the nearby residential areas and cause flooding of the basements. The west area would only take silt from 6 acres of the lake and the east area would only take silt from 4 acres of the lake. Thus, it appears that these two sites are not feasible.
One area that looks more feasible for filling is the area between Lake Winona and T.H. 61 east of Huff Street. This area is a natural ponding area of 17 acres. It would take approximately 13 feet of fill to bring the area up to same level of T.H. 61, the pavement surface of which is elevation 660. Actually the fill in the center could be raised to an elevation higher than 660. Filling to an elevation of 660 would accommodate approximately 25 acres of silt (pumping the lake to a 15 foot depth). One possibility would be to use this area as a permanent ponding area and dredge fill with silt out of the lake.

The Lake Winona Committee has been working with private contractors to find a reuse for the silt. Use as a fertilizer was studied but not found feasible. It appears that the best reuse of the material would be for black dirt topsoil.

The Lake Winona Committee recommends that this 17 acre site be dredged fill with silt. The silt would be allowed to dry and then reused as topsoil. Contractors have the biggest demand for topsoil.

The Park Department could also use some of the topsoil to fill in low areas in Lake Park northerly of Lake Winona.

Drainage off T.H. 61 would have to be maintained through the disposal area.

II Conclusions & Recommendations

The Lake Winona Committee would like to deepen the lake from 8 feet to 15 feet to enhance the value of the lake. The top 7 feet of the lake bottom is almost all silt which is not very desireable for fill, but appears to be useable as a topsoil.

It appears that the only site feasible for silty fill is the area between T.H. 61-14 and Lake Winona east of Huff Street.
The Lake Winona Committee recommends that the City Council fund a pilot project of $200,000 for the dredging of Lake Winona at an estimated cost of one dollar per cubic yard and dredging the lake to a water depth of 15 feet. ($200,000
\[\frac{8 \times 1,667 \text{ cubic yard per acre foot}}{15 \text{ acres}}\] Fifteen acres could be dredged out. The committee recommends that the dried silt be sold as a topsoil for one dollar per cubic yard. Hopefully 20,000 cubic yards could be disposed of per year. Most of the $200,000 original investment could be recovered and used to fund dredging out another 15 acres of silt to refill the disposal area.

The Lake Winona Committee will make this formal presentation to the City Council for consideration during the 1988 budget hearings. If Council approved funding for this pilot project, the Director of Public Works would begin work immediately on permits. Permits could be difficult to obtain.

Another item to consider is whether the public would accept changing this area into a permanent construction site.
<table>
<thead>
<tr>
<th>#</th>
<th>Depth Range</th>
<th>Description</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>0-7.5 H2O</td>
<td>Mud</td>
<td>Franklin St. - Center of Lake</td>
</tr>
<tr>
<td></td>
<td>7.5-20.0</td>
<td>Fine Sand</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0-7.5 H2O</td>
<td>Mud</td>
<td>Franklin St. - 200' off South Shore</td>
</tr>
<tr>
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<tr>
<td></td>
<td>10-13.0</td>
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</tr>
<tr>
<td>4</td>
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<td>Mud (thin)</td>
<td>Liberty St. - 175' off North Shore</td>
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<td></td>
<td>8-10.0</td>
<td>Mud (thick)</td>
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<td></td>
<td>10-14.0</td>
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<td>14-24.0</td>
<td>Med. Sand</td>
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<tr>
<td>5</td>
<td>0-8.0 H2O</td>
<td>Mud</td>
<td>Liberty St. - Center of Lake</td>
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<tr>
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<td>Mud - no sand contact</td>
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<td>8</td>
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</tr>
<tr>
<td></td>
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<td>Firm Mud Sticky - no sand contact</td>
<td></td>
</tr>
<tr>
<td>9</td>
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<td>Silt</td>
<td>Laird St. - 200' off North Shore</td>
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<tr>
<td></td>
<td>8-23.0</td>
<td>Med. Sand</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0-6.5 H2O</td>
<td>Mud</td>
<td>Hamilton St. - 225' off North Shore</td>
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<tr>
<td></td>
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<tr>
<td>11</td>
<td>0-8.0 H2O</td>
<td>Silt</td>
<td>Hamilton St. - Center of Lake</td>
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<td></td>
<td>8-23.0</td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td>0-8.0 H2O</td>
<td>Mud</td>
<td>Hamilton St. - 250' off South Shore</td>
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<tr>
<td></td>
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<td>Stiff Mud - no sand contact</td>
<td></td>
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<tr>
<td>#</td>
<td>Depth (ft)</td>
<td>Material</td>
<td>Location</td>
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</tr>
<tr>
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<td>0-8</td>
<td>Mud</td>
<td>Center of Southeast Bay</td>
</tr>
<tr>
<td></td>
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<td>Sticky Mud - no sand contact</td>
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</tr>
<tr>
<td>#14</td>
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<td>H2O</td>
<td>Center of Northeast Bay</td>
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<tr>
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<tr>
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<td>0-8</td>
<td>H2O</td>
<td>150' from Mankato Bridge</td>
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<tr>
<td>#16</td>
<td>0-9</td>
<td>H2O</td>
<td>Walnut St. - 150' from North Shore</td>
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<tr>
<td></td>
<td>9-11.0</td>
<td>Mud</td>
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<td>H2O</td>
<td>Walnut St. - Center of Lake</td>
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<tr>
<td></td>
<td>7.5-14.0</td>
<td>Mud</td>
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<tr>
<td></td>
<td>14-30.0</td>
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<tr>
<td>#18</td>
<td>0-8</td>
<td>H2O</td>
<td>Walnut St. - 200' off South Shore</td>
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<tr>
<td></td>
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<td>Mud</td>
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<tr>
<td></td>
<td>23-29.0</td>
<td>Med. Sand</td>
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</tr>
<tr>
<td>#19</td>
<td>0-8</td>
<td>H2O</td>
<td>Center St. - 150' off South Shore</td>
</tr>
<tr>
<td></td>
<td>8-21.0</td>
<td>Mud - Sticky</td>
<td></td>
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<tr>
<td></td>
<td>21-30.0</td>
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</tr>
<tr>
<td>#20</td>
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<td>H2O</td>
<td>Center St. - Center of Lake</td>
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<td>Johnson St. - 150' off North Shore</td>
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<td>H2O</td>
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<tr>
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<td>H2O</td>
<td>Harriet St. - Center of Lake</td>
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<td>0-10.0</td>
<td>H2O</td>
<td>Harriet St. - 100' off North Shore</td>
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<td>Med. Coarse Sands</td>
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<td>Harriet St. - 100' off South Shore</td>
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<td>Sand</td>
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<td>Mud</td>
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<td>20-</td>
<td>Clay - grabs rod</td>
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<tr>
<td></td>
<td>9-15.0</td>
<td>Mud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-20.0</td>
<td>Fine Sand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-30.0</td>
<td>Med. Coarse Sand</td>
<td></td>
</tr>
<tr>
<td>#34-</td>
<td>0-19.0</td>
<td>H2O</td>
<td>Dakota St. - 200' off North Shore</td>
</tr>
<tr>
<td></td>
<td>19-30.0</td>
<td>Thin Silt</td>
<td>no sand contact</td>
</tr>
<tr>
<td>#35-</td>
<td>0-8.5</td>
<td>H2O</td>
<td>Dakota St. - Center of Lake</td>
</tr>
<tr>
<td></td>
<td>8.5-20.0</td>
<td>Mud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-</td>
<td>Clay - grabs rod</td>
<td>no sand contact</td>
</tr>
<tr>
<td>#36-</td>
<td>0-10.0</td>
<td>H2O</td>
<td>Dakota St. - 100' off South Shore</td>
</tr>
<tr>
<td></td>
<td>10-17.0</td>
<td>Mud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17-30.0</td>
<td>Med. Coarse Sand</td>
<td></td>
</tr>
<tr>
<td>#37-</td>
<td>0-9.0</td>
<td>H2O</td>
<td>Waucouta St. - 75' off South Shore</td>
</tr>
<tr>
<td></td>
<td>9-21.0</td>
<td>Stiff Mud</td>
<td>Fine Hard Packed Sand</td>
</tr>
<tr>
<td>#38-</td>
<td>0-6.0</td>
<td>H2O</td>
<td>Waucouta St. - Center of Lake</td>
</tr>
<tr>
<td></td>
<td>6-24.0</td>
<td>Stiff Mud</td>
<td>Sticky</td>
</tr>
<tr>
<td></td>
<td>24-</td>
<td>Fine Sand &amp; Silt</td>
<td>Sticky</td>
</tr>
<tr>
<td>#39-</td>
<td>0-18.0</td>
<td>H2O</td>
<td>Waucouta St. - 150' off North Shore</td>
</tr>
<tr>
<td></td>
<td>18-30.0</td>
<td>Silt, trace sand</td>
<td></td>
</tr>
<tr>
<td>#40-</td>
<td>0-8.0</td>
<td>H2O</td>
<td>Chippewa St. - Center of Lake</td>
</tr>
<tr>
<td></td>
<td>8-13.0</td>
<td>Mud</td>
<td>150' from bridge, west end</td>
</tr>
<tr>
<td></td>
<td>13-30.0</td>
<td>Med. Coarse Sand</td>
<td></td>
</tr>
</tbody>
</table>
PUBLIC NOTICE

APPLICANT: City of Winona

ISSUED: May 2, 1989

EXPIRES: June 1, 1989

REFER TO: CENCS-CO-R (89-762-30)

SECTION: 404 - Clean Water Act

1. APPLICATION FOR PERMIT TO discharge dredged material below the ordinary high water mark of Lake Winona and in wetlands adjacent to the Mississippi River. The city proposes to dredge Lake Winona to control weed growth, thereby slowing the eutrophication process. The dredged material would be placed in 81 acres of wetland located within the Riverbend Industrial Park to make the area suitable for development.

HISTORY: The City of Winona previously applied for a Department of the Army permit to dredge Lake Winona and place the dredged material in three areas of wetland adjacent to the lake, as described in Public Notice No. (87-1340-23) issued October 15, 1987. That application was denied without prejudice on December 16, 1987, due to the denial of State approval. Also, the Port Authority of Winona applied for a Department of the Army permit to place fill material in wetlands at the Riverbend Industrial Park, as described in Public Notice No. (85-611-30) issued August 2, 1985. That permit request was later withdrawn by the city. The city has now revised and combined these two proposals as described below.

2. SPECIFIC INFORMATION

APPLICANT'S ADDRESS: City of Winona
P.O. Box 378
Winona, Minnesota 55987

PHONE NUMBER: (507) 452-8550

AGENT: Robert J. Bollant
Director of Public Works

PROJECT LOCATION: The project worksites are located in Lake Winona in sections 26 and 27, township 107 N., range 7 W., and Riverbend Industrial Park, section 36, township 107 N., range 7 W., all in Winona County, Minnesota.

DESCRIPTION OF PROJECT: The City of Winona proposes to take action in an effort to prolong the life of Lake Winona, which according to recent studies is aging rapidly, by dredging to eliminate weed growth, remove muck, and generally deepen the lake. The muck has a high biological oxygen demand and is rich in nutrients, which causes the lake to be highly eutrophic. It is proposed to deepen 110 acres of East Lake Winona from an average water depth of 8 feet to 16 feet.

The applicant has indicated that the purpose of the project is twofold; to restore Lake Winona to a vital recreational and fishing lake, and to create upland industrial property. The city has indicated that upland property is
needed in the Riverbend Industrial Park to encourage new industry to commit to locating in the Industrial Park, thereby contributing to the economic growth of the city. The applicant has stated that it has searched for alternative sites that would provide enough acreage for the disposal of the dredged material and yet achieve the development of an industrial park. The city determined that there are no other feasible upland or wetland sites available that would fulfill the project purpose.

It is proposed to hydraulically dredge 950,000 cubic yards of sand from a 24-acre area of East Lake Winona to a water depth of approximately 20 feet and place the sand in 81 acres of wetland in Riverbend Industrial Park. Subsequently, an additional 110 acres of the easterly area of the lake would be dredged and approximately 392,000 cubic yards of muck would be placed on top of the 81-acre area of sand fill to a depth of 3 feet. The remaining 558,000 cubic yards of dredged muck from the 110-acre area of lake would be placed in the 24-acre hole. The muck would be evenly spread over the 24 acres, leaving the area at a minimum water depth of 16 feet.

BACKGROUND NOTE: The creation of the Riverbend Industrial Park was discussed in the environmental impact statement (EIS) for the Winona flood control project prepared by the Corps in 1976. During the planning stages of that project, the flood control levee alignment was modified to expand an area by approximately 40 acres that would be protected by the project. That area is within the boundary of what the City of Winona identifies as its industrial park. This change was made in response to comments on the draft EIS from concerned Federal and State agencies. Following this change, it was the understanding of the Corps, the City of Winona, and the involved agencies, that the area remaining behind the levee would ultimately be developed by the city for industrial use. The City had also contributed to the cost of the flood control project because of the benefit it would gain from the future use of this area. The EIS did specify, however, that a permit would be required under Section 404 of the Clean Water Act for the placement of fill material in wetlands in this area.

VEGETATION IN AFFECTED AREA: Lake Winona is primarily vegetated with curlyleaf pondweed and coontail. The wetlands located in the Riverbend Industrial Park contain vegetation typical of Types 1, 2 and 6 wetlands, including eastern cottonwood, silver maple, willows, alders, dogwood, reed canary grass and a variety of grasses. Upland shrubs are invading some areas of the site.

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THE FOLLOWING PRECAUTIONS TO PROTECT WATER QUALITY HAVE BEEN DESCRIBED BY THE APPLICANT: The applicant proposes to construct a containment curtain in the lake at the west end of the 24-acre dredging area. Dikes would be constructed in the 81-acre fill area in the Riverbend Industrial Park to
contain the fill adjacent to the flood control dike on the east and private property on the west.

REPLIES/COMMENTS

Interested parties are invited to submit to this office written facts, arguments, or objections within 30 days of the date of this notice. These statements should bear upon the suitability of the location and the adequacy of the project and should, if appropriate, suggest any changes believed to be desirable. Comments received may be forwarded to the applicant.

Replies may be addressed to the St. Paul District, Corps of Engineers, P.O. Box 1445, La Crosse, Wisconsin 54602-1445.
Or, IF YOU HAVE QUESTIONS ABOUT THE PROJECT, call Mary Marx at the St. Paul District, La Crosse Field Office (608) 784-8236.

4. THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR THEIR CRITICAL HABITAT:

None were listed by the applicant or are known to exist in the permit area. However, Winona County is within the known or historic range of the following threatened (T) and/or endangered (E) species:

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</tr>
</tbody>
</table>

This application is being coordinated with the U.S. Fish and Wildlife Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

5. JURISDICTION: Lake Winona comes under the regulatory jurisdiction of the Corps of Engineers because it is part of a tributary system to the Mississippi River, a navigable water of the United States. Also, the wetlands in the Riverbend Industrial Park area are adjacent to the Mississippi River.

REGULATORY AUTHORITY: The application will be reviewed according to the provisions of Section 404 of the Clean Water Act. Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 Code of Federal Regulations 230).

THE APPLICANT HAS STATED THAT THE FOLLOWING STATE PERMIT HAS BEEN APPLIED FOR: Minnesota Department of Natural Resources.
6. WATER QUALITY CERTIFICATION: This Public Notice has been sent to the Minnesota Pollution Control Agency and is considered by the District Engineer to constitute valid notification to that agency for water quality certification. The Minnesota Pollution Control Agency has indicated that it intends to review this project to determine the appropriate action under Section 401 of the Clean Water Act. Any comments relative to Minnesota Pollution Control Agency actions may be sent to:

Minnesota Pollution Control Agency  
Program Development  
Division of Water Quality  
520 Lafayette Road  
St. Paul, Minnesota 55155

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This public notice is being sent to the National Park Service, the State Archaeologist, and the State Historic Preservation Officer to determine if there are known cultural resources which may be affected by the described work. Any unknown archaeological, scientific, or historical data could be lost or destroyed by the work described in the permit application. However, the latest version of the National Register of Historic Places has been consulted and no listed properties (known to be eligible for inclusion, or included in the Register) are located in the project area.

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Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, in detail, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

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The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects.
Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. Environmental and other documents will be available for review in the St. Paul District Office.

FOR THE DISTRICT ENGINEER:

[Signature]
WM. L. GOETZ
Chief, Construction-Operations

1 Encl
DREDGE 392,000 CU. YDS. OF MUCK FROM THIS AREA TO MAKE A 3.0' FILL ON TOP OF THE 81.0 ACRES SAND FILLED. DREDGE 558,000 CU. YDS. OF MUCK BACK INTO HOLE WHERE 950,000 CU. YDS. OF SAND WERE DREDGED FROM. USE CONTAINMENT CURTAIN AND LEAVE A UNIFORM DEPTH.

DREDGE 950,000 CU. YDS. OF SAND FROM THIS AREA TO FILL 81.0 ACRES IN RIVERBEND INDUSTRIAL PARK TO ELEVATION 655.5

DEEPEN THIS AREA 30' BY DREDGING

CONTAINMENT CURTAIN

PLAN VIEW - DREDGING AREA
LAKE WINONA DREDGING
MARCH, 1989
SHEET 2 OF 4 SHEETS
PLAN VIEW - DISPOSAL AREA
LAKE WINONA DREDGING
MARCH, 1939
SHEET 3 OF 4 SHEETS

P.A. DENOTES PORT AUTHORITY
OF WINONA
SECTION A-A

SCALE
HORIZ. 1" = 400'
VERT. 1" = 40'

SECTION B-B

SCALE
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SECTION VIEW
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PLAN VIEW - DREDGING AREA
LAKE WINONA DREDGING
MARCH, 1989
SHEET 2 OF 4 SHEETS
PLAN VIEW - DISPOSAL AREA
LAKE WINONA DREDGING
MARCH, 1989
SHEET 3 OF 4 SHEETS
SECTION A-A

646.5 NORMAL LAKE LEVEL
640 - EXISTING LAKE BOTTOM
630.5
620
610
600 - PROPOSED DREDGE ELEVATION
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440 - TOP OF DIKE
430 - TOP OF MUCK FILL 658.5
420 - TOP OF SAND DIKE 659.5
410 - TOP OF SAND FILL 655.5
400
390
380
370
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0

SCALE
HORIZ. 1" = 400'
VERT. 1" = 40'

SECTION B-B

645.5 NORMAL LAKE OUTLET DITCH ELEVATION
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
410
400
390
380
370
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
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110
100
90
80
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60
50
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10
0

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needed in the Riverbend Industrial Park to encourage new industry to commit to locating in the Industrial Park, thereby contributing to the economic growth of the city. The applicant has stated that it has searched for alternative sites that would provide enough acreage for the disposal of the dredged material and yet achieve the development of an industrial park. The city determined that there are no other feasible upland or wetland sites available that would fulfill the project purpose.

It is proposed to hydraulically dredge 950,000 cubic yards of sand from a 24-acre area of East Lake Winona to a water depth of approximately 20 feet and place the sand in 81 acres of wetland in Riverbend Industrial Park. Subsequently, an additional 110 acres of the easterly area of the lake would be dredged and approximately 392,000 cubic yards of muck would be placed on top of the 81-acre area of sand fill to a depth of 3 feet. The remaining 558,000 cubic yards of dredged muck from the 110-acre area of lake would be placed in the 24-acre hole. The muck would be evenly spread over the 24 acres, leaving the area at a minimum water depth of 16 feet.

BACKGROUND NOTE: The creation of the Riverbend Industrial Park was discussed in the environmental impact statement (EIS) for the Winona flood control project prepared by the Corps in 1976. During the planning stages of that project, the flood control levee alignment was modified to expand an area by approximately 40 acres that would be protected by the project. That area is within the boundary of what the City of Winona identifies as its industrial park. This change was made in response to comments on the draft EIS from concerned Federal and State agencies. Following this change, it was the understanding of the Corps, the City of Winona, and the involved agencies, that the area remaining behind the levee would ultimately be developed by the city for industrial use. The City had also contributed to the cost of the flood control project because of the benefit it would gain from the future use of this area. The EIS did specify, however, that a permit would be required under Section 404 of the Clean Water Act for the placement of fill material in wetlands in this area.

VEGETATION IN AFFECTED AREA: Lake Winona is primarily vegetated with curlyleaf pondweed and coontail. The wetlands located in the Riverbend Industrial Park contain vegetation typical of Types 1, 2 and 6 wetlands, including eastern cottonwood, silver maple, willows, alders, dogwood, reed canary grass and a variety of grasses. Upland shrubs are invading some areas of the site.

SURROUNDING LAND USE: Residential and industrial. The Burns Valley Creek dike, built by the Corps of Engineers, runs along the eastern boundary of the Riverbend Industrial Park. Portions of this area have been developed by either building on existing upland or by placement of fill material in wetlands. Today, there remains some undeveloped upland, but the majority of the area is wetland.

THE FOLLOWING PRECAUTIONS TO PROTECT WATER QUALITY HAVE BEEN DESCRIBED BY THE APPLICANT: The applicant proposes to construct a containment curtain in the lake at the west end of the 24-acre dredging area. Dikes would be constructed in the 81-acre fill area in the Riverbend Industrial Park to
contain the fill adjacent to the flood control dike on the east and private property on the west.

REPLIES/COMMENTS

Interested parties are invited to submit to this office written facts, arguments, or objections within 30 days of the date of this notice. These statements should bear upon the suitability of the location and the adequacy of the project and should, if appropriate, suggest any changes believed to be desirable. Comments received may be forwarded to the applicant.

Replies may be addressed to the St. Paul District, Corps of Engineers, P.O. Box 1445, La Crosse, Wisconsin 54602-1445.

Or, IF YOU HAVE QUESTIONS ABOUT THE PROJECT, call Mary Marx at the St. Paul District, La Crosse Field Office (608) 784-8236.

4. THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR THEIR CRITICAL HABITAT:

None were listed by the applicant or are known to exist in the permit area. However, Winona County is within the known or historic range of the following threatened (T) and/or endangered (E) species:

<table>
<thead>
<tr>
<th>Species</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peregrine falcon (E)</td>
<td>Potential breeding</td>
</tr>
<tr>
<td>Bald eagle (T)</td>
<td>Breeding</td>
</tr>
</tbody>
</table>

This application is being coordinated with the U.S. Fish and Wildlife Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

5. JURISDICTION: Lake Winona comes under the regulatory jurisdiction of the Corps of Engineers because it is part of a tributary system to the Mississippi River, a navigable water of the United States. Also, the wetlands in the Riverbend Industrial Park area are adjacent to the Mississippi River.

REGULATORY AUTHORITY: The application will be reviewed according to the provisions of Section 404 of the Clean Water Act. Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 Code of Federal Regulations 230).

THE APPLICANT HAS STATED THAT THE FOLLOWING STATE PERMIT HAS BEEN APPLIED FOR: Minnesota Department of Natural Resources.
6. WATER QUALITY CERTIFICATION: This Public Notice has been sent to the Minnesota Pollution Control Agency and is considered by the District Engineer to constitute valid notification to that agency for water quality certification. The Minnesota Pollution Control Agency has indicated that it intends to review this project to determine the appropriate action under Section 401 of the Clean Water Act. Any comments relative to Minnesota Pollution Control Agency actions may be sent to:

Minnesota Pollution Control Agency
Program Development
Division of Water Quality
520 Lafayette Road
St. Paul, Minnesota 55155

7. HISTORICAL/ARCHEOLOGICAL

This public notice is being sent to the National Park Service, the State Archaeologist, and the State Historic Preservation Officer to determine if there are known cultural resources which may be affected by the described work. Any unknown archaeological, scientific, or historical data could be lost or destroyed by the work described in the permit application. However, the latest version of the National Register of Historic Places has been consulted and no listed properties (known to be eligible for inclusion, or included in the Register) are located in the project area.

8. PUBLIC HEARING REQUESTS

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, in detail, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

9. PUBLIC INTEREST REVIEW

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects.
Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. Environmental and other documents will be available for review in the St. Paul District Office.

FOR THE DISTRICT ENGINEER:

WM. L. GOETZ
Chief, Construction-Operations
DREDGE 392,000 CU. YDS. OF MUCK FROM THIS AREA TO MAKE A 3.0' FILL ON TOP OF THE 81.0 ACRES SAND FILLED. DREDGE 558,000 CU. YDS. OF MUCK BACK INTO HOLE WHERE 950,000 CU. YDS. OF SAND WERE DREDGED FROM. USE CONTAINMENT CURTAIN AND LEAVE A UNIFORM DEPTH.

DREDGE 950,000 CU. YDS. OF SAND FROM THIS AREA TO FILL 81.0 ACRES IN RIVERBEND INDUSTRIAL PARK TO ELEVATION 655.5
LAKE WINONA DREDGING RECOMMENDATIONS

BY

THE LAKE WINONA COMMITTEE

INTRODUCTION

The following report is presented as a supplement to the dredging feasibility report of Robert Bollant which was ordered by the City Council. We believe that Lake Winona is one of the area's most valuable natural resources. It provides recreation and scenic beauty for thousands of local residents and has great potential as a tourist attraction. Unfortunately, Lake Winona is slowly dying. Tonight we will outline, for your consideration, a plan to prolong the life of the lake and increase its value as a recreational resource.

BACKGROUND INFORMATION

Beginning in the 1880s, the Lake Winona watershed was intensively cultivated, grazed and burned with little regard for soil conservation. As a consequence, Lake Winona received soil-laden flood waters from Gilmore Creek and Rollingstone Creek (Garvin Brook). Rollingstone Creek was redirected into the Mississippi River in 1899, but Gilmore Creek still frequently flooded western sections of the City and poured soil into Lake Winona. Portions of Lake Winona were dredged for the first time in 1913, creating park land, residential areas and the Huff Street Causeway. Sediment input continued, however, and by the 1930s the lake had become very shallow. A City-owned dredge, employed in the 1930s, extracted sediments from several areas to fill lowlands east of Franklin Street. In 1944, Gilmore Creek was redirected so that it passed through Boller Lake, which has since served effectively as a flood reservoir and sediment trap. Dredging, which had been suspended during World War II, was resumed in selected areas in 1950 through 1953. The dredging cost $485,900 and created additional City land. The lake was dredged again, on a small scale, in 1957 and 1958 to improve it for swimming. It should be noted that none of the dredging operations encompassed the entire lake or was designed specifically to improve fisheries habitat. Because they wanted good fill material, the dredgers mined sand deposits from selected areas of the lake, creating holes and trenches as deep as 40 feet. Most of Lake Winona, however, is very shallow. Its average depth is only 8 feet.

Although Gilmore Creek and Rollingstone Creek no longer bring sediment into Lake Winona, over 75% of the lake bottom is blanketed with about seven feet of their sediments. These
silty sediments have buried all saleable sand deposits and are, in turn, covered with rich organic ooze produced by decaying aquatic plants and the tons of tree leaves and other organic matter which enter the lake from 1600 acres of Winona and Goodview via 16 miles of storm sewers. Gilmore Creek, because it has been diverted through Boller Lake, no longer contributes many pollutants to Lake Winona. Most sediment, nutrients, and organic matter are from storm sewers and from the dry wash which runs through Woodlawn Cemetery.

Lake Winona suffered winter kills due to oxygen depletion in 1965 and 1969, allowing rough fish to dominate the lake and destroy all aquatic plant beds until 1973 when the lake was reclaimed as a sport fishery. Since then, winter kills have been prevented by aeration. Aquatic plants, which returned to the lake after the rough fish were killed, have been partially controlled by cutting and harvesting. Fishing has been generally good although bluegills and crappies have become stunted, primarily because of excessive protective cover provided by dense plant beds. Aquatic plants have proliferated in the lake because it is shallow, very fertile, and because it has been storing nutrient-rich sediments for over 100 years. Lake Winona’s useful life has been prolonged since 1973 by a "life support system" of aeration and aquatic plant harvest, but it could be vastly improved by dredging out accumulated sediments and nutrients and making it too deep for rooted plants to grow.

During the past year we have gathered information and consulted with Robert Bollant, Robert Welch and knowledgeable contractors about the feasibility of improving portions of Lake Winona by dredging (see attached technical report by Robert Bollant). Our studies have shown that only one site is presently suitable for disposal of dredged lake sediments. Our recommendations follow:

RECOMMENDATIONS

1. As a pilot project, dredge approximately 15 acres of the west end of the east lake to a depth of 15 feet, thus creating a basin which would be too deep for aquatic plant growth. Estimated cost $200,000.

2. Use the 17-acre natural ponding area between Lake Winona and Highway 61 east of Huff Street as a dredged sediment disposal area. Permits have not been applied for, but we are confident they can be obtained for this specific site.

3. Fill the disposal area with sediment, allow it to dry for a year and use it to raise sunken areas of City parks and athletic fields. Sell the remainder as top soil at $1.00 per cubic yard.

4. When the dried sediment has been excavated, dredge an
equivalent area of the west lake, pumping sediment via the Huff Street culvert into the disposal area.

5. Repeat the process as desired, until pumping distances and costs become prohibitive. It is important to recognize that the disposal area would be a construction site during the entire period.

6. When the disposal area has been filled the last time, transform most of it into an attractive, low-maintenance natural area by planting trees and shrubs which will enhance the area for wildlife and increase its value for people using the bike path. The area immediately adjacent to the intersection of Highway 61 and Huff Street and the tourist information center would be landscaped and mowed, thus improving the appearance of the main entrance to the City.

7. If this preliminary plan is approved, detailed plans will be made in consultation with the City Engineer and the Minnesota Department of Natural Resources to determine exact areas to be dredged and to maximize the value of the work done.

8. Long range plans should include construction of an interceptor sewer line which would prevent storm sewers from draining nutrients, tree leaves, grass clippings, etc. into the lake.
Caring for your catch
Lake Winona fish are excellent for eating if you follow certain rules. Most fishers are not aware of the proper handling of fish after they are caught. Many fishers have a fish on a line for a long time before they find out the fish is too small or is illegal and must be released. The following is a synopsis of some of the regulations, which are especially important to those who fish Lake Winona.

LICENSES: All residents who have attained the age of 16 must have on their persons a nonresident Minnesota fishing license while angling. A nonresident under the age of 16 does not need a license if parent or guardian has a nonresident license, but the child's catch must be included in the daily limit of the parent or guardian.

NUMBER OF LINES: Two lines may be used while angling through the ice, but only one may be used during the winter season. Tips may be used on fishing lines during the winter, but the owner must be within 80 feet of the line.

SEASONS: Lake Winona is open continuously for the catching of crappie, sunfish, perch, catfish and bullheads. However, the season closes on February 15, for walleyes, northern pike, bass and muskellunge (minimum size 30 inches). On April 1, crappie, 15, sunfish — 30, carp — 5, perch — 100, bullheads — 10.

LIMITS: Daily and possession limits are as follows: northern pike — 3, walleye — 6, bass — 6, muskellunge (minimum size 30 inches) — 1, crappie, 15, sunfish — 30, carp — 5, perch — 100, bullheads — 10.

FISH HOUSES: All fish houses must have the owner's name and address posted legibly on the outside with letters and figures at least three inches high. All fish houses must be licensed. The metal tag furnished with the license must be attached to the door, no more than six inches from the top. Doors must be designed so that they may be opened from the outside at any time. All fish houses (including all parts thereof) must be removed from the ice by March 1. Littering is illegal.

Biological Information
Lake Winona is a very fertile (eutrophic) lake with a probable carrying capacity of over 300 pounds of game fish per acre. Because the lake is circulated by an aeration system the entire year, fish may be found at all depths. The lake furnishes ample spawning habitat for sunfish, bass, crappie and bullheads. Buller Lake, which provides excellent spawning habitat for northern pike, is managed as a rearing area for Lake Winona. Walleyes, which need water-warmed gravel for spawning, do not reproduce well in the lake. Because it is inevitable that rough fish such as carp and buffalo will occur in any lake near the river, it is essential to control rough fish (by netting and by preventing them from spawning), and to maintain predator populations at high levels by they will prey upon rough fish. All watercraft must display Lake Winona with lawn fertilizers, tree leaves, grass clippings and other nutrients. These nutrients cause fish growths of early leaf pond weeds which cause problems for waterfowl and fishermen. The plants also provide so much cover for the sunfish and catfish that predation like northern pike cannot eat enough of them. Consequently, the sunfish and catfish populations tend to overpopulate and to become stunted. Fishermen can help prevent stunted sunfish and crappies by catching more of them and by taking them all home. It would be extremely difficult to overfish Lake Winona. Future plans for the lake include a weed harvester.

Lake Winona history
Lake Winona was a sandy bottom marshy, abandoned river channel when the first white settlers arrived in 1831. By 1860, intensive wheat farming had begun in the watershed, and it caused severe soil erosion problems. Gilmore Creek was diverted into Lake Winona in 1885 to control flooding and prevent chronic winter kills of fish by supplying fresh water. However, Gilmore Creek quickly filled the lake with eroded agricultural soil and the lake was dredged for the first time in 1936. The dredged soil was used to construct pump land and the Huff Street causeway. Because Gilmore Creek continued to supply frequent floods in the west end of Winona, the creek was rerouted in 1944 through Boller Lake and Lake Winona to Lake Lake Winona in 1945. The cost of $23,000 — all money derived from fishing license fees and taxes on non-residents — was used to create the land on which the hospital and high school were later built.

A major fish kill occurred during late winter of 1961 because of oxygen depletion. Most game fish were killed and the lake quickly became dominated by the harder buffered, carp and bullhead that survived the kill. Game fish were reintroduced, but they became stunted because they had to compete with rough fish for space and food. A second winter kill occurred in 1965, opposing the rough fish problem. The rough fish became so abundant that they destroyed most weed beds and caused the lake to be constantly muddy. It was apparent that winter kills would occur with increasing frequency because Lake Winona was suffering from eutrophication (enrichment due to excess fertilization).

The Lake Winona Committee organized as a nonprofit corporation in 1973 to initiate a lake reclamation program in cooperation with the City of Winona, the Minnesota Department of Natural Resources and Winona State University. The main goal of the reclamation program was to provide safe, quality fishing — especially for children, the elderly and the disabled. Winona and area citizens contributed over $22,000 to pay for an aeration system and an ecological fish barrier, and the City of Winona agreed to operate and maintain them. The Minnesota Department of Natural Resources, with the aid of all fis in Lake Winona and Boller Lake with a biodegradable chemical called rotenone in September, 1973. Volunteers cleaned up over 250,000 pounds of eroded soil, killed 22,000 buffalo and 15,000 dead fish, most of which were stunted buffalo, bass, bluegill, whitefish, channel catfish and muskellunge. The lake was then restocked with northern pike, largemouth bass, smallmouth bass, bluegill, whitefish, channel catfish and muskellunge to compete with rough fish for space and food. A spring kill of whitefish, walleyes, crappies by catching more of them and by taking them all home. It would be extremely difficult to overfish Lake Winona. Future plans for the lake include a weed harvester.

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September 4, 1987

Mr. Jim Cooper
Minnesota Department of Natural Resources
2300 Silver Creek Road N.E.
Rochester, MN 55901

Dear Mr. Cooper:

RE: DREDGING LAKE WINONA

The City of Winona herein requests a Permit to dredge 34.4 acres of Lake Winona to a 16 foot depth. The area proposed to be dredged is generally 5 to 8 feet deep presently.

The Corps of Engineers Permit has been applied for.

The City desires to dredge the whole lake; however, finding a place for the dredge spoil is a problem as is funding. In this Permit Application the City is proposing to dredge 443,560 cubic yards of silt and muck. As the dredge spoil dries, the City intends to reuse the material or topsoil on Site #3 and then re dredge in the disposal site.

In a Report on Lake Winona entitled "A Lake Winona Compendium" dated January, 1986, by Dr. Calvin Fremling and Glenn Heins, it is reported that Lake Winona is dying. Dredging is recommended to control the weed growth in the lake and slow the dying process. A copy of this report is enclosed.

Two of the dredge spoil sites, No's 1 and 3 are heavily infested with a noxious weed called Purple Loosestrife. Presently there is no way to control this weed. Thus the dredge spoil would eliminate this noxious weed infestation.

Disposal Areas #1 and #2 would be planted with species of plants that would benefit wildlife. The plan is to turn these two areas into upland wildlife habitat especially for non-game species. Site #1 would be used by the High
School for a study area. Plantings would be planned by the City Forester in cooperation with the Minnesota Department of Natural Resources. The people using the adjacent bike path could enjoy the wildlife. None of the disposal areas would be used for development.

Enclosed are maps of Lake Winona showing the present contour elevations of the lake and the locations of soundings of Lake Winona taken May 26, 1986.

Enclosed is the application and a $50 filing fee check.

Please call if additional information is requested.

Respectfully submitted,

Robert J. Bollant
Director of Public Works

cc: Eric Sorensen, City Manager
Dr. Cal Fremling
PERMIT APPLICATION

1. WORK IN PROTECTED WATERS OR WETLANDS
   (INCLUDING DAM SAFETY)

Please read instructions before attempting to complete this application.

I. Applicant's Name (Last, First, M.I.)
   City of Winona
   Address (Street, RFD, Box Number, City, State, Zip Code)
   P.O. Box 378 – Winona, MN 55987

II. LOCATION OF PROPOSED PROJECT (BE SURE TO INCLUDE SKETCH SHOWING HOW TO GET TO THE SITE)
   Government Lot(s) Quarter Section(s)
   Fire No., Box No. or Project Address
   County
   Project will affect □ Lake, □ Wetland or □ Watercourse

III. TYPE OF WORK PROPOSED (CHECK ONE)
   □ excavate □ repair
   □ fill □ remove
   □ drain □ abandon
   □ construct □ other (specify)
   □ install

IV. TYPE OF PROJECT (CHECK ONE)
   □ shore • □ shore-protection □ obstruction □ dam
   □ channel □ harbor □ bridge □ other
   □ sand blanket □ permanent dock □ culvert
   □ riprap □ wharf
   Dredging a lake

V. ESTIMATED PROJECT COST $ 665,340

VI. LENGTH OF SHORELINE AFFECTED (IN FEET):

VII. VOLUME OF MATERIAL FILLED OR EXCAVATED (IN CUBIC YARDS): 443,560

VIII. BRIEF EXPLANATION OF PROJECT: (EXPLAIN WHAT PROJECT CONSISTS OF AND HOW WORK WILL BE DONE)

The City of Winona desires to deepen Lake Winona from a general depth of 5 to 8 feet to a depth of 16 feet by dredging. This Permit Application covers dredging 34 acres of the 288 acre lake.

IX. PURPOSE OF PROJECT: (Explain why this project is needed)

Lake Winona is dying according to a Report entitled "A Lake Winona Compendium" by Dr. Calvin Fremling & Glenn Heins dated January, 1986. Dredging would prolong the life of the lake and control the lake weed growth.

X. ENVIRONMENTAL IMPACT (Anticipated changes to the water and related land resources, including unavoidable but detrimental effects)

Dredging would enhance the life of the lake and cover two infested areas of Purple Loosetrife in fill area Site #1 and #3

XI. ALTERNATIVES (Other alternatives to the action proposed)

Do nothing and let the lake continue to die

I hereby make application pursuant to Minnesota Statutes Chapter 105.42 and all supporting rules for a permit to work in or affect the above named protected water(s) in accordance with all supporting maps, plans, and other information submitted with this application. The information submitted and statements made concerning this application are true and correct to the best of my knowledge.

STATE OF Minnesota

COUNTY OF Winona

Subscribed and sworn to before me this 4th day of September 1987

My commission expires 8-6-93

Signature of Notary

Signature of Owner or Authorized Agent

Date 9/4/87

Distribution:
White: DNR
Blue: SWCD
Green: Watershed District
Goldenrod: City or County
Pink: Army Corps of Engineers
Canary: Applicant

[Signature of Notary]

[Signature of Owner or Authorized Agent]
September 4, 1987

Chief, Regulatory Function Branch
Construction Operations Division
U.S. Army Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

TO WHOM IT MAY CONCERN:

Re: Dredging Lake Winona

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Enclosed are maps of Lake Winona showing the present contour elevations of the lake and the locations of soundings of Lake Winona taken May 26, 1986.

Enclosed is the application for Department of Army Permit with drawings. One set of drawings are reproducible and one set is copy.

Please call me if you have questions or if additional information is required.

Respectfully submitted,

Robert J. Bollant
Director of Public Works

bh
Enclosures
cc: Eric Sorensen, City Manager
    Dr. Cal Fremling
The Department of the Army permit program is authorized by Section 10 of the River and Harbor Act of 1899, Section 404 of the Clean Water Act and Section 103 of the Marine, Protection, Research, and Sanctuaries Act. These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary; however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

1. APPLICATION NUMBER (To be assigned by Corps)

2. NAME AND ADDRESS OF APPLICANT
   City of Winona
   P.O. Box 378
   Winona, MN 55987

   Telephone no. during business hours
   A/C (507) 454-4278 (Residence)
   A/C (507) 452-8550 (Office)

   Statement of Authorization: I hereby designate and authorize
   to act in my behalf as my
   agent in the processing of this permit application and to furnish, upon request, supplemental information in support of the application.

3. NAME, ADDRESS, AND TITLE OF AUTHORIZED AGENT
   Robert J. Bollant
   Director of Public Works
   P.O. Box 378
   Winona, MN 55987

3a. Telephone no. during business hours
   A/C (507) 454-4278 (Residence)
   A/C (507) 452-8550 (Office)

3b. SIGNATURE OF APPLICANT
   [Signature]
   DATE 9/3/87

4. DETAILED DESCRIPTION OF PROPOSED ACTIVITY

4a. ACTIVITY
   The City of Winona proposes to dredge Lake Winona to a depth of 16 feet. The City is requesting a permit to dredge 34 acres of the 288 acre lake. 443,560 cubic yards of silt would be dredged.

4b. PURPOSE
   The Lake Winona Committee headed by Dr. Calvin Fremling has recommended that Lake Winona be dredged to control the weed growth in Winona. A report entitled "A Lake Winona Compendium" dated January 1986, written by Dr. Calvin Fremling and Glen Heins recommends that Lake Winona be dredged to save the lake.

4c. DISCHARGE OF DREDGED OR FILL MATERIAL
   The dredge spoil consisting of silt and muck would be placed in three areas along T.H. 61 as shown in the permit drawings. The intent is to use this dredge spoil from Site #3 as topsoil throughout the City after it dries. Dredge spoil sites #1 and #3 are heavily infested with Purple Loosestrife; thus, the dredge spoil would cover and eliminate two areas filled with a noxious weed. Dredge spoil sites #1 and #2 would be planted with species of plants that would benefit wildlife. The plan is to turn these two areas into upland wildlife habitat especially for non-game species.
5. NAMES AND ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC., WHOSE PROPERTY ALSO ADJOINS THE WATERWAY

K-Mart (Site #1)  
1122 Service Drive  
Winona, MN 55987

Minnesota Department of Transportation  
Box 6177, North Highway 52  
Rochester, MN 55903

6. WATERBODY AND LOCATION ON WATERBODY WHERE ACTIVITY EXISTS OR IS PROPOSED

Lake Winona  
Winona, MN

7. LOCATION ON LAND WHERE ACTIVITY EXISTS OR IS PROPOSED

ADDRESS: City of Winona  
P.O. Box 378  
STREET, ROAD, ROUTE OR OTHER DESCRIPTIVE LOCATION  
Winona MN 55987

COUNTY STATE ZIP CODE

City of Winona, MN

LOCAL GOVERNING BODY WITH JURISDICTION OVER SITE

8. Is any portion of the activity for which authorization is sought now complete?  
☐ YES  ☐ NO

If answer is "YES" give reasons, month and year the activity was completed. Indicate the existing work on the drawings.

9. List all approvals or certifications and denials received from other federal, interstate, state or local agencies for any structures, construction, discharges or other activities described in this application.

ISSUING AGENCY TYPE APPROVAL IDENTIFICATION NO. DATE OF APPLICATION DATE OF APPROVAL DATE OF DENIAL

NONE

10. Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.

Robert J. Brillant  9/3/87

SIGNATURE OF APPLICANT DATE  
SIGNATURE OF AGENT DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in Block 3 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of The United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

Do not send a permit processing fee with this application. The appropriate fee will be assessed when a permit is issued.
CONSTRUCT 36" C.M.P. CULVERT UNDER BIKE PATH

DISCHARGE STAND PIPE LAKE DISPOSAL SITE NO. 1

TOP OF FILL 656.0

REDGE THIS AREA TO 16' DEPTH

LAKE WINONA DREDGING
WINONA, MN
AUGUST, 1987
LAKE WINONA DREDGING
WINONA, MN.
AUGUST, 1987
TOP OF DIKE
EL. 650.0

SECTION A-A

TOP OF FILL EL. 656.0

TOP OF DIKE
EL. 658.0

SECTION B-B

TOP OF DIKE
EL. 656.0

TOP OF FILL EL. 654.0

TOP OF FILL EL. 656.0

SECTION C-C

NORMAL LAKE
LEVEL EL. 646.5

SCALE
HOR. 1" = 100'
VERT. 1" = 10'

TYPICAL FILL SECTIONS
LAKE WINONA DREDGING
WINONA, MN.
AUGUST, 1987