

- 7:00 p.m. Call to Order.
- Invocation.
- Pledge of Allegiance.
- Roll Call.
- Proclamations:
1. Black History Month
  2. National 211 Day Proclamation
- A. Consent Agenda:
1. Approve the City Council Meeting Minutes of the:
    - a. Committee of the Whole Meeting of January 24, 2023
    - b. Regular Meeting of January 24, 2023
  2. Approve the Accounts Payable Register of February 7, 2023 as presented.
  3. Approve Contract #22-5573 between the Michigan Department of Transportation and the City of Portage for the reconstruction of Shaver Road from the south city limits to Vanderbilt Avenue and adopt a Resolution authorizing the City Manager to sign all documents related to the MDOT contract on behalf of the city.
  4. Minutes of Boards & Commissions:
    - a. Planning Commission of December 15, 2022
  5. Materials Transmitted of January 23, 2023.
  6. Calendar of Meetings:
    - Environmental Board on February 8, 2023 at 7:00 p.m. at City Hall.
    - Youth Advisory Committee on February 13, 2023 at 6:00 p.m. at City Hall.
    - Senior Citizens Advisory Board on February 15, 2023 at 2:30 p.m. at the Portage Zhang Community Senior Center.
    - Planning Commission on February 16, 2023 at 7:00 p.m. at City Hall.
- B. Petitions and Statements of Citizens:
- C. Communications:
- D. Public Hearings:
1. Subsequent to the public hearing, adopt Resolution No. 3 for the Austin Lake Invasive Weed Management Program Special Assessment District No. 023-A, directing the City Assessor to prepare the Special Assessment Roll.
- E. Regular Business Agenda:
- F. Unfinished Business:
- G. Council Committee Reports:
- H. New Business:
- I. Statements of Citizens:
- J. Statements of City Council and City Manager.
- Adjournment.





# CITY OF PORTAGE PROCLAMATION

## Black History Month 2023

- WHEREAS,** Black History Month is observed in February of each year and 2023 marks the 47th year; and
- WHEREAS,** Black History Month was originally set in February to include the birthdays of Frederick Douglass and Abraham Lincoln, two key figures in the history of African Americans; and
- WHEREAS,** the theme for Black History Month 2023 focuses on “Black Resistance: A Journey to Equality” - how African Americans have resisted historic and ongoing oppression, in all forms, especially the racial terrorism of lynching, racial persecutions, and police killings, since the nation's earliest days; and
- WHEREAS,** Black History Month celebrates the demonstration of resistance of African Americans in the Arts, Education, Entertainment, Faith, Government, History, Law, Literature, Medicine, Military, Music, Politics, Science, Sports, and other endeavors; and
- WHEREAS,** Black resistance strategies have served as a model for every other social movement in the country, thus, the legacy and importance of these actions cannot be understated; and
- highlighting the 2023 theme of “Black Resistance,” Black people have had to consistently push the United States to live up to its ideals of freedom, liberty, and justice for all; and
- WHEREAS,** Black resistance not only encompasses rebellions, protests, and uprisings — but also the beauty, love, and pride of joyous everyday living; Black joy lives in those who love themselves, their families, and their communities; and
- WHEREAS,** the City of Portage continues to work toward becoming a community in which all citizens - past, present, and future - are sustained, fortified, and respected for their contributions to our community and beyond; and
- WHEREAS,** to commemorate the birthdate of Dr. Martin Luther King, Jr. and Black History Month 2023, the City of Portage hosted a Dr. King display at Portage City Hall and hosted former Ugandan refugee turned successful entrepreneur, human rights activist, and renowned global health expert, Derreck Kayongo, on February 4th at the Air Zoo.

**NOW, THEREFORE, BE IT RESOLVED THAT** I, Patricia M. Randall, do hereby proclaim that this city honors and recognizes February as “Black History Month.”

Signed this 7<sup>th</sup> day of February 2023.

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Patricia M. Randall, Mayor



# CITY OF PORTAGE PROCLAMATION

## NATIONAL 2-1-1 DAY

- WHEREAS,** Gryphon Place, a non-profit organization in Kalamazoo County, has the mission to help people navigate conflict and crisis, foster resiliency, restore community, and support healing; and
- WHEREAS,** Gryphon Place serves our community through a variety of different programs and services, including Suicide Prevention and Crisis Support services, Conflict Resolution Services, 2-1-1 information and referral services, and a number of different community initiatives; and
- WHEREAS,** Gryphon Place is one of seven centers in Michigan that answers calls for the Michigan 2-1-1 information and referral line, answering calls 24/7/365 for 8 counties in Southwest Michigan, and answer after-hour calls for an additional 42 counties throughout Michigan; and
- WHEREAS,** the year 2023 marks Gryphon Place celebrating 53 years of serving our community; and
- WHEREAS,** February 11<sup>th</sup> is recognized as national 2-1-1 day to promote the statewide 2-1-1 critical needs line; and
- WHEREAS,** every hour of every day, someone in need of essential services, regardless of their income, and by dialing a free, easy phone number, 2-1-1 callers reach trained specialists who identify their needs and offer information on thousands of programs and services that specialize in meeting critical basic needs such as food and housing; physical and mental health resources; employment supports; assistance for older adults and people with disabilities; and support for children, youth and families; and
- WHEREAS,** in 2022, Gryphon Place answered 103,870 calls - an average of 285 calls per day - through 2-1-1.

**NOW, THEREFORE, BE IT RESOLVED THAT** I, Patricia M. Randall, as Mayor of the City of Portage, do hereby recognize National 2-1-1 Awareness Day on February 11<sup>th</sup> and honor Gryphon Place for its 53 years of service to the Portage community.

Signed this 7<sup>th</sup> day of February, 2023.

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Patricia M. Randall, Mayor



**COMMITTEE OF THE WHOLE MEETING  
OF JANUARY 24, 2023**

Mayor Patricia Randall called the Committee of the Whole Meeting to order at 6:00 p.m. in Conference Room #1 at Portage City Hall.

**ROLL CALL:** Councilmembers Lisa Brayton, Chris Burns, Lori Knapp, Victor Ledbetter, Terry Urban, and Mayor Patricia Randall were present.

**ABSENT:** Mayor Pro Tem Jim Pearson.

**ALSO PRESENT:** City Manager Pat McGinnis, Deputy City Manager Adam Herringa, Parks & Recreation Director Kathleen Hoyle, and City Clerk Erica Eklov.

**POTENTIAL LOCATIONS AND EXPANSION/ENHANCEMENT OF THE PORTAGE FARMERS MARKET:**

Mayor Randall welcomed everyone to the meeting and introduced the topic of reviewing the Farmers Market's future. She then asked City Manager McGinnis to present information from the City Administration.

City Manager McGinnis began his presentation detailing seven years of statistics regarding the existing Farmers Market program, including days of operation, attendance, revenue, as well as both seasonal and weekly vendors. He noted the various ongoing and future needs for a successful market and required funding to create an improved market venue. The City Manager highlighted five sites: the current market site in the City Hall parking lot, plus four potential locations in the city. He presented a City Centre location off Brown Avenue, two locations in the Lake Center District, and a separate location on Romence Road in an existing shopping center. He provided several draft concepts for a market layout at each potential site while noting the current site at City Hall is no longer viable.

Mr. McGinnis then presented several criteria for grading a successful market site, including parking, property availability, timing, booth potential, existing plans, adjacent residential density, scalability, interoperability, and pedestrian connections. Based on this scoring, City Manager McGinnis presented how each of the four potential sites rated with the Lake Center District (Zylman) location scoring highest, followed by the City Centre lot on Brown Avenue, the D&W site on Romence Road, and the Lake Center District (billboard) location. Councilmember Urban inquired who was involved in rating the properties. City Manager McGinnis responded that city staff had done the review. City Manager McGinnis also noted that the City Administration had considered the Crossroads Mall location, but declined that option due to concerns with the current property owner and associating city branding with the mall location.

Mayor Randall asked how the vendors are screened to ensure variety. Director Hoyle confirmed that Parks & Recreation staff review applied vendors with a goal for variety in combination with positive attendance records. Mayor Randall then asked about statistics regarding public attendance and distance traveled. Director Hoyle responded that such data could be gathered. There was additional discussion regarding competition with other area markets and attributes to draw attendance. Councilmember Knapp expressed interest in the D&W location with a caveat for additional discussion with the property owner. Councilmember Ledbetter echoed her comment. Councilmember Brayton expressed concern about the cost to the city of the D&W location. Councilmember Urban shared her concerns. There was additional discussion regarding capital investment considerations for the various sites. Councilmember Urban expressed concern about the Brown Avenue location considering the adjacent Reformed Church and Sunday services on the same day as the Portage market. The discussion also encompassed a comparison of the two Lake

Center District sites. Mayor Randall inquired whether the residential density aspect included future development. City Manager McGinnis responded that it is only somewhat factored in. There was additional discussion regarding the desired number of vendors and parking spaces.

**PETITIONS AND STATEMENTS OF CITIZENS:** Mayor Randall noted two audience members present.

Patricia Niewonder (10310 South Westnedge Avenue) commented that an expansion of vendors is desired if the city plans to expend money on a new market, with increased variety. She expressed a preference for the City Centre site.

Annie Pryor, current manager for the Portage Farmer's Market, spoke regarding her feedback on the sites proposed and the Council's discussion. She expressed concern about the Lake Center District billboard site and its wetland status. Ms. Pryor also provided feedback regarding the question of collaboration and competition with the other area markets, as well as vendor availability and stock supply. She recommended a feedback session with the existing vendors, noting the vendors desire a long-term location. Councilmember Knapp asked Ms. Pryor about the customer base. Ms. Pryor responded that parking and access via bus routes, trails, and biking have been high priorities in the existing market.

**SUMMARY OF DISCUSSION AND NEXT STEPS:** It was the consensus of the Council that the City Administration gather additional information from the owner of the D&W plaza on Romence Road regarding pricing and availability of the site and provide the follow-up information at a future date. City Manager McGinnis confirmed the feedback provided by the Council will guide the City Administration to perform further research.

**ADJOURNMENT:** Mayor Randall adjourned the meeting at 06:54 PM.

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Erica L. Eklov, City Clerk

## CITY COUNCIL MEETING MINUTES FROM JANUARY 24, 2023

Mayor Patricia Randall called the Regular Meeting to order at 07:04 PM in the Council Chambers at Portage City Hall.

**ROLL CALL:** Councilmembers Lisa Brayton, Chris Burns, Lori Knapp, Victor Ledbetter, Patricia Randall, Terry Urban, and Mayor Patricia Randall were present.

**ABSENT:** Mayor Pro Tem Jim Pearson.

**ALSO PRESENT:** City Manager Pat McGinnis, Deputy City Manager Adam Herringa, City Attorney Catherine Kaufman, and City Clerk Erica Eklov.

At the request of Mayor Randall, the audience observed a moment of silence to reflect in gratitude to the community's first responders and safety personnel. Following the moment of silence, the City Council recited the Pledge of Allegiance.

**CONSENT AGENDA:** Mayor Randall shared where the public can access the meeting agenda and asked if any Councilmember or anyone in the audience would like an item removed from the Consent Agenda. Mr. Jim Beaudoin (8645 Balmoral) requested the removal of Item A.9 (Austin Lake Trail). Councilmember Burns made a point of order that Items 1(a) and 1(b) were City Council Meeting Minutes from January 10, 2023 and should be corrected to reflect as such. Motion by Burns, seconded by Brayton, to approve the Consent Agenda with the correction of Items 1(a) and 1(b), and removal of Item A.9. Upon a roll call vote, motion carried 6 to 0.

**Approval of Minutes:** Motion by Burns, seconded by Brayton, to approve the City Council Meeting Minutes of the Board & Commission Interviews of January 10, 2023, and Regular Meeting of January 10, 2023. Upon a roll call vote, motion carried 6 to 0.

**Accounts Payable Register:** Motion by Burns, seconded by Brayton, to approve the Accounts Payable Register of January 24, 2023, as presented. Upon a roll call vote, motion carried 6 to 0.

**Poverty Exemption Guidelines for 2023:** Motion by Burns, seconded by Brayton, to adopt the Resolution Establishing Poverty Exemption Guidelines for 2023. Upon a roll call vote, motion carried 6 to 0.

**2023 Board of Review Recommendations:** Motion by Burns, seconded by Brayton, to adopt the resolution setting the schedule for the 2023 Board of Review and approve the use of two three-member panels for the Board of Review meetings. Upon a roll call vote, motion carried 6 to 0.

**Traffic Signal Improvements - Bid Tabulation:** Motion by Burns, seconded by Brayton, to award a contract to J. Ranck Electric, Incorporated of Mt. Pleasant, Michigan in the not-to-exceed amount of \$168,325 for the purchase of traffic signal poles, mast arms and assemblies for a traffic signal installation on Portage Road at Forest Drive, and authorize the City Manager to sign all documents related to the contract on behalf of the city. Upon a roll call vote, motion carried 6 to 0.

**Haverhill Water Tower Rehabilitation:** Motion by Burns, seconded by Brayton, to award a contract to G & L Tank Sandblasting and Coatings, LLC of Shelbyville, Tennessee in the not-to-exceed amount of \$837,250 for the rehabilitation of the Haverhill water tower; and an engineering services contract to Dixon Engineering in the amount of \$81,850 to provide construction engineering services for the Haverhill Water Tower Rehabilitation Project; and authorize the City Manager to sign all other documents related to the contract on behalf of the city. Upon a roll call vote, motion carried 6 to 0.

**Household Hazardous Waste Program - Intergovernmental Cooperation:** Motion by Burns, seconded by Brayton, to approve a contract with Kalamazoo County to provide hazardous waste collection services at the Household Hazardous Waste Center for Portage residents for the 2023 calendar year in the amount of \$78,000 and authorize the City Manager to execute all documents related to the contract on behalf of the city. Upon a roll call vote, motion carried 6 to 0.

**Austin Lake Invasive Weed Management - 2023 to 2027 Special Assessment:** Motion by Burns, seconded by Brayton, to adopt Resolution No. 2, for the Austin Lake Invasive Weed Management Program Special Assessment District No. 023-A, setting a public hearing of necessity on February 7, 2023. Upon a roll call vote, motion carried 6 to 0.

**Additional Board & Commission Appointments:** Motion by Burns, seconded by Brayton, to appoint Karl Hokenmaier to the Senior Citizens Advisory Board as an Alternate member with a term ending October 1, 2026; Aimee Potts to the Zoning Board of Appeals with a term ending February 28, 2026; and, James Eichstaedt (reappointment) to the Zoning Board of Appeals with a term ending February 28, 2026. Upon a roll call vote, motion carried 6 to 0.

**New Polling Location Resolution:** Motion by Burns, seconded by Brayton, to adopt the Resolution designating the Prairie Edge Christian Reformed Church at 9316 Oakland Drive as a polling location for the City of Portage. Upon a roll call vote, motion carried 6 to 0.

**Materials Transmitted:** Motion by Burns, seconded by Brayton, to receive the Materials Transmitted of January 11, 2023. Upon a roll call vote, motion carried 6 to 0.

**Minutes of Boards & Commissions:** Motion by Burns, seconded by Brayton, to receive the minutes of the Zoning Board of Appeals of December 12, 2022. Upon a roll call vote, motion carried 6 to 0.

**Calendar of Meetings:** Motion by Burns, seconded by Brayton, to receive the Calendar of Meetings as presented. Upon a roll call vote, motion carried 6 to 0.

**PETITIONS AND STATEMENTS OF CITIZENS:** None.

Mayor Randall and City Manager McGinnis presented a recent video of a Portage Public Safety vehicle accident response involving an oncoming train. The Mayor then had Interim Assistant Chief Rick Nason explain the incident and introduce the two responding firefighters, Jacob Mahoney and Rob Letterman. Members of the Council each thanked the firefighters for their heroic efforts and a job well done.

**COMMUNICATIONS:**

**Annual update from the Youth Advisory Committee:** Connor Sullivan, Chair of the Youth Advisory Committee, and fellow member Riley Thomas presented the Committee's 2023-2024 annual goals. Mayor Randall inquired about the Snow Party event plans for a lack of snow, as well as the attendance, high school representation of the Committee, and social media efforts. Motion by Knapp, seconded by Brayton, to receive the annual update from the Youth Advisory Committee. Upon a roll call vote, motion carried 6 to 0.

**PUBLIC HEARINGS:**

**Tentative Plan and Rezoning Application #22/23-6 Planned Development project 'Kings Landing' at 6601 Constitutional Boulevard:** Mayor Randall introduced the public hearing, noting that the applicant had recently withdrawn the application. She explained that the public hearing would still be conducted as it had been publicly noticed but no further action was recommended at this time. Seeing no comments, motion by Knapp, seconded by Urban, to close the public hearing for the Tentative Plan and Rezoning Application #22/23-6 Planned Development project 'Kings Landing' at

6601 Constitutional Boulevard and take no further action at this time due to project withdrawal. Upon a roll call vote, motion carried 6 to 0.

**REGULAR BUSINESS AGENDA:**

**Adopt a Resolution of Necessity to acquire fee simple interests for development of the Austin Lake Trail:** Mr. James Beaudoin (8645 Balmoral Street) spoke regarding the proposed Austin Lake Trail development, noting he has been following the progression of the trail in city business. He expressed concern about changes in the trail direction, which would now be within five feet of his house. At the invitation of the Mayor and the City Manager, Parks & Recreation Director Kathleen Hoyle provided additional information regarding the planned setbacks. There was additional discussion regarding future screening and alterations to Mr. Beaudoin's landscaping on the adjacent lot. Motion by Urban, seconded by Knapp, to adopt a Resolution of Necessity to acquire fee simple interests for the development of the Austin Lake Trail. Upon a roll call vote, motion carried 6 to 0.

**COUNCIL COMMITTEE REPORTS:** None.

**STATEMENTS OF CITIZENS:** None.

**STATEMENTS OF CITY COUNCIL AND CITY MANAGER:** Councilmember Urban expressed appreciation for the student members of the Youth Advisory Committee, their involvement in local government, and the input provided to the city.

Councilmember Ledbetter spoke regarding the city's featured Black History Month speaker, Lt. General Russel L. Honoré, and his interesting background. Councilmember Ledbetter promoted the February 4th event at which Lt. General Honoré will be speaking.

Councilmember Knapp had no comment.

Councilmember Brayton also encouraged the community to attend the city's Black History Month event on February 4th. She then expressed appreciation for the community's support of the Public Safety Department and thanked the personnel for their efforts.

Councilmember Burns highlighted several items from the Consent Agenda, including the adoption of Poverty Exemption Guidelines for 2023 that are more generous than the federal guidelines to support the city. He also highlighted a traffic signal purchase for the Lake Center District and a low, cost-effective bid for a water tower repair project awarded to a firm in Tennessee.

City Manager McGinnis provided an update regarding the discussion from the earlier Committee of the Whole Meeting on the Portage Farmers Market.

Mayor Randall thanked the Council for its efforts with the Committee of the Whole Meeting. She then highlighted the Chinese New Year and an upcoming Lunar Festival event on February 4. Mayor Randall also encouraged attendance at the upcoming Black History Month event and the Youth Advisory Committee Snow party, all slated for February 4th. She closed with a mention of the promising attendance numbers at the new Zhang Portage Community Senior Center and the increased need for parking.

**ADJOURNMENT:** Mayor Randall adjourned the meeting at 07:40 PM.

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Erica L. Eklov, City Clerk

**TO:** Honorable Mayor and City Council

**FROM:** Pat McGinnis, City Manager

**SUBJECT:** Accounts Payable Register

**SUPPORTING PERSONNEL:** Lauren VanderVeen, Finance Director

**ACTION RECOMMENDED:** Approve the Accounts Payable Register of February 7, 2023 as presented.

The City Council reviews and approves the bi-weekly Accounts Payable Register which includes automated clearing house payments, paper checks, auto-pay payments and electronic payments. The attached Accounts Payable Register covers the period January 15, 2023 through January 28, 2023 and notes \$761,660.17 in automated clearing house payments, \$399,037.02 in paper checks, \$104,810.16 in auto-pay payments and \$697,540.18 in electronic payments for a grand total of \$1,963,047.53.

**FUNDING:** Not Applicable

**Attachments:** 1. Accounts Payable Register of February 7, 2023

ACCOUNTS PAYABLE REGISTER  
Check Dates From: 1/15/2023 to 1/28/2023

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Check Type: ACH Transaction

| Check Date | Check    | Vendor Name                         | Description                                    | Amount     |
|------------|----------|-------------------------------------|------------------------------------------------|------------|
| 01/20/2023 | 18625(A) | A NEW LEAF                          | CITY HALL PLANT CARE                           | 108.50     |
| 01/20/2023 | 18626(A) | ADP, INC.                           | TALENT MANAGEMENT & WORKFORCE NOW              | 1,773.56   |
| 01/20/2023 | 18627(A) | AIRGAS USA LLC                      | WELDING SUPPLIES                               | 75.17      |
| 01/20/2023 | 18628(A) | ALL CITY MANAGEMENT SERVICES, INC.  | CROSSING GUARD CONTRACT                        | 5,989.20   |
| 01/20/2023 | 18629(A) | AMAZON.COM SALES, INC.              | WHTBOARDS-DPW; SIGNAGE, OFC SUP-SC; OFC SUP-PD | 2,464.36   |
| 01/20/2023 | 18630(A) | VOID                                |                                                | 0.00       |
| 01/20/2023 | 18631(A) | AMERICAN SAFETY & FIRST AID         | FIRST AID BOXES & SUPPLIES                     | 210.04     |
| 01/20/2023 | 18632(A) | ANIMAL REMOVAL SERVICE, LLC         | ANIMAL REMOVAL SERVICES                        | 725.00     |
| 01/20/2023 | 18633(A) | AUNALYTICS INC                      | MONTHLY DISASTER RECOVERY SERVICES             | 1,442.00   |
| 01/20/2023 | 18634(A) | BALL, JENNY                         | REIMB FOR STORAGE BAG                          | 14.83      |
| 01/20/2023 | 18635(A) | BATTERIES PLUS                      | MISC BATTERIES                                 | 23.77      |
| 01/20/2023 | 18636(A) | BAUCKHAM, SPARKS, THALL, SEEGER AND | ATTORNEY FEES JAN 2023                         | 19,750.32  |
| 01/20/2023 | 18637(A) | BEST WAY DISPOSAL, INC.             | CURBSIDE RECYCLING                             | 65,591.27  |
| 01/20/2023 | 18638(A) | BLUE CARE NETWORK-GREAT LAKES       | BCNA INSURANCE                                 | 184,903.58 |
| 01/20/2023 | 18639(A) | BOGARD, SCOTT T                     | FIELD TRAINING OFFICER TR-PER DIEM             | 82.00      |
| 01/20/2023 | 18640(A) | BYHOLT INC.                         | 2NS SAND DELIVERY                              | 463.76     |
| 01/20/2023 | 18641(A) | C M P DISTRIBUTORS, INC.            | MISC POLICE SUPPLIES                           | 17.95      |
| 01/20/2023 | 18642(A) | CARDINAL BUS, INC.                  | TRIP VENDOR PAYMENT 230115 SIX THE MUSICAL     | 1,185.00   |
| 01/20/2023 | 18643(A) | CARLETON EQUIPMENT CO.              | REPAIR & MAINTENANCE SUPPLIES                  | 239.53     |
| 01/20/2023 | 18644(A) | CHARTER COMMUNICATIONS              | CABLE TV                                       | 640.28     |
| 01/20/2023 | 18645(A) | CIVICPLUS                           | ANNUAL MUNICODE HOSTING/SUPPL COSTS            | 4,056.00   |
| 01/20/2023 | 18646(A) | CLEARNETWORK, INC.                  | UNIFIED SECURITY MONITORING SVCS               | 1,950.00   |
| 01/20/2023 | 18647(A) | COLLIER, MICHAEL                    | MACP WINTER PROFESSIONAL DEV-PER DIEM          | 160.00     |
| 01/20/2023 | 18648(A) | CROWN TROPHY                        | NAME BADGES                                    | 20.00      |
| 01/20/2023 | 18649(A) | DEPATIE FLUID POWER CO., INC.       | HYDRAULIC REPAIRS                              | 276.19     |
| 01/20/2023 | 18650(A) | EARLE, SHELIA L                     | FITNESS INSTRUCTION                            | 751.25     |
| 01/20/2023 | 18651(A) | ED & TED'S EXCELLENT ADVENTURES     | TRIP VENDOR PAYMENT 230223 GULF COAST          | 85,440.00  |
| 01/20/2023 | 18652(A) | FOREMOST SALES COMPANY LLC          | PARK FACILITIES CLEANING                       | 1,610.00   |
| 01/20/2023 | 18653(A) | GORDON WATER SYSTEMS                | WATER SERVICES                                 | 510.56     |
| 01/20/2023 | 18654(A) | GRIFFIN PEST SOLUTIONS              | PEST CONTROL SERVICES                          | 128.00     |
| 01/20/2023 | 18655(A) | INDUSCO SUPPLY CO., INC.            | PAPER PRODUCTS                                 | 312.50     |
| 01/20/2023 | 18656(A) | INSIGHT PUBLIC SECTOR, INC.         | MONTHLY MICROSOFT O365 CLOUD SERVICE           | 6,915.64   |

ACCOUNTS PAYABLE REGISTER  
Check Dates From: 1/15/2023 to 1/28/2023

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| Check Date | Check    | Vendor Name                        | Description                                  | Amount     |
|------------|----------|------------------------------------|----------------------------------------------|------------|
| 01/20/2023 | 18657(A) | J + H OIL CO.                      | BULK FUEL DELIVERY                           | 29,212.14  |
| 01/20/2023 | 18658(A) | JB PRINTING                        | JANUARY PORTAGER & PZSC NEWSLETTER           | 6,250.59   |
| 01/20/2023 | 18659(A) | KLINE, MICHAEL                     | LAB SUPPLIES                                 | 6.30       |
| 01/20/2023 | 18660(A) | LAWSON PRODUCTS, INC               | REPAIR AND MAINTENANCE SUPPLIES              | 245.28     |
| 01/20/2023 | 18661(A) | LIBRA INDUSTRIES, INC. OF MICHIGAN | FIRE GAS MONITORS                            | 1,026.86   |
| 01/20/2023 | 18662(A) | LRE                                | DPW LOT EXPANSION                            | 1,116.30   |
| 01/20/2023 | 18663(A) | MAYHEW, BRYAN                      | MACP WINTER PROFESSIONAL DEV-PER DIEM        | 160.00     |
| 01/20/2023 | 18664(A) | MCNALLY ELEVATOR CO.               | ELEVATOR MAINTENANCE                         | 154.73     |
| 01/20/2023 | 18665(A) | MEJEUR ELECTRIC LLC                | MISC ELECTRICAL REPAIRS                      | 277.00     |
| 01/20/2023 | 18666(A) | METRONET HOLDINGS LLC              | INTERNET FIBER, CABLE ACCESS, TELEPHONE SVC  | 4,404.44   |
| 01/20/2023 | 18667(A) | NASON, RICHARD                     | REIMB TR EXP-LDRSHP DEV SYMPOSIUM            | 864.81     |
| 01/20/2023 | 18668(A) | ONSTAFF USA INC                    | TEMPORARY EMPLOYEE SERVICES                  | 19,400.41  |
| 01/20/2023 | 18669(A) | PARIS CLEANERS                     | LAUNDRY SERVICES                             | 890.14     |
| 01/20/2023 | 18670(A) | PEOPLEFACTS, LLC                   | SECURITY MONITORING FEE                      | 16.67      |
| 01/20/2023 | 18671(A) | PHILLIPS, KIMBERLY                 | REIMBURSE FOR SUPPLIES, ACTIVITIES-PZSC      | 135.96     |
| 01/20/2023 | 18672(A) | PRECISION PRINTER SERVICES INC     | PRINTER SUPPORT SERVICES                     | 834.18     |
| 01/20/2023 | 18673(A) | PRINTING SERVICES INC              | PRINTING SERVICES                            | 432.00     |
| 01/20/2023 | 18674(A) | R W LAPINE INC.                    | HVAC ON-CALL SERVICES - MULT LOCS            | 5,862.58   |
| 01/20/2023 | 18675(A) | REPUBLIC SERVICES OF WEST MICHIGAN | WASTE SERVICES - FACILITIES                  | 1,264.60   |
| 01/20/2023 | 18676(A) | RIDGE AUTO NAPA                    | EQUIPMENT REPAIR/MAINT SUPPLIES              | 566.23     |
| 01/20/2023 | 18677(A) | ROBERT LAMSON, LLC                 | PRE-COE SCREENING                            | 150.00     |
| 01/20/2023 | 18678(A) | S B F ENTERPRISES, INC.            | PRINT/PROCESS QUARTERLY WATER BILLS          | 671.32     |
| 01/20/2023 | 18679(A) | SEVERANCE ELECTRIC COMPANY, INC    | TRAFFIC SIGNAL MAINTENANCE                   | 4,753.33   |
| 01/20/2023 | 18680(A) | SIMPLIFILE LLC                     | DEED RECORDING SERVICE                       | 66.50      |
| 01/20/2023 | 18681(A) | SMITH DAWSON & ANDREWS, INC.       | FEDERAL ADVOCACY SERVICES                    | 5,000.00   |
| 01/20/2023 | 18682(A) | SNELL, DEBRA                       | FITNESS INSTRUCTION                          | 270.00     |
| 01/20/2023 | 18683(A) | TRUCK & TRAILER SPECIALTIES        | WING BLADES AND SHOES                        | 3,842.60   |
| 01/20/2023 | 18684(A) | TYLER TECHNOLOGIES, INC.           | ANNUAL SOFTWARE MAINTENANCE                  | 12,593.16  |
| 01/20/2023 | 18685(A) | VANDERWIJERE, JEFFREY P.           | MACP WINTER PROFESSIONAL DEV CONF-PER DIEM   | 160.00     |
| 01/20/2023 | 18686(A) | VEOLIA WATER CONTRACT OPERATIONS   | UTILITY OPERATION SYS, STORM WATER REP, CHEM | 262,522.64 |
| 01/20/2023 | 18687(A) | WEST MICHIGAN STAMP & SEAL, INC    | NOTARY STAMPS & SEALS                        | 57.00      |
| 01/20/2023 | 18688(A) | WOLFE, MATTHEW                     | REIMB UNIFORM/GEAR FOR FBI NATIONAL ACADEMY  | 1,085.27   |
| 01/20/2023 | 18689(A) | WOLVERINE LAWN SERVICE, INC.       | SNOWPLOWING/CROSSWALK SERVICES               | 8,320.00   |



ACCOUNTS PAYABLE REGISTER  
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| Check Date       | Check    | Vendor Name            | Description                                | Amount            |
|------------------|----------|------------------------|--------------------------------------------|-------------------|
| 01/27/2023       | 18690(A) | CHARTER COMMUNICATIONS | INTERNET/VOICE                             | 134.66            |
| 01/27/2023       | 18691(A) | EVERETT, CHIP          | NFA LDRSHP IN SUPERVISION-PER DIEM, REG    | 433.64            |
| 01/27/2023       | 18692(A) | KERSTEN, MICHAEL       | REIMB BODY CAMERA BATTERIES                | 188.46            |
| 01/27/2023       | 18693(A) | MCGUIRE, INGRID        | REIMB FOR OFFICE SUPPLIES                  | 16.68             |
| 01/27/2023       | 18694(A) | TAYLOR, GRANT          | REIMB TR EXP-MI MUNICIPAL TREASURERS ASSOC | 443.43            |
| <b>Total ACH</b> |          |                        |                                            | <b>761,660.17</b> |

Check Type: Paper

|            |        |                                    |                                            |           |
|------------|--------|------------------------------------|--------------------------------------------|-----------|
| 01/20/2023 | 322870 | 7900 MOORSBRIDGE LLC               | TEMPORARY PUMPING EASEMENT                 | 2,760.00  |
| 01/20/2023 | 322871 | ALLEGRA PRINT & IMAGING            | PRINTING SERVICES                          | 152.15    |
| 01/20/2023 | 322872 | AMERICAN WATER WORKS ASSOC.        | AWWA MEMBERSHIP 2023-2024-JG               | 255.00    |
| 01/20/2023 | 322873 | AMERICAN WATER WORKS ASSOC.        | AWWA MEMBERSHIP 2023-2024-KG               | 255.00    |
| 01/20/2023 | 322874 | ASCENSION BORGESS HOSPITAL         | DOT PHYSICAL EXAM                          | 258.00    |
| 01/20/2023 | 322875 | AUTOBODY USA - SOUTHSIDE           | VEHICLE REPAIR                             | 230.00    |
| 01/20/2023 | 322876 | BAREITHER, CHAD                    | STRATEGIC PLANNING                         | 2,905.00  |
| 01/20/2023 | 322877 | BAY AREA TOUCHLESS CARWASH LLC     | CAR WASHES                                 | 264.00    |
| 01/20/2023 | 322878 | BLOOM SLUGGETT, PC                 | LITIGATION-S WESTNEDGE AVE STORM SEWER PRJ | 58.50     |
| 01/20/2023 | 322879 | BLUE LINE/AMIL ALWAN               | BD PAYMENT REFUND                          | 225.10    |
| 01/20/2023 | 322880 | BRONSON HEALTHCARE GROUP           | LEGAL BLOOD DRAW                           | 100.00    |
| 01/20/2023 | 322881 | C&C PROFESSIONAL CLEANING SERVICE  | JANITORIAL SERVICES                        | 2,782.14  |
| 01/20/2023 | 322882 | CHICAGO TITLE OF MICHIGAN, INC     | OVERPAYMENT STAX21 FOR 5849 STRATFORD DR   | 75.68     |
| 01/20/2023 | 322883 | CINTAS CORPORATION NO. 2           | UNIFORM CHARGES                            | 681.68    |
| 01/20/2023 | 322884 | CITY OF KALAMAZOO TREASURER        | BIO DIESEL FUEL                            | 1,322.10  |
| 01/20/2023 | 322885 | CORE TECHNOLOGY CORP.              | ANNUAL CORE TECH MAINTENANCE               | 8,639.00  |
| 01/20/2023 | 322886 | CORELOGIC CENTRALIZED REFUNDS      | OVERPAYMENT ON THREE PARCELS FOR WTAX      | 1,326.90  |
| 01/20/2023 | 322887 | COSTAR REALTY INFORMATION, INC.    | COSTAR REALTY SUBSCRIPTION                 | 793.22    |
| 01/20/2023 | 322888 | DIGITAL IMPACT DESIGN, INC.        | RESTROOM DOOR MAGNETS                      | 46.76     |
| 01/20/2023 | 322889 | DRIESENKA & ASSOCIATES INC         | SURVEY/ENGINEERING SVCS                    | 1,913.60  |
| 01/20/2023 | 322890 | EMERGENCY VEHICLE PRODUCTS         | CHANGE OVER 4 POLICE VEHICLES              | 15,591.35 |
| 01/20/2023 | 322891 | FAWLEY OVERHEAD DOOR, INC.         | OVERHEAD DOOR REPAIRS                      | 524.00    |
| 01/20/2023 | 322892 | FIRST AMERICAN TITLE INSURANCE CO. | EAST CENTRAL TRAIL TITLE WORK              | 1,000.00  |
| 01/20/2023 | 322893 | GALL'S, LLC                        | VEHICLE REPAIR/PARTS                       | 180.24    |
| 01/20/2023 | 322894 | GRANDSTAFF, ANNE                   | TRIP REFUND 230115 SIX THE MUSICAL         | 145.00    |

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| Check Date | Check  | Vendor Name                         | Description                                  | Amount   |
|------------|--------|-------------------------------------|----------------------------------------------|----------|
| 01/20/2023 | 322895 | HAMILTON, ASHLEY                    | RENTAL DAMAGE DEPOSIT REFUND                 | 100.00   |
| 01/20/2023 | 322896 | HERZENSTIEL, GARY R                 | RHYTHM SOCIETY ORCHESTRA SUMMER CONCERT      | 2,600.00 |
| 01/20/2023 | 322897 | HOME DEPOT                          | REPAIR/MAINT SUPPLIES                        | 1,209.15 |
| 01/20/2023 | 322898 | VOID                                |                                              | 0.00     |
| 01/20/2023 | 322899 | IMAGESTREAM, INC.                   | CABLECASTING & BROADCASTING SVCS             | 7,824.61 |
| 01/20/2023 | 322900 | INT'L ASSOC CHIEFS OF POLICE        | MEMBERSHIP RENEWALS                          | 570.00   |
| 01/20/2023 | 322901 | IRTH SOLUTIONS LLC                  | MISS DIG TICKET MANAGEMENT SUB               | 8,400.00 |
| 01/20/2023 | 322902 | JOHN BALL ZOO                       | PENGUINEERING PROGRAM                        | 235.80   |
| 01/20/2023 | 322903 | KALAMAZOO COUNTY HEALTH & COMMUNITY | HHW PROGRAM 2022                             | 1,526.55 |
| 01/20/2023 | 322904 | KALAMAZOO COUNTY TREASURER          | OAKBROOK JAN 2023 MOBILE HOME TAXES          | 300.00   |
| 01/20/2023 | 322905 | KALAMAZOO COUNTY TREASURER          | COLONIAL ACRES DEC 2022 MOBILE HOME TAXES    | 452.50   |
| 01/20/2023 | 322906 | KALAMAZOO FLAG COMPANY, LLC         | AMERICAN FLAGS, POLE REPAIRS                 | 1,276.85 |
| 01/20/2023 | 322907 | KALAMAZOO LANDSCAPE SUPPLIES        | RESTORATIONS FOR LAWN-TOP DIRT & SEED        | 771.00   |
| 01/20/2023 | 322908 | KALAMAZOO OIL COMPANY               | FUEL PURCHASES                               | 247.57   |
| 01/20/2023 | 322909 | KALAMAZOO SPORTSWEAR                | UNIFORMS                                     | 213.75   |
| 01/20/2023 | 322910 | KENT COMMUNICATIONS INC.            | MAILING OF PERSONAL PROPERTY STATEMENTS      | 328.44   |
| 01/20/2023 | 322911 | KONICA MINOLTA BUSINESS SOLUTIONS   | MAINTENANCE AGREEMENT                        | 347.00   |
| 01/20/2023 | 322912 | KZOO TIRE COMPANY                   | POLICE VEHICLE REPAIR/MAINTENANCE            | 842.30   |
| 01/20/2023 | 322913 | LAW ENFORCEMENT SEMINARS, LLC       | INTERNAL AFFAIRS INVESTIGATIONS-REGISTRATION | 850.00   |
| 01/20/2023 | 322914 | LCH                                 | BD PAYMENT REFUND                            | 1,231.18 |
| 01/20/2023 | 322915 | LYNCH, JORDAN MICHAEL               | ARBORIST SERVICES                            | 2,000.00 |
| 01/20/2023 | 322916 | MCDONALD'S TOWING & RESCUE, INC.    | POLICE TOWING SERVICES                       | 64.50    |
| 01/20/2023 | 322917 | MCKENNA ASSOCIATES                  | PROFESSIONAL SERVICES FOR PLANNING           | 3,025.00 |
| 01/20/2023 | 322918 | MEMBER FIRST MORTGAGE               | OVERPAYMENT ON WTAX22 PARCEL 09054-026-O     | 135.22   |
| 01/20/2023 | 322919 | METRO BUILDING INSPECTORS ASSOC.    | DUES/MEMBERSHIPS                             | 270.00   |
| 01/20/2023 | 322920 | MI ASSOC. OF CHIEFS OF POLICE       | WINTER PROFESSIONAL DEV CONF-REGISTRATION    | 280.00   |
| 01/20/2023 | 322921 | MICH MUNICIPAL POLICE & FIRE REPAIR | POLICE VEHICLE REPAIR/MAINTENANCE            | 2,018.20 |
| 01/20/2023 | 322922 | MIDDLETON, KIMBERLY                 | REIMBURSE FOR ACTIVITIES-PZCS                | 198.12   |
| 01/20/2023 | 322923 | MLIVE MEDIA GROUP                   | LEGAL AFFIDAVITS AND NOTICES                 | 388.01   |
| 01/20/2023 | 322924 | MML UNEMPLOYMENT FUND               | UNEMPLOYMENT COMPENSATION 4TH QTR 2022       | 588.82   |
| 01/20/2023 | 322925 | O'REILLY AUTO PARTS                 | FIRE APPARATUS MAINT                         | 50.60    |
| 01/20/2023 | 322926 | OFFICE DEPOT, INC.                  | OFFICE SUPPLIES                              | 606.44   |
| 01/20/2023 | 322927 | PALERMINO, KYLE                     | FAMILY TRADITION BAND SUMMER CONCERT         | 2,500.00 |

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| Check Date | Check  | Vendor Name                        | Description                              | Amount     |
|------------|--------|------------------------------------|------------------------------------------|------------|
| 01/20/2023 | 322928 | PETTY CASH-JANET GATES             | REPLENISHMENT CHECK                      | 174.44     |
| 01/20/2023 | 322929 | PORTAGE ROTARY                     | ROTARY CLUB - DUES/MEMBERSHIP            | 162.12     |
| 01/20/2023 | 322930 | PRINCIPAL FINANCIAL GROUP          | ACTUARIALLY RECOMMENDED CONTRIBUTION     | 76,919.00  |
| 01/20/2023 | 322931 | RATHCO SAFETY SUPPLY, INC.         | TRAFFIC SIGNS AND MAINTENANCE            | 84.00      |
| 01/20/2023 | 322932 | RESTORATIVE LAKE SCIENCES, LLC     | WEST LAKE WEED MANAGEMENT PROGRAM        | 1,875.00   |
| 01/20/2023 | 322933 | ROSE STREET ADVISORS, LLC          | COMPENSATION STUDY                       | 7,200.00   |
| 01/20/2023 | 322934 | RUN KALAMAZOO                      | RENTAL DEPOSIT REFUND                    | 150.00     |
| 01/20/2023 | 322935 | SENIOR SERVICES, INC.              | HOLIDAY LUNCH CATERING                   | 2,250.00   |
| 01/20/2023 | 322936 | SHERWIN WILLIAMS                   | PAINT SUPPLIES                           | 335.92     |
| 01/20/2023 | 322937 | SHI INTERNATIONAL CORP.            | CISCO SMARTNET RENEWAL                   | 4,522.24   |
| 01/20/2023 | 322938 | SMART SOURCE, LLC                  | PRINTING SERVICES                        | 205.92     |
| 01/20/2023 | 322939 | SOUTHWEST MICHIGAN FIRST           | LEADERSHIP KALAMAZOO                     | 2,150.00   |
| 01/20/2023 | 322940 | SPARTAN DISTRIBUTORS INC.          | REPAIR/MAINTENANCE SUPPLIES              | 646.20     |
| 01/20/2023 | 322941 | STAFFORD-SMITH, INC.               | STAINLESS STEEL PRICE INCREASE           | 1,787.50   |
| 01/20/2023 | 322942 | STATE INDUSTRIAL PRODUCTS CORP     | FACILITIES MAINT SUPPLIES/CHEMICAL       | 692.69     |
| 01/20/2023 | 322943 | STATE OF MICHIGAN                  | SOR REGISTRATIONS                        | 120.00     |
| 01/20/2023 | 322944 | STATE SYSTEMS RADIO, INC           | TOWER LEASE                              | 2,307.42   |
| 01/20/2023 | 322945 | STEENSMA LAWN & POWER EQUIPMENT    | SMALL EQUIPMENT REPAIR/MAINTENANCE       | 1,131.75   |
| 01/20/2023 | 322946 | TARGETSOLUTIONS LEARNING LLC       | FIRE TRAINING SOFTWARE RENEWAL           | 5,094.82   |
| 01/20/2023 | 322947 | TELUS COMMUNICATIONS (U.S.) INC    | MONTHLY SKYHAWK GPS ACCESS/SERVICE FEES  | 755.20     |
| 01/20/2023 | 322948 | ULINE, INC.                        | OFFICE & EVIDENCE SUPPLIES               | 197.44     |
| 01/20/2023 | 322949 | UNITED PARCEL SERVICE              | UPS WEEKLY                               | 90.25      |
| 01/20/2023 | 322950 | VALLEY CITY SIGN                   | MLK PARK WAYFINDING SIGN                 | 2,778.00   |
| 01/20/2023 | 322951 | VERIZON WIRELESS                   | CELL PHONES/WIRELESS CARD SERVICE        | 3,516.98   |
| 01/20/2023 | 322952 | WADE TRIM ASSOCIATES, INC.         | ANNUAL ACTION PLAN & TECHNICAL ASSISTANT | 1,220.00   |
| 01/20/2023 | 322953 | WALKER, JEAN                       | VETERANS LUNCHEON SUPPLIES/EXPENSES      | 355.03     |
| 01/20/2023 | 322954 | WAYNE COUNTY APPRAISAL LLC         | TAX APPEAL LEGAL SERVICES                | 1,528.11   |
| 01/20/2023 | 322955 | WITMER PUBLIC SAFETY GROUP         | FIRE ADMIN UNIFORMS                      | 2,232.20   |
| 01/20/2023 | 322956 | YEO & YEO                          | 2021-2022 AUDIT AND ACFR PREPARATION     | 11,200.00  |
| 01/20/2023 | 322957 | LAYNE CHRISTENSEN CO               | SHUMAN WELL REHABILITATION               | 178,500.00 |
| 01/27/2023 | 322958 | LERETA LLC                         | 2022 SUMMER TAX REFUND DUE PRE CHANGE    | 2,494.81   |
| 01/27/2023 | 322959 | LIBRA INDUSTRIES, INC. OF MICHIGAN | FIRE GAS MONITORS                        | 1,026.86   |
| 01/27/2023 | 322960 | MISTEROVICH, MARIAN                | LAKEVIEW PAVILION RENTAL REFUND          | 110.00     |

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| Check Date                | Check  | Vendor Name           | Description                          | Amount            |
|---------------------------|--------|-----------------------|--------------------------------------|-------------------|
| 01/27/2023                | 322961 | MWEA                  | OPERATORS DAY TRAINING-REGISTRATIONS | 430.00            |
| 01/27/2023                | 322962 | PARKER, MICHAEL       | 2022 CITY TOURNAMENT DEPOSIT REFUND  | 50.00             |
| 01/27/2023                | 322963 | PETTY CASH-KELLY REED | REPLENISHMENT CHECK                  | 787.09            |
| 01/27/2023                | 322964 | SCHARRER, NANCY       | PORTAGE CULINARY ACADEMY REFUND      | 20.00             |
| <b>Total Paper Checks</b> |        |                       |                                      | <b>399,037.02</b> |

Check Type: Auto-Pay Payments

|                                |                    |                                   |                   |
|--------------------------------|--------------------|-----------------------------------|-------------------|
| 01/17/2023                     | CONSUMERS AUTO-PAY | GAS-ELECTRIC                      | 9,366.32          |
| 01/17/2023                     | MISSIONSQUARE      | EMPLOYER RETIREMENT CONTRIBUTIONS | 44,416.07         |
| 01/18/2023                     | CONSUMERS AUTO-PAY | GAS-ELECTRIC                      | 5,581.51          |
| 01/26/2023                     | CONSUMERS AUTO-PAY | GAS-ELECTRIC                      | 3,575.77          |
| 01/27/2023                     | MISSIONSQUARE      | EMPLOYEE RETIREMENT WITHHOLDINGS  | 41,870.49         |
| <b>Total Auto-Pay Payments</b> |                    |                                   | <b>104,810.16</b> |

Check Type: Electronic Payments

|                                  |           |                                 |                   |
|----------------------------------|-----------|---------------------------------|-------------------|
| 01/20/2023                       | MULTIPLE  | WEEKLY TAX DISBURSEMENT 1/13/23 | 337,366.65        |
| 01/20/2023                       | MULTIPLE  | KCBRA - BROWNFIELD              | 352,565.53        |
| 01/26/2023                       | ASU GROUP | WORKERS COMP FUNDING            | 7,608.00          |
| <b>Total Electronic Payments</b> |           |                                 | <b>697,540.18</b> |

|                    |                     |
|--------------------|---------------------|
| <b>Grand Total</b> | <b>1,963,047.53</b> |
|--------------------|---------------------|

**TO:** Honorable Mayor and City Council

**FROM:** Pat McGinnis, City Manager

**SUBJECT:** MDOT Contract #22-5573 (Shaver Road, South City Limits to Vanderbilt Avenue)

**SUPPORTING PERSONNEL:** Kendra Gwin, Director of Transportation & Utilities

**ACTION RECOMMENDED:** Approve Contract #22-5573 between the Michigan Department of Transportation and the City of Portage for the reconstruction of Shaver Road from the south city limits to Vanderbilt Avenue and adopt a Resolution authorizing the City Manager to sign all documents related to the MDOT contract on behalf of the city.

Major street reconstruction projects are selected based on pavement condition, average daily traffic, federal aid eligibility, as well as potential development activities. The proposed FY 2022–2023 Capital Improvement Program budget includes funding for the Shaver Road Reconstruction Project. The Shaver Road Reconstruction Project includes replacement of the water main from Oakland Drive to Vanderbilt Avenue, upgrade of concrete sidewalk ramps to meet the Americans with Disabilities Act, storm sewer replacement, and hot mix asphalt.

On October 5, 2021, Abonmarche Consultants, Incorporated, was awarded an engineering service contract for design and construction engineering for this project. Because the project is partially funded by Federal Surface Transportation funding, the Michigan Department of Transportation (MDOT) is involved as a facilitator. The construction bid opening by MDOT was held on February 3, 2023. MDOT requires that an agreement with the local government agency be executed prior to construction award. The estimated total cost of the project is \$3,800,000 with \$1,200,000 in Federal Surface Transportation funds. The city share is \$2,600,000 financed through the Water Fund and the Municipal Street Fund. Following the contract award by MDOT, construction will commence in May 2023 with completion in the summer of 2024.

It is recommended that City Council approve Contract #22-5573 between the Michigan Department of Transportation and the City of Portage for the reconstruction of Shaver Road from the south city limits to Vanderbilt Avenue and adopt a Resolution authorizing the City Manager to sign all documents related to the MDOT contract on behalf of the city.

**FUNDING:** Sufficient funding exists in the FY 2022-2023 Capital Improvement Program budget.

**Attachments:** 1. MDOT Resolution #22- 5573

**CITY OF PORTAGE  
RESOLUTION**

At a regular meeting of the Council of the City of Portage, Kalamazoo County, Michigan, held at the City Hall in said City on the \_\_\_\_\_ day of \_\_\_\_\_, 2023 at 7:00 p.m., local time.

PRESENT: \_\_\_\_\_

ABSENT: \_\_\_\_\_

The following resolution was offered by Councilmember \_\_\_\_\_ and seconded by Councilmember \_\_\_\_\_.

RESOLVED, that the City Council for the City of Portage does hereby authorize the City Manager, Patrick McGinnis, to sign all documents related to Contract No. 22-5573 between the City of Portage and the Michigan Department of Transportation. This contract is for the construction improvements on Shaver Road from the south city limits to Vanderbilt Avenue.

ADOPTED: YEAS:

NAYS:

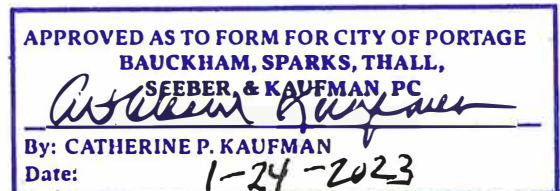
ABSENT:

\_\_\_\_\_  
Erica L. Eklov, City Clerk

**CERTIFICATION**

I hereby certify this \_\_\_\_\_ day of \_\_\_\_\_, 2023 that the foregoing is a true and complete copy of the original on file in my office.

\_\_\_\_\_  
Erica L. Eklov, City Clerk



# ***Minutes of Boards & Commissions***

# **CITY OF PORTAGE PLANNING COMMISSION**

**Thursday, December 15, 2022**

**7:00 PM Portage**

**City Hall Council Chambers**

The City of Portage Planning Commission meeting of December 15, 2022, was called to order by Vice Chair Joshi at 7:00 p.m.

## **IN ATTENDANCE**

- Biqi Zhao, Deputy Director of Planning and Zoning
- Kathleen Hoyle, Director of Parks & Recreation
- Catherine Kaufman, City Attorney

## **ROLL CALL**

Ms. Zhao called the roll: Chairman Corradini (excused); Vice Chair Joshi (yes); Fries (yes); Pezzoli (yes); Baldwin (yes); Adams (yes); Youngs (yes); Kasper (excused); and Freiman (yes).

Commissioner Baldwin motioned to excuse Chairman Corradini and Commissioner Kasper; Commissioner Pezzoli supported the motion. Motion carried 7-0.

## **APPROVAL OF MINUTES**

Motion by Commissioner Youngs, seconded by Commissioner Baldwin to approve the Planning Commission Meeting Minutes of December 1, 2022, with correction of a typo. Motion carried 7-0.

## **PUBLIC HEARINGS**

### **1. Draft 2023 Recreation and Open Space Plan**

Ms. Hoyle explained the details of the changes incorporated into the new revision outlined in staff's memo. Commissioner Freiman mentioned a typo for correction in the 2023 Recreation and Open Space Plan.

Vice Chair Joshi opened public hearing. There being no public comment, Commissioner Pezzoli motioned to close public hearing and the motion was supported by Commissioner Baldwin. Motion to close public hearing carried 7-0 upon a voice vote.

Commissioner Baldwin made a motion to recommend to the City Council the approval of the 2023 Recreation and Open Space Plan. The motion was seconded by Commissioner Baldwin. Motion carried 7-0 upon a voice vote.

### **2. Preliminary Condominium Plan: McConley Cove Planned Development, 1075 Bacon Avenue**

Ms. Zhao provided a presentation of the project, stating that the proposal consists of new 40 lots for 40 future single family detached homes, comprised of a mix of single- and two-story detached home units with internal and external connecting pedestrian pathways and connections to existing city water and sewer, and two proposed private storm water basins. She showed the applicant's site drawing and rendering, pictures of the site, highlighted the changes from the approved Tentative Plan, and explained



pertinent code sections. The proposed Preliminary Condominium Plan was found by staff to meet applicable zoning regulations and be in substantial compliance with the previously approved Tentative Plan. It was recommended that the Planning Commission recommend project approval to the City Council if no additional information received during the public hearing.

The applicant and property owner representative, Jack Gesmundo, spoke in support of the project, consistent with the previously approved rezoning application, stating the feature of the McConley Parkway will provide the sense of arrival to the residents.

Vice Chair Joshi opened public hearing. There being no public comment, Commissioner Pezzoli motioned to close public hearing; motion was supported by Commissioner Baldwin. Motion carried 7-0 upon a voice vote.

Commissioner Fries motioned to recommend to the City Council the approval of the Preliminary Condominium Plan for McConley Cove Planned Development at 1075 Bacon Avenue. The motion was seconded by Commission Pezzoli.

Upon roll call vote: Chairman Corradini (excused); Vice Chair Joshi (yes); Fries (yes); Pezzoli (yes); Baldwin (yes); Adams (yes); Youngs (yes); Kasper (excused); and Freiman (yes). Motion carried 7-0.

#### **SITE/FINAL PLANS**

None.

#### **NEW BUSINESS**

None.

#### **OLD BUSINESS**

None.

#### **STATEMENT OF CITIZENS**

None.

#### **STATEMENT OF COMMISSIONERS**

Commissioner Youngs complimented Planning Commission's efforts and accomplishments of 2022 and delivered holiday greetings. He inquired to staff if there will be a meeting on January 5, 2023; staff answered 'no', and that a cancellation notice will be sent out shortly. He indicated that he will be absent for the January 19<sup>th</sup> and February 2<sup>nd</sup>, 2023, meetings, and asked if the Planning Commission meet during those dates. Staff answered that we haven't received any cases for these two future meetings now, since the application deadlines have not approached yet.

Commissioner Pezzoli praised Planning Commission's accomplishments of 2022 and delivered holiday greetings. He mentioned that he will be absent from January 5, 2023, Planning Commission meeting.

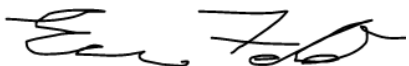
#### **STATEMENT OF STAFF**

None.

**ADJOURNMENT:**

There being no further business to come before the Commission, Vice Chair Joshi adjourned the meeting at 7:22 p.m.

Respectfully submitted,

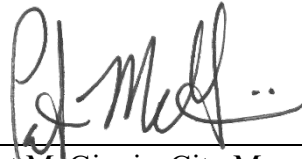
A handwritten signature in black ink, appearing to read "Eric Feldt". The signature is fluid and cursive, with the first name "Eric" and last name "Feldt" clearly distinguishable.

Eric Feldt, AICP, CFM  
City Planner/Project Manager

**MATERIALS TRANSMITTED**

Thursday, January 19, 2023

1. Communication from the City Manager regarding Austin Lake Invasive Weed Management reports from ProgressiveAE – Information Only.



---

Pat McGinnis, City Manager

cc Adam Herringa, Deputy City Manager  
Michael Carroll, Deputy City Manager

**TO:** Honorable Mayor and City Council

**FROM:** Pat McGinnis, City Manager

**SUBJECT:** ProgressiveAE reports on Austin Lake invasive weed management

At the City Council meeting of January 10, it was brought to our attention that not all Councilmembers had previously had the opportunity to review the two reports and proposed budgets provided by ProgressiveAE regarding invasive weed management for Austin Lake.

The original report was provided to the Austin Lake riparians on October 17, 2022. Subsequently, the riparians requested that mechanical harvesting be added to the proposal and ProgressiveAE returned a revised report and proposed budget including this information.

Both the original report/proposed budget and the revised documents are attached here for review.



# Austin Lake 2022 Aquatic Vegetation/ Water Quality Report

October 2022

A publication of the Austin Lake Riparians

## Austin Lake Riparians

AustinLakePortage.com

A.J. Spicer

President

Jeff Sedlak

Vice President

Thorsten Wilmann

Secretary

Dave Savoy

Treasurer

## City of Portage

7900 South Westnedge Avenue

Portage, MI 49002

portagemi.gov

This report provides background information on the water quality of Austin Lake and a discussion of the aquatic vegetation surveys that took place in 2022.

Lakes can be classified into three broad categories based on their productivity or ability to support plant and animal life. The three basic lake classifications are oligotrophic, mesotrophic, and eutrophic.

*Oligotrophic* lakes are generally deep and clear with little aquatic plant growth. These lakes maintain sufficient dissolved oxygen in the cool, deep bottom waters during late summer to support cold water fish such as trout and whitefish.

*Eutrophic* lakes have poor clarity, and support abundant aquatic plant growth. In deep eutrophic lakes, the cool bottom waters usually contain little or no dissolved oxygen. Therefore, these lakes can only support warm water fish such as bass and pike.

Lakes that fall between the two extremes of oligotrophic and eutrophic are called *mesotrophic* lakes.

Under natural conditions, most lakes will ultimately evolve to a eutrophic state as they gradually fill with sediment and organic matter transported to the lake from the surrounding watershed. As the

lake becomes shallower, the process accelerates. When aquatic plants become abundant, the lake slowly begins to fill in as sediment and decaying plant matter accumulate on the lake bottom. Eventually, terrestrial plants become established and the lake is transformed to a marshland. The natural lake aging process can be greatly accelerated if excessive amounts of sediment and nutrients (which stimulate aquatic plant growth) enter the lake from the surrounding watershed. Because these added inputs are usually associated with human activity, this accelerated lake aging process is often referred to as *cultural eutrophication*.

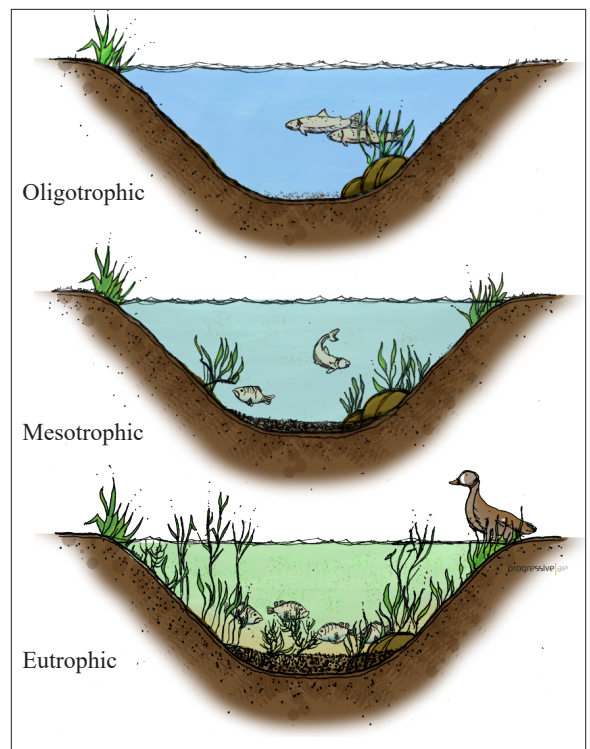


Figure 1: Lake trophic states.

For more information, visit:

[www.michiganlakeinfo.com/trophic-state](http://www.michiganlakeinfo.com/trophic-state)

Environmental Consultant

Progressive AE

LAKE AND WATERSHED CHARACTERISTICS

Austin Lake has a surface area of 1,133 acres, a maximum depth of 11 feet, and a mean or average depth of 5 feet. Austin Lake contains about 5,013 acre-feet of water, a volume which would cover an area over 7.8 square miles to a depth of 1 foot.

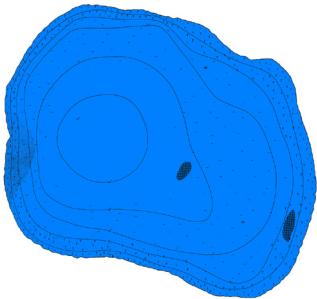
TABLE 1  
AUSTIN LAKE PHYSICAL CHARACTERISTICS

|                                                |                 |
|------------------------------------------------|-----------------|
| Lake Surface Area                              | 1,133 Acres     |
| Maximum Depth                                  | 11 Feet         |
| Mean Depth                                     | 4.4 Feet        |
| Lake Volume                                    | 5,013 Acre-Feet |
| Shoreline Length                               | 7 Miles         |
| Shoreline Development Factor                   | 1.5             |
| Shallowness Factor                             | 0.5             |
| Lake Elevation                                 | 855 Feet        |
| Watershed Area                                 | 8,649 Acres     |
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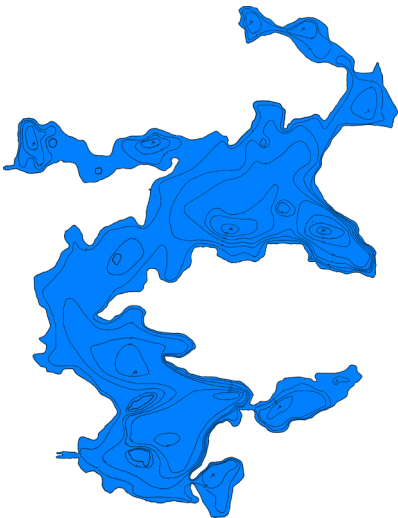
Shoreline development factor is a measure of the irregularity of the shoreline. A lake that is perfectly round would have a shoreline development factor of 1.0. Austin Lake has a shoreline 7 miles long and a shoreline development factor of 1.5. Thus, compared to a perfectly round lake with the same surface area as Austin Lake (i.e., 1,133 acres), the shoreline of Austin Lake is 1.5 times longer because of its irregular shape. Lakes with highly convoluted shorelines have the potential to support much more shoreland development compared to lakes with a more circular shape. Wagner (1991) noted:

The ratio of the length of shoreline around the lake to the circumference of a circle with the same area as the lake [shoreline development factor] provides a size-independent measure of the lake shape and indicates much about how motorized watercraft could affect the water body. Higher ratios suggest irregular shorelines with more waterfront per unit area than smaller ratios. Numerous coves may serve to isolate impacts, but there is a greater potential for the shoreline to be affected. High ratios also imply greater safety risks as well as ecological consequences.

Figure 1: Shoreline Development Factor



Walsh Lake, Washtenaw County = 1.03



Spider Lake, Grand Traverse County = 3.91

## Trophic State Indicators/Water Quality

Key parameters used to evaluate a lake's productivity or trophic state include total phosphorus, chlorophyll-*a*, and Secchi transparency.

*Phosphorus* is the nutrient that most often stimulates excessive growth of aquatic plants and causes premature lake aging. By measuring phosphorus levels, it is possible to gauge the overall health of a lake.

*Chlorophyll-a* is a pigment that imparts the green color to plants and algae. A rough estimate of the quantity of algae present in the water column can be made by measuring the amount of chlorophyll-*a* in the water column.

A *Secchi disk* is a round, black and white, 8-inch disk that is used to estimate water clarity. Generally, it has been found that plants can grow to a depth of about twice the Secchi disk transparency.

Generally, as phosphorus inputs to a lake increase, algae growth and chlorophyll-*a* increase and Secchi transparency decreases.

**TABLE 2**  
**TROPHIC CLASSIFICATION CRITERIA**

| Lake Classification | Total Phosphorus (µg/L) <sup>1</sup> | Chlorophyll-a (µg/L) <sup>1</sup> | Secchi Transparency (feet) |
|---------------------|--------------------------------------|-----------------------------------|----------------------------|
| Oligotrophic        | Less than 10                         | Less than 2.2                     | Greater than 15.0          |
| Mesotrophic         | 10 to 20                             | 2.2 to 6.0                        | 7.5 to 15.0                |
| Eutrophic           | Greater than 20                      | Greater than 6.0                  | Less than 7.5              |

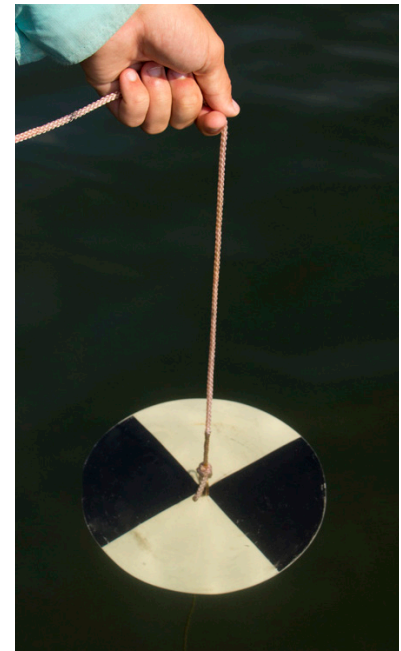
<sup>1</sup> µg/L = micrograms per liter = parts per billion.

**Carlson's Trophic State Index (TSI)** was developed from mathematical relationships that allowed phosphorus, chlorophyll-*a*, and Secchi transparency readings to be converted to a numerical scale from 0 to 100, with increasing numbers indicating more productive lakes. The TSI can be used to rate the trophic state of Michigan lakes as follows:

**TABLE 3**  
**TSI INDEX FOR MICHIGAN**

| Trophic State | TSI Value    |
|---------------|--------------|
| Oligotrophic  | Less than 38 |
| Mesotrophic   | 38 to 48     |
| Eutrophic     | 48+          |

There is limited historical sampling data provided by the Michigan Clean Water Corps. Classifying Austin Lake would require more data to best represent all three trophic state indicators. The data that is available was collected in the early 1990's and shows a phosphorous reading of 13 µg/L and an average Secchi disk reading of 5.5 feet. Regularly scheduled, biannual sampling on Austin Lake is recommended to accurately determine trophic state and monitor water quality trends.



A Secchi disk measures water clarity.

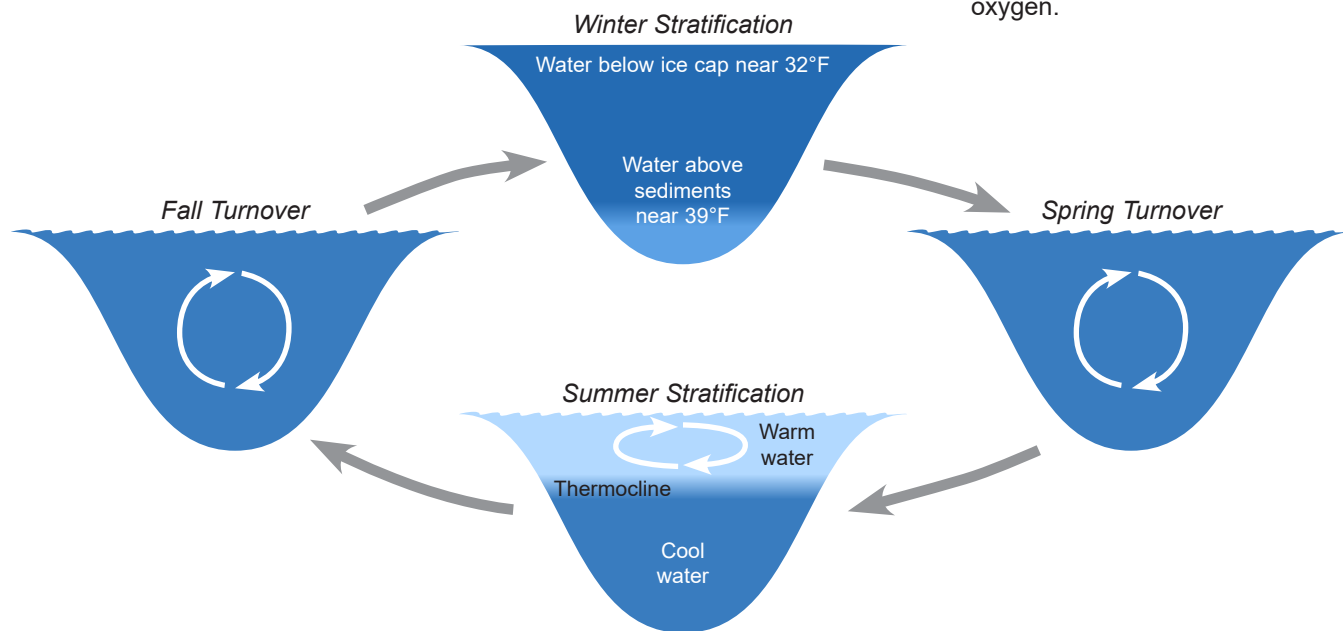
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*Temperature* is important in determining the type of organisms that may live in a lake. For example, trout prefer temperatures below 68°F. Temperature also determines how water mixes in a lake. As the ice cover breaks up on a lake in the spring, the water temperature becomes uniform from the surface to the bottom. This period is referred to as *spring turnover* because water mixes throughout the entire water column. As the surface waters warm, they are underlain by a colder, more dense layer of water. This process is called thermal stratification. In deeper lakes during summer there are three distinct layers. This is referred to as *summer stratification*. Once thermal stratification occurs, there is little mixing of the warm surface waters with the cooler bottom waters. The transition layer that separates these layers is referred to as the *thermocline*. The thermocline is characterized as the zone where temperature drops rapidly with depth. As fall approaches, the warm surface waters begin to cool and become more dense. Eventually, the surface temperature drops to a point that allows the lake to undergo complete mixing. This period is referred to as *fall turnover*. As the season progresses and ice begins to form on the lake, the lake may stratify again. However, during *winter stratification*, the surface waters (at or near 32°F) are underlain by slightly warmer water (about 39°F). This is sometimes referred to as *inverse stratification* and occurs because water is most dense at a temperature of about 39°F. As the lake ice melts in the spring, these stratification cycles are repeated. These stratification cycles occur in deep lakes but not in shallow lakes or ponds. Lakes that are about 15 to 30 feet deep may stratify and destratify with storm events several times during the year. Austin Lake is shallow and thus, remains mixed throughout the summer months.

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### Dissolved Oxygen

An important factor influencing lake water quality is the quantity of *dissolved oxygen* in the water column. The major inputs of dissolved oxygen to lakes are the atmosphere and photosynthetic activity by aquatic plants. An oxygen level of about 5 mg/L (milligrams per liter, or parts per million) is required to support warm-water fish. In lakes deep enough to exhibit thermal stratification, oxygen levels are often reduced or depleted below the thermocline once the lake has stratified. This is because deep water is cut off from plant photosynthesis and the atmosphere, and oxygen is consumed by bacteria that use oxygen as they decompose organic matter (plant and animal remains) at the bottom of the lake. Bottom-water oxygen depletion is a common occurrence in eutrophic and some mesotrophic lakes. Thus, eutrophic and most mesotrophic lakes cannot support cold-water fish because the cool, deep water (that the fish require to live) does not contain sufficient oxygen.



**Figure 2: Seasonal thermal stratification. Stratification cycles occur in deep lakes but not in shallow lakes or ponds.**



In addition to identifying invasive plant species locations, a comprehensive full-lake vegetation survey of Austin Lake was conducted on August 4, 2022 to evaluate the type and abundance of all plants in the lake. The table below lists each plant species observed during the survey and the relative abundance of each. At the time of the survey, 15 submersed species, two floating-leaved species, and eight emergent species were found in the lake. Austin Lake maintains a good diversity of beneficial, native plant species.

**TABLE 4**  
**AUSTIN LAKE AQUATIC PLANTS**  
**AUGUST 4, 2022**

| Common Name          | Scientific Name                  | Group           | Percent of Sites Where Present |
|----------------------|----------------------------------|-----------------|--------------------------------|
| Chara                | <i>Chara</i> sp.                 | Submersed       | 76                             |
| Slender naiad        | <i>Najas flexilis</i>            | Submersed       | 46                             |
| Sago pondweed        | <i>Stuckenia pectinata</i>       | Submersed       | 40                             |
| Brittle-leaf naiad   | <i>Najas minor</i>               | Submersed       | 19                             |
| Eurasian milfoil*    | <i>Myriophyllum spicatum</i>     | Submersed       | 6                              |
| Variable pondweed    | <i>Potamogeton gramineus</i>     | Submersed       | 5                              |
| Illinois pondweed    | <i>Potamogeton illinoensis</i>   | Submersed       | 4                              |
| Bladderwort          | <i>Utricularia vulgaris</i>      | Submersed       | 2                              |
| Wild celery          | <i>Vallisneria americana</i>     | Submersed       | 1                              |
| Thin-leaf pondweed   | <i>Potamogeton</i> sp.           | Submersed       | 1                              |
| Water stargrass      | <i>Heteranthera dubia</i>        | Submersed       | 1                              |
| Underwater arrowhead | <i>Sagittaria</i> sp.            | Submersed       | 1                              |
| Flat-stem pondweed   | <i>Potamogeton zosteriformis</i> | Submersed       | 1                              |
| Starry stonewort*    | <i>Nitellopsis obtusa</i>        | Submersed       | 1                              |
| Curly-leaf pondweed* | <i>Potamogeton crispus</i>       | Submersed       | 1                              |
| White waterlily      | <i>Nymphaea odorata</i>          | Floating-leaved | 5                              |
| Yellow waterlily     | <i>Nuphar</i> sp.                | Floating-leaved | 2                              |
| Purple loosestrife*  | <i>Lythrum salicaria</i>         | Emergent        | 6                              |
| Iris                 | <i>Iris</i> sp.                  | Emergent        | 2                              |
| Bulrush              | <i>Schoenoplectus</i> sp.        | Emergent        | 2                              |
| Swamp loosestrife    | <i>Decodon verticillatus</i>     | Emergent        | 1                              |
| Arrowhead            | <i>Sagittaria latifolia</i>      | Emergent        | 1                              |
| Cattail              | <i>Typha</i> sp.                 | Emergent        | 1                              |
| Phragmites*          | <i>Phragmites australis</i>      | Emergent        | 1                              |
| Pickeralweed         | <i>Pontederia cordata</i>        | Emergent        | 1                              |

\*Invasive exotic species

## Plant Surveys

The method used to conduct the aquatic plant survey on Austin Lake follows the Aquatic Vegetation Assessment Site (AVAS) survey procedures established by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Using this method, the type and abundance of each plant species are recorded at each site. This approach provides a snapshot of the aquatic plant community and the results can be compared to historical data in order to track trends and changes in Austin Lake's aquatic plant community.

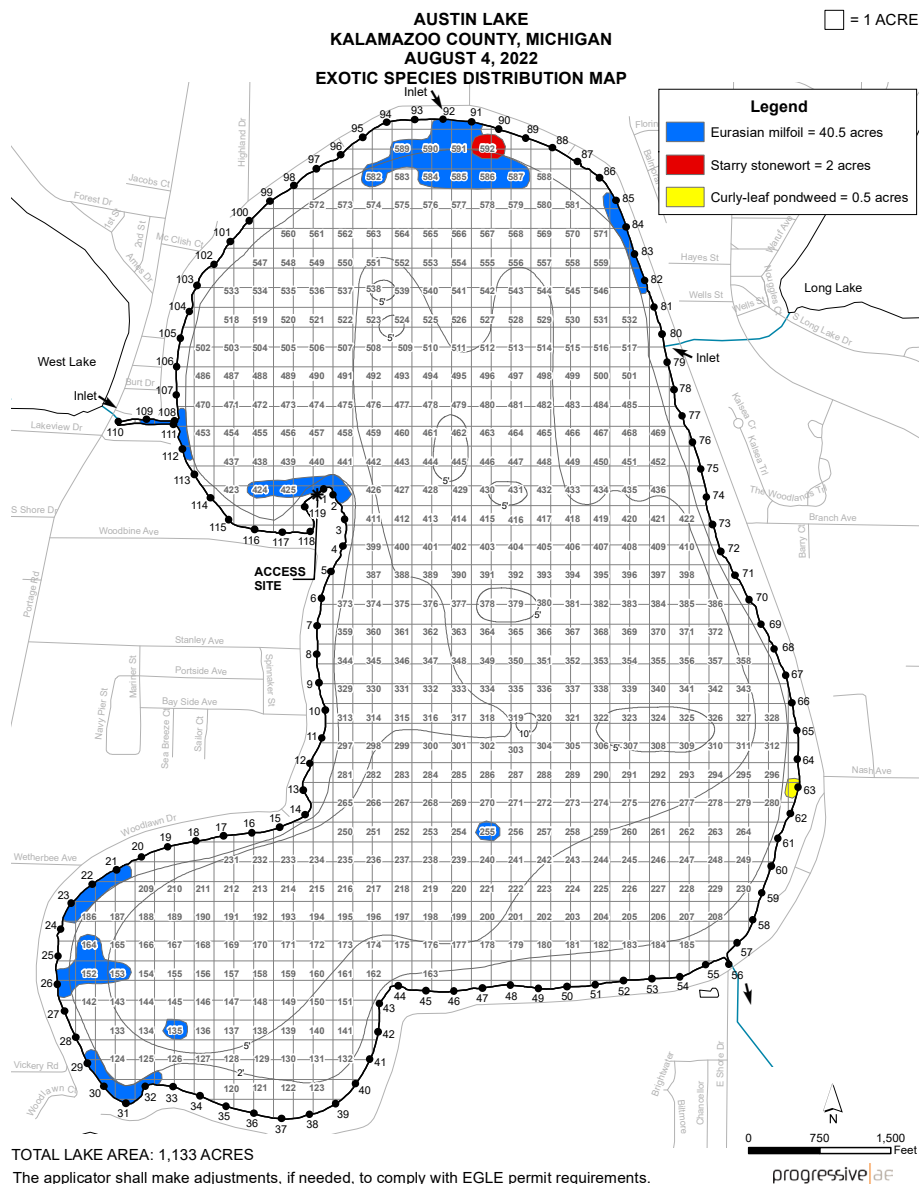
592 GPS reference points were established on Austin Lake between the shoreline and off-shore grid points. These points are used to guide plant surveys and to accurately identify the location of plant growth areas. The invasive plant species of primary concern that were present during the survey were Starry stonewort (*Nitellopsis obtusa*) and Eurasian milfoil (*Myriophyllum spicatum*). Their locations are shown in the map below. Other invasives including Curly-leaf pondweed (*Potamogeton crispus*), Purple loosestrife (*Lythrum salicaria*), and Phragmites (*Phragmites australis*) were also present.



Starry stonewort (*Nitellopsis obtusa*)



Eurasian milfoil (*Myriophyllum spicatum*)



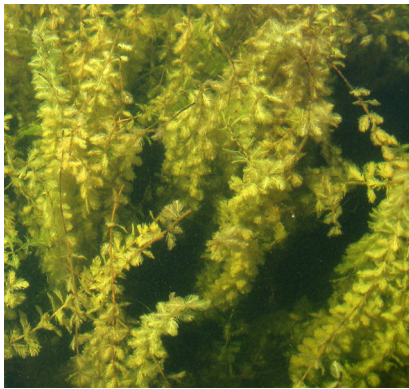
**Figure 3: Exotic Species Distribution Map**

**AUSTIN LAKE IMPROVEMENT PROGRAM  
PROPOSED ANNUAL BUDGET  
2023 – 2027**

| <b>Improvement</b>         | <b>Annual Cost</b> |
|----------------------------|--------------------|
| Aquatic Plant Control      | \$40,000           |
| Lake Management Consulting | \$14,000           |
| Water Quality Monitoring   | \$3,500            |
| Contingency Funds          | <u>\$4,500</u>     |
| <b>TOTAL</b>               | <b>\$62,000</b>    |

The Austin Lake aquatic plant control program will focus on the control of exotic, invasive species in Austin Lake with the select use of herbicides. Plant species of primary concern include Eurasian milfoil, curly-leaf pondweed and starry stonewort. The amount of herbicide use in any given year will depend on the type and distribution of aquatic plants and Department of Environment, Great Lakes, and Energy permit conditions.

Plant control activities are proposed to be coordinated under the direction of the City of Portage's consultant.



**Eurasian milfoil**



**Curly-leaf pondweed**



**Starry stonewort**

The consultant would be responsible for preparing contract documents for the plant control program, conducting GPS-guided surveys of the lake to determine the scope of work to be performed by the plant control contractor, and conducting follow-up surveys to evaluate contractor performance. The consultant would report to the City of Portage and the Austin Lake Riparians, Inc. and maintain a written record of the timing, scope and cost of plant control activities.

Project administration would include consulting services related to meetings, the review and processing of contractor invoices, and public hearing proceedings.

Water samples will be collected from the surface, mid-depth, and near the bottom over the three deepest portions of the lake to evaluate baseline water quality conditions. Samples will be collected during the periods of early spring and late summer. Parameters sampled will include temperature, dissolved oxygen, total phosphorus, chloride, and surface water chlorophyll-a. This data will be compared to historical data and used to evaluate baseline water quality conditions in Austin Lake. Water quality data and aquatic plant control information would be compiled in an annual report each year and posted on each entities website.

Project contingency costs would be used to cover unforeseen project-related costs that may arise and any direct costs incurred by the City of Portage.





# Austin Lake 2022 Aquatic Vegetation/ Water Quality Report

October 2022

A publication of the Austin Lake Riparians

## Austin Lake Riparians

AustinLakePortage.com

A.J. Spicer

President

Jeff Sedlak

Vice President

Thorsten Wilmann

Secretary

Dave Savoy

Treasurer

## City of Portage

7900 South Westnedge Avenue

Portage, MI 49002

portagemi.gov

This report provides background information on the water quality of Austin Lake and a discussion of the aquatic vegetation surveys that took place in 2022.

Lakes can be classified into three broad categories based on their productivity or ability to support plant and animal life. The three basic lake classifications are oligotrophic, mesotrophic, and eutrophic.

*Oligotrophic* lakes are generally deep and clear with little aquatic plant growth. These lakes maintain sufficient dissolved oxygen in the cool, deep bottom waters during late summer to support cold water fish such as trout and whitefish.

*Eutrophic* lakes have poor clarity, and support abundant aquatic plant growth. In deep eutrophic lakes, the cool bottom waters usually contain little or no dissolved oxygen. Therefore, these lakes can only support warm water fish such as bass and pike.

Lakes that fall between the two extremes of oligotrophic and eutrophic are called *mesotrophic* lakes.

Under natural conditions, most lakes will ultimately evolve to a eutrophic state as they gradually fill with sediment and organic matter transported to the lake from the surrounding watershed. As the

lake becomes shallower, the process accelerates. When aquatic plants become abundant, the lake slowly begins to fill in as sediment and decaying plant matter accumulate on the lake bottom. Eventually, terrestrial plants become established and the lake is transformed to a marshland. The natural lake aging process can be greatly accelerated if excessive amounts of sediment and nutrients (which stimulate aquatic plant growth) enter the lake from the surrounding watershed. Because these added inputs are usually associated with human activity, this accelerated lake aging process is often referred to as *cultural eutrophication*.

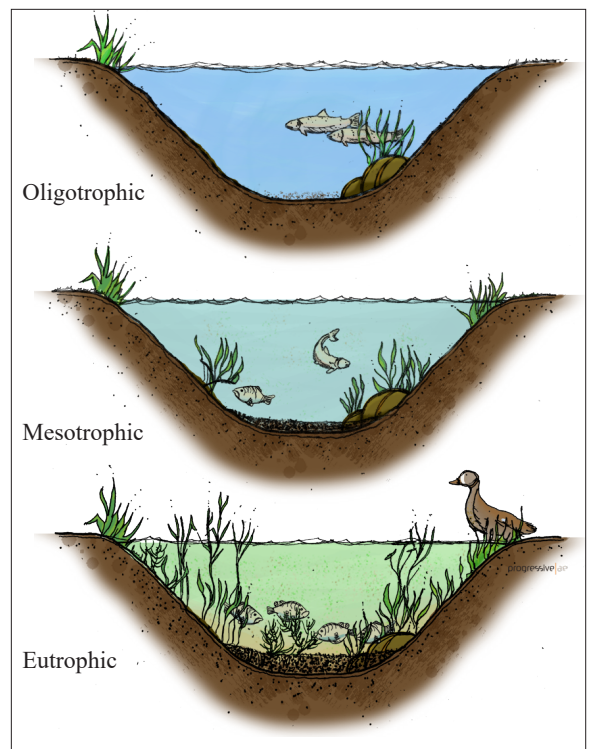


Figure 1: Lake trophic states.

LAKE AND WATERSHED CHARACTERISTICS

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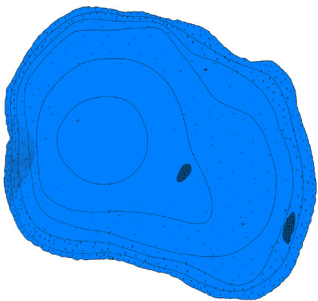
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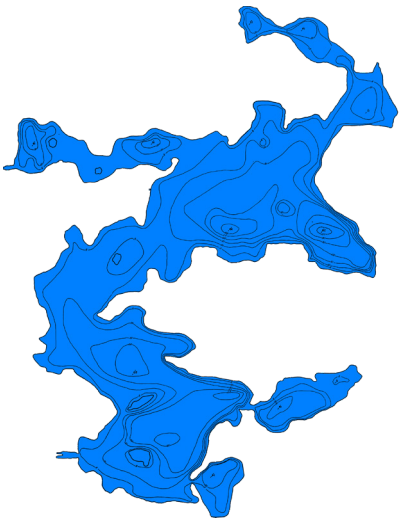
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Figure 1: Shoreline Development Factor



Walsh Lake, Washtenaw County = 1.03



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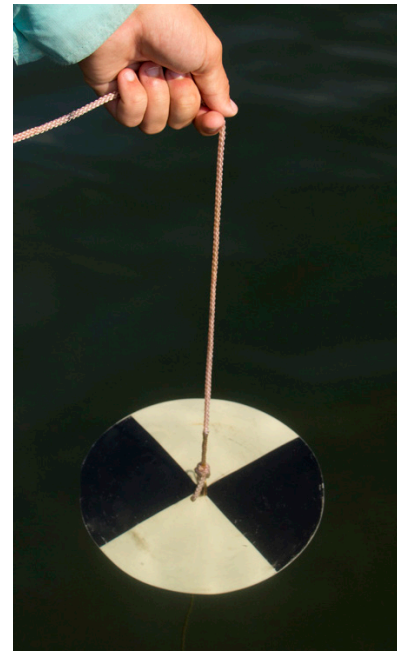
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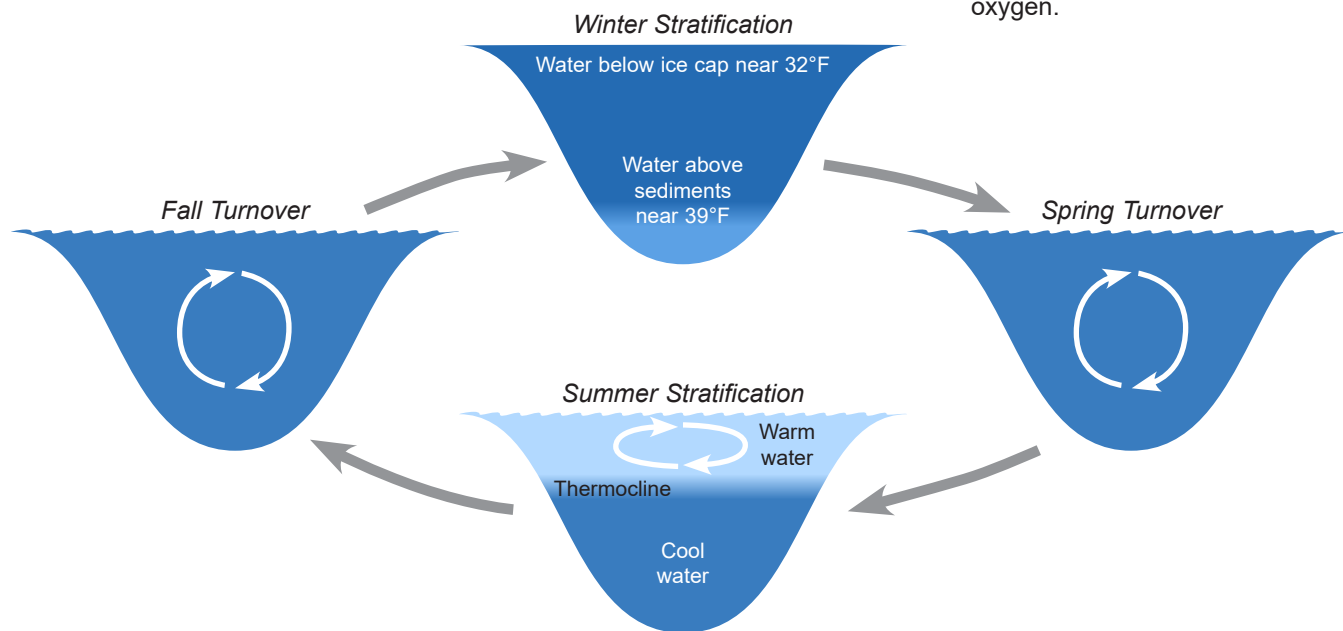
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### Dissolved Oxygen

An important factor influencing lake water quality is the quantity of *dissolved oxygen* in the water column. The major inputs of dissolved oxygen to lakes are the atmosphere and photosynthetic activity by aquatic plants. An oxygen level of about 5 mg/L (milligrams per liter, or parts per million) is required to support warm-water fish. In lakes deep enough to exhibit thermal stratification, oxygen levels are often reduced or depleted below the thermocline once the lake has stratified. This is because deep water is cut off from plant photosynthesis and the atmosphere, and oxygen is consumed by bacteria that use oxygen as they decompose organic matter (plant and animal remains) at the bottom of the lake. Bottom-water oxygen depletion is a common occurrence in eutrophic and some mesotrophic lakes. Thus, eutrophic and most mesotrophic lakes cannot support cold-water fish because the cool, deep water (that the fish require to live) does not contain sufficient oxygen.



**Figure 2: Seasonal thermal stratification. Stratification cycles occur in deep lakes but not in shallow lakes or ponds.**

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**AUGUST 4, 2022**

| Common Name          | Scientific Name                  | Group           | Percent of Sites Where Present |
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| Eurasian milfoil*    | <i>Myriophyllum spicatum</i>     | Submersed       | 6                              |
| Variable pondweed    | <i>Potamogeton gramineus</i>     | Submersed       | 5                              |
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| Bladderwort          | <i>Utricularia vulgaris</i>      | Submersed       | 2                              |
| Wild celery          | <i>Vallisneria americana</i>     | Submersed       | 1                              |
| Thin-leaf pondweed   | <i>Potamogeton</i> sp.           | Submersed       | 1                              |
| Water stargrass      | <i>Heteranthera dubia</i>        | Submersed       | 1                              |
| Underwater arrowhead | <i>Sagittaria</i> sp.            | Submersed       | 1                              |
| Flat-stem pondweed   | <i>Potamogeton zosteriformis</i> | Submersed       | 1                              |
| Starry stonewort*    | <i>Nitellopsis obtusa</i>        | Submersed       | 1                              |
| Curly-leaf pondweed* | <i>Potamogeton crispus</i>       | Submersed       | 1                              |
| White waterlily      | <i>Nymphaea odorata</i>          | Floating-leaved | 5                              |
| Yellow waterlily     | <i>Nuphar</i> sp.                | Floating-leaved | 2                              |
| Purple loosestrife*  | <i>Lythrum salicaria</i>         | Emergent        | 6                              |
| Iris                 | <i>Iris</i> sp.                  | Emergent        | 2                              |
| Bulrush              | <i>Schoenoplectus</i> sp.        | Emergent        | 2                              |
| Swamp loosestrife    | <i>Decodon verticillatus</i>     | Emergent        | 1                              |
| Arrowhead            | <i>Sagittaria latifolia</i>      | Emergent        | 1                              |
| Cattail              | <i>Typha</i> sp.                 | Emergent        | 1                              |
| Phragmites*          | <i>Phragmites australis</i>      | Emergent        | 1                              |
| Pickeralweed         | <i>Pontederia cordata</i>        | Emergent        | 1                              |

\*Invasive exotic species



## Plant Surveys

The method used to conduct the aquatic plant survey on Austin Lake follows the Aquatic Vegetation Assessment Site (AVAS) survey procedures established by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Using this method, the type and abundance of each plant species are recorded at each site. This approach provides a snapshot of the aquatic plant community and the results can be compared to historical data in order to track trends and changes in Austin Lake's aquatic plant community.

592 GPS reference points were established on Austin Lake between the shoreline and off-shore grid points. These points are used to guide plant surveys and to accurately identify the location of plant growth areas. The invasive plant species of primary concern that were present during the survey were Starry stonewort (*Nitellopsis obtusa*) and Eurasian milfoil (*Myriophyllum spicatum*). Their locations are shown in the map below. Other invasives including Curly-leaf pondweed (*Potamogeton crispus*), Purple loosestrife (*Lythrum salicaria*), and Phragmites (*Phragmites australis*) were also present.



Starry stonewort (*Nitellopsis obtusa*)



Eurasian milfoil (*Myriophyllum spicatum*)

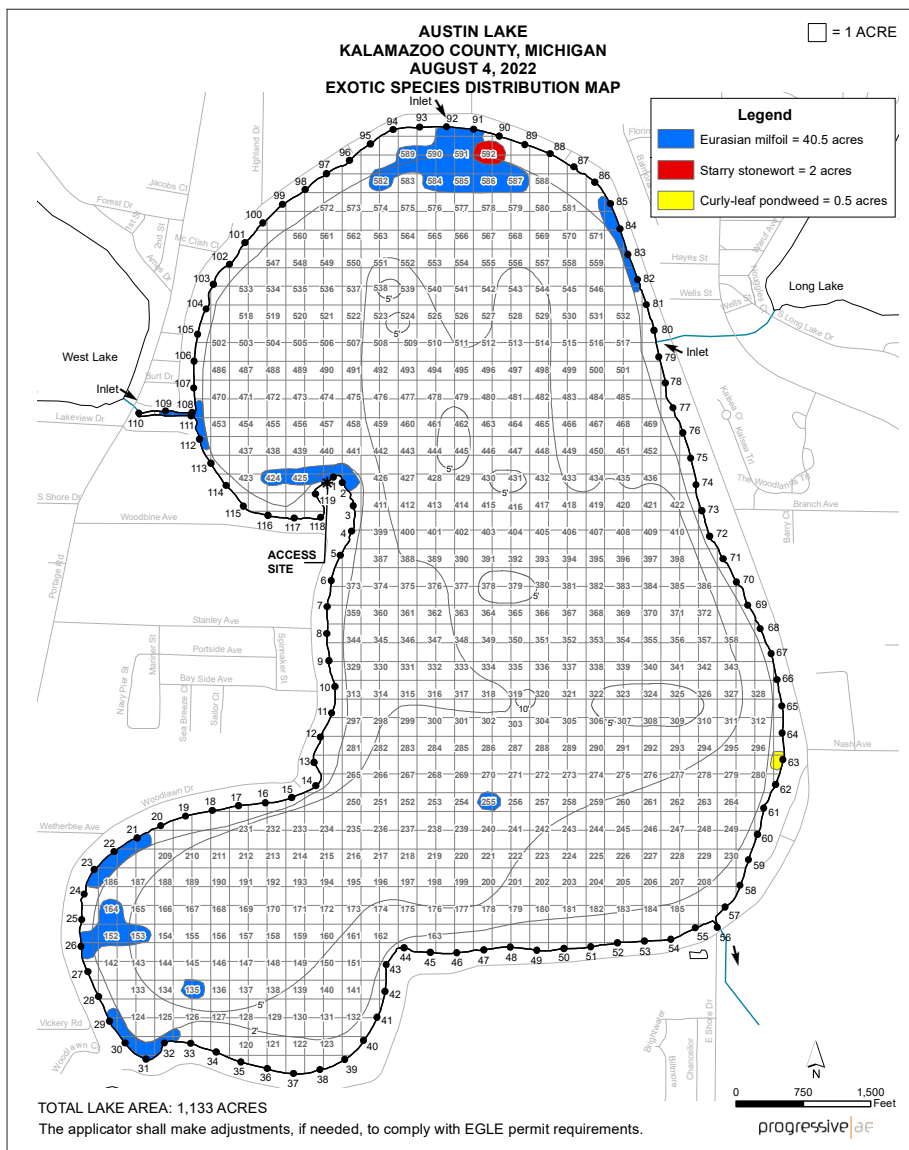


Figure 3: Exotic Species Distribution Map

# Potential Native Plant Treatment & Harvesting Areas

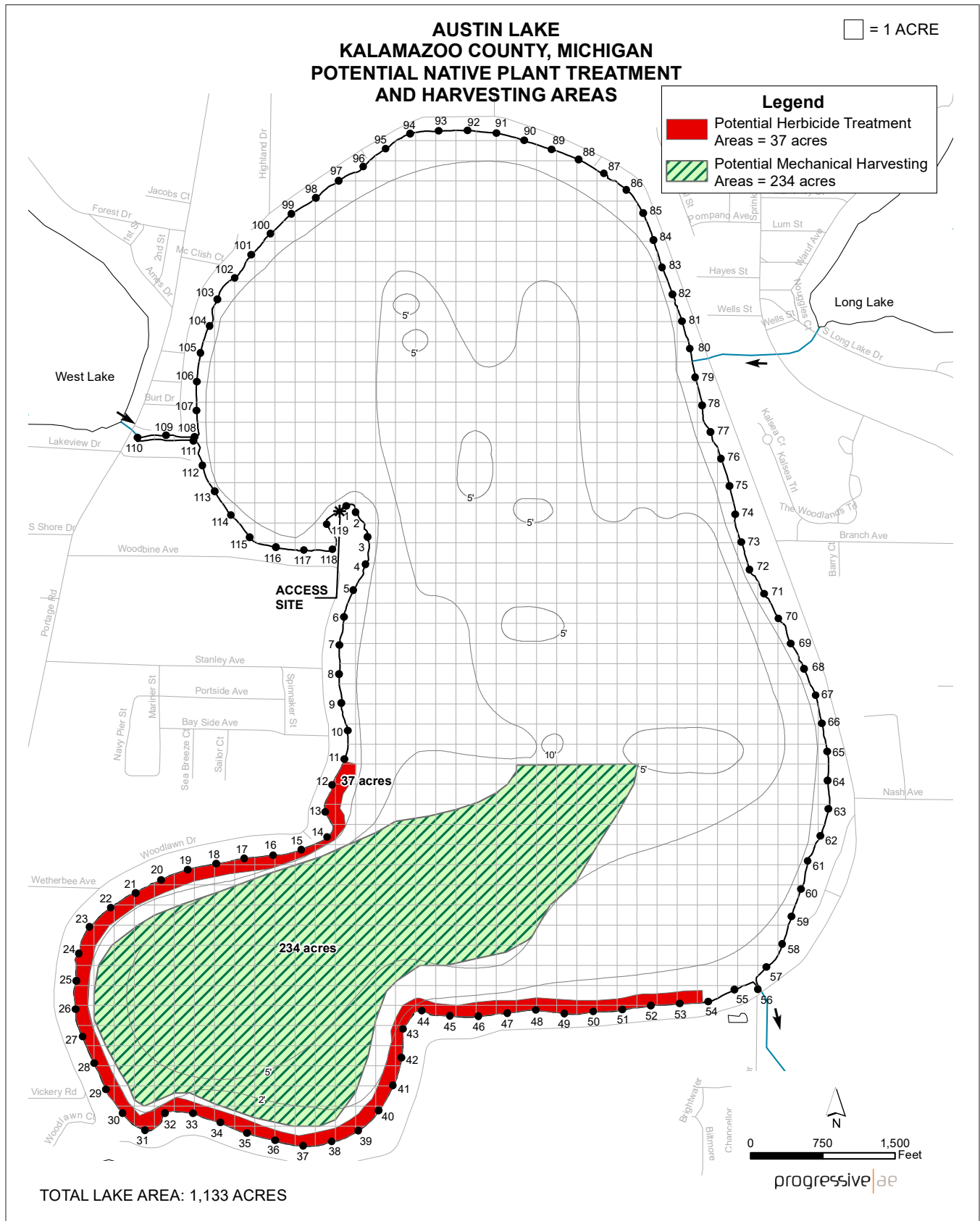
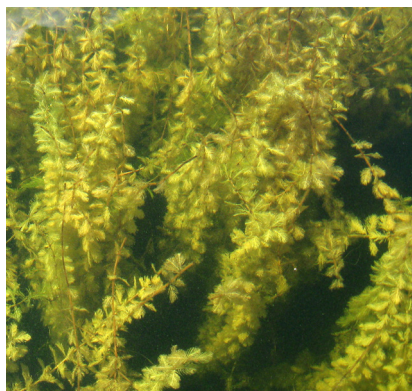


Figure 4: Potential Native Plant Treatment & Harvesting Areas

**AUSTIN LAKE IMPROVEMENT PROGRAM  
PROPOSED ANNUAL BUDGET  
2023 – 2027**

| Improvement                                         | Annual Cost    |
|-----------------------------------------------------|----------------|
| Aquatic Herbicide Treatments                        | \$35,000       |
| Mechanical Harvesting                               | \$30,000       |
| Lake Management Consulting & Project Admisistration | \$14,000       |
| Water Quality Monitoring                            | \$3,500        |
| Contingency Funds                                   | <u>\$4,500</u> |
| TOTAL                                               | \$87,000       |

The Austin Lake aquatic plant control program will focus on the control of exotic, invasive species in Austin Lake with the select use of herbicides. In addition, nuisance growth of native aquatic plants would be addressed with mechanical harvesting and removal. Plant species of primary concern include Eurasian milfoil, curly-leaf pondweed and starry stonewort. The amount of herbicide use in any given year will depend on the type and distribution of aquatic plants and Department of Environment, Great Lakes, and Energy permit conditions.



**Eurasian milfoil**



**Curly-leaf pondweed**



**Starry stonewort**

Plant control activities are proposed to be coordinated under the direction of the City of Portage's consultant. The consultant would be responsible for preparing contract documents for the plant control program, conducting GPS-guided surveys of the lake to determine the scope of work to be performed by the plant control contractor, and conducting follow-up surveys to evaluate contractor performance. The consultant would report to the City of Portage and the Austin Lake Riparians, Inc. and maintain a written record of the timing, scope and cost of plant control activities. Project administration would include consulting services related to meetings, the review and processing of contractor invoices, and public hearing proceedings.

Water samples will be collected from the surface, mid-depth, and near the bottom over the three deepest portions of the lake to evaluate baseline water quality conditions. Samples will be collected during the periods of early spring and late summer. Parameters sampled will include temperature, dissolved oxygen, total phosphorus, chloride, and surface water chlorophyll-a. In addition, during the same time periods, samples will be collected from the three major tributaries to Austin Lake (West Lake outlet, Long Lake outlet, and the Pfizer Pond outlet) and analyzed for discharge (flow), total phosphorus, and total suspended solids. This data will be compared to historical data and used to evaluate baseline water quality conditions in Austin Lake. Water quality data and aquatic plant control information would be compiled in an annual report each year and posted on each entities website.

Project contingency costs would be used to cover unforeseen project-related costs that may arise and any direct costs incurred by the City of Portage.

**TO:** Honorable Mayor and City Council

**FROM:** Pat McGinnis, City Manager

**SUBJECT:** Austin Lake Invasive Weed Management - 2023 to 2027 Special Assessment

**SUPPORTING PERSONNEL:** Kendra Gwin, Director of Transportation & Utilities

**ACTION RECOMMENDED:** Subsequent to the public hearing, adopt Resolution No. 3 for the Austin Lake Invasive Weed Management Program Special Assessment District No. 023-A, directing the City Assessor to prepare the Special Assessment Roll.

On May 25, 2021, City Council adopted a resolution for the dissolution of the Austin Lake Governmental Lake Board. Then, on November 12, 2021, the Austin Lake Riparian Board requested that Council initiate a lake improvement project to investigate, treat and/or eradicate invasive weeds throughout Austin Lake. On March 22, 2022, Council awarded a consulting services contract to Progressive AE to study the lake ecology relating to recurring aquatic nuisance conditions, prepare recommendations, and prescribe treatment(s) for controlling aquatic nuisances during the years 2023 through 2027.

On October 17, 2022, Progressive AE submitted its report and recommendation to the Austin Lake Riparian Board. It is the desire of the Austin Lake residents, as indicated in the attached letter from the Austin Lake Riparian Board, to initiate lake management efforts as recommended by Progressive AE and requests the city's assistance in creating a five-year assessment district for the management of invasive aquatic plants in Austin Lake.

The Austin Lake Riparian Board has requested chemical treatment and mechanical harvesting with a budget of approximately \$450,000. The city portion is 5% of the anticipated cost of the five-year program, or \$22,500, with the riparian owners funding 95% of the program, or approximately \$427,500 (\$197.92 per parcel per year). It is recommended that the assessment for lake riparian owners be applied on a per-parcel basis as all riparian owners have the right to use the lake equally, regardless of lot size.

In 1988, the City Attorney and Bond Counsel determined that control of aquatic plants as part of an overall lake management program represented a public improvement and that a special assessment district could be established as permitted by City Charter and Ordinances. Protecting city resources is appropriate as lakes provide an overall benefit to the quality of life in the city. The city share cost would be budgeted in the General Fund.

- On January 10, 2023, City Council adopted Resolution No. 1, accepted the City Manager Report, and requested the preparation of Resolution No. 2.

- On January 24, 2023, City Council adopted Resolution No. 2, setting the public hearing of necessity for the Austin Lake Invasive Weed Management Program Special Assessment District No. 023-A.

It is recommended that City Council adopt Resolution No. 3 for the Austin Lake Invasive Weed Management Program Special Assessment District No. 023-A, directing the City Assessor to prepare the Special Assessment Roll.

**FUNDING:** Funding by Special Assessment Collection - Austin Lake Weed Management Budget in the General Fund.

**Attachments:**

1. Austin Lake Invasive Weed Management Resolution #3
2. ALRB Weed Control Recommendation
3. Austin Lake Report 2022



**CITY OF PORTAGE**  
**SPECIAL ASSESSMENT RESOLUTION NO. 3**  
**AUSTIN LAKE INVASIVE WEED MANAGEMENT PROGRAM SPECIAL ASSESSMENT**  
**DISTRICT #023-A**

At a regular meeting of the Council of the City of Portage, Kalamazoo County, Michigan held at City Hall in said City on the \_\_\_\_ day of \_\_\_\_\_, 2023 at 7:00 p.m., local time.

PRESENT: \_\_\_\_\_

ABSENT: \_\_\_\_\_

The following resolution was offered by:

Councilmember: \_\_\_\_\_, and seconded by:

Councilmember: \_\_\_\_\_

WHEREAS, a public hearing on the necessity of the proposed improvement hereinafter described was held in accordance with the provisions of the City's Charter and Special Assessment Ordinance; and,

WHEREAS, the City Council of the City of Portage has determined to proceed with the public improvements in the City of Portage more particularly hereinafter described in this resolution; and,

WHEREAS, the City Manager has secured cost estimates for such improvements and the City Council has reviewed said figures;

NOW THEREFORE BE IT RESOLVED THAT:

1. The City Council hereby determines the necessity for and determines further to proceed with the improvements hereinbefore in these proceedings described as the AUSTIN LAKE INVASIVE WEED MANAGEMENT PROGRAM SPECIAL ASSESSMENT, DISTRICT #023-a, more fully described as follows, to wit:

Establish funding to provide for the management of Austin Lake including herbicide treatment and mechanical harvesting of aquatic plants.

2. The cost of said public improvement, based on the aforesaid cost figures, is estimated

to be as follows:

| <u>TOTAL COST</u> | <u>SHARE OF DISTRICT</u> | <u>SHARE OF CITY-AT LARGE</u> |
|-------------------|--------------------------|-------------------------------|
| \$450,000         | \$427,500                | \$22,500                      |

It is hereby determined that the Special Assessment District's share is in proportion to the benefits to be derived from the improvements. The Special Assessment District's share shall be spread over the Special Assessment District as hereinafter described and the balance of \$22,500 shall be paid by the City-at-Large.

3. Said Special Assessment District shall consist of all of the following described lots and parcels of land;

Unplatted Land

Land located in Section 23 and 26, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Southwest corner of Lot 58 of the recorded plat of Highland View on the West shoreline of Austin Lake; thence Southernly along said West shore line of Austin Lake to the Northeast corner of Lot 88 of the recorded plat of Dixie-Mac Park and place of ending;

Land located in Section 26, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Southeast corner of Lot 28 of the recorded plat of Dixie-Mac Park on the West shoreline of Austin Lake; thence Southeasterly along said West shoreline of Austin Lake to the Northwest corner of Lot 11 of the recorded plat of Mc Camley Manor and place of ending;

Land located in Section 26, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as:

Commencing at the Northwest corner of Lot 24 of the recorded plat of McCamley's Beach on the West shoreline of Austin Lake; thence east 250 feet to the point of beginning on the West shoreline of Austin Lake; thence Northerly along said West shore line of Austin Lake approximately 300 feet and place of ending;

Land located in Section 35, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Southeast corner of Lot 87 of the recorded plat of Wiona Acres No. 1 on the West shoreline of Austin Lake; thence Southernly along said West shoreline of Austin Lake to the Northeast corner of Lot 76 of the recorded plat of Austin Grove and place of ending;

Land located in Section 36, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Northeast corner of Lot 1 of the recorded plat of Sunny Heights on the East shoreline of Austin Lake; thence Northerly along the said East shore of Austin Lake to the Southwest corner of Lot 21 of recorded plat of Oakland Beach and place of ending;  
Land located in Section 36, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Northwest corner of Lot 1 of the recorded plat of Oakland Beach on the East shoreline of Austin Lake; thence Northerly along the said East shore of Austin Lake to the Southwest corner of Lot 30 of the recorded plat of East Side Park and place of ending;

Land located in Section 24 and 25, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Northwest corner of Lot 10 of the recorded plat of Sunset View on the East shoreline of Austin Lake; thence Northerly along the said East shore of Austin Lake to the Southwest corner of Lot 1 of the recorded plat of Twilight View No. 1 and place of ending;

Land located in Section 24, Town 3 South, Range 11 West, City of Portage, Kalamazoo County, Michigan, described as: Beginning at the Northwest corner of Lot 4 of the recorded plat of Twilight View No. 1 on the East shoreline of Austin Lake; thence Northerly along the said East shore of Austin Lake to the Southeast corner of Lot 93 of the recorded plat of Highland View No. 1 and place of ending.

#### Platted Land

Lots 47 through 63 and Lots 67 through 76 inclusive of Austin Grove;

Lots 64A and 66A of Amended Plat of Lots 64, 65 and 66 of Austin Grove;

Lots 1 through 29 inclusive of Supervisor's Plat of Bacon's Beach; Lots 26 through 32, Lots 51 through 54, and Lots 73 through 79 inclusive, and Lot 88 of Assessor's Plat of Dixie-Mac Park;

Lots 1 through 30 inclusive of Assessor's Plat of East Side Park;

Lots 1 through 30 inclusive of Supervisor's Plat of Gilbert And Matteson Subdivision;

Lots 1 through 24 and Lots 26 through 58 inclusive of Supervisor's Plat of Highland View;

Lots 64 through 77 and Lots 84 through 93 inclusive of Highland View No. 1;

Lots 94, 95, and 96 of Amended Plat of Lots 78 through 83 and Vacated Portion of Lake Drive of Supervisor's Plat of Highland View No. 1;

Lots 1 through 24 inclusive of Supervisor's Plat of McCamley's Beach;

Lots 1 through 11 inclusive of Mc Camley Manor;

Lots 1 through 21 inclusive of Supervisor's Plat of Oakland Beach;

Lots 1 through 30 inclusive of Plat of Pleasant Oaks;

Lots 12 through 53 inclusive of Sherm-N-Dale Shores;



Lots 1 through 9, Lots 15 through 22, Lots 26 through 31, and Lots 35 through 52 inclusive of Sunny Heights;  
 Amended Plat of Lots 10 thru 14 and the Relocated Walk of Sunny Heights;  
 Amended Plat of Lots 12, 13 & 14 of Sunny Heights;  
 Amended Plat of Lots 23, 24, and 25 of Sunny Heights;  
 Amended Plat of Lots 32, 33, and 34 of Sunny Heights;  
 Lots 1 through 10 inclusive of Sunset View;  
 Lots 1 through 4 inclusive of Twilight View No. 1;  
 Lots 1 through 50 inclusive of Plat of Wiona Acres;  
 Lots 74 through 87 inclusive of Wiona Acres No. 1;  
 Lots 1 through 8 inclusive of Woodruff Plat;  
 Lots 1 through 25 inclusive of Woody Noll No. 1;

4. The City Assessor shall prepare a Special Assessment Roll spreading that portion of the cost of the aforesaid public improvement to be borne by the Special Assessment District against said district according to the benefits received, in conformity with the provision of the Special Assessment Ordinance of the City. As soon as said roll is prepared, the City Assessor shall file the same with the City Clerk for presentation to the City Council.

5. All resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution are hereby rescinded.

ADOPTED: YEAS: Councilmember: \_\_\_\_\_

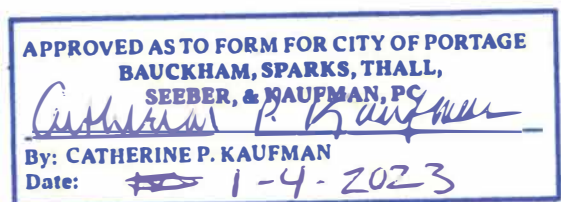
NAYS: Councilmember: \_\_\_\_\_

ABSENT: Councilmember: \_\_\_\_\_

\_\_\_\_\_  
 Erica Eklov, City Clerk

STATE OF MICHIGAN        )  
                                           )ss  
 COUNTY OF KALAMAZOO    )

I, the undersigned duly qualified and acting City Clerk of the City of Portage, Kalamazoo County, Michigan, do hereby certify that the foregoing is a true and complete copy of a resolution adopted at a regular meeting of the City Council of said City, held on the \_\_\_\_ day of \_\_\_\_\_, 2023, the original of which resolution is on file in my office.



IN WITNESS WHEREOF, I have hereto affixed my official signature this \_\_\_\_\_ day of \_\_\_\_\_, 2023.

\_\_\_\_\_  
Erica Eklov, City Clerk



Patricia M. Randall  
Mayor  
patricia.randall@portagemi.gov

Jim Pearson  
Mayor Pro Tem  
councilmemberjp@portagemi.gov

Lisa Brayton  
Portage City Council Member  
lisa.brayton@portagemi.gov

Chris Burns  
Portage City Council Member  
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Lori Knapp  
Portage City Council Member  
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Vic Ledbetter  
Portage City Council Member  
vic.ledbetter@portagemi.gov

Terry R. Urban  
Portage City Council Member  
terry.urban@portagemi.gov

Patrick McGinnis  
City Manager  
mcginnip@portagemi.gov

Dear City of Portage Council Members, Mayor, Mayor Pro Tem, and City Manager:

The Austin Lake Riparian Board (ALRB) asked this council in November of 2021 on behalf of the residents of Austin Lake, Portage, Mi, to consider a lake improvement project to investigate, treat, and/or eradicate invasive and nuisance weeds throughout the entire 1,050 acres of Austin Lake. In response, the city contracted Progressive AE to study the lake in the spring and summer of 2022.

Progressive AE conducted two studies of Austin Lake. The first on Thursday, June 16<sup>th</sup>, 2022, and the second on Thursday, August 4<sup>th</sup>, 2022. Lake Riparians were able to participate in both of those studies. A final report was then shared with the ALRB and a Board meeting was held with Paul Hausler of Progressive AE on October 17<sup>th</sup>, 2022 at which six (6) of the nine (9) board members and five (5) guests including Paul attended. Several questions were raised at that time and follow-up to the detailed chemical weed treatment and budget proposal was required.

At this time, Progressive AE has satisfied the Boards questions and we are ready to proceed with the public aspect of the process.

Therefore, the Austin Lake Riparian Board would like to formally request the City of Portage to:

1. Adopt a formal Chemical (Page 3) and Mechanical Weed (Page 4) Control program to treat both invasive weeds and the Sago Pondweed out-break issue identified in the attached two maps.
2. Perform the 5 necessary resolutions and **make the ALRB aware of in advance** of the public hearings for purposes of publishing notice to all Austin Lake Riparians:
  - a. Resolution to commence special assessment proceedings
  - b. Resolution to set public hearing of necessity
  - c. Public hearing of necessity**
  - d. Resolution to set public hearing of special assessment roll
  - e. Public hearing of special assessment roll**

3. Set clear and measurable metrics to determine if the project is successful.
4. Add additional scope for future physical water monitoring and testing.
5. Request that an annual report be provided to both the City and the Riparians on progress / success / test results / etc.

AJ Spicer  
ALRB President

Jeff Sedlak  
ALRB Vice President

Thorsten Willmann  
ALRB Secretary

Dave Savoy  
ALRB Treasurer

Marc Chappell  
ALRB Member

John Fisher  
ALRB Member

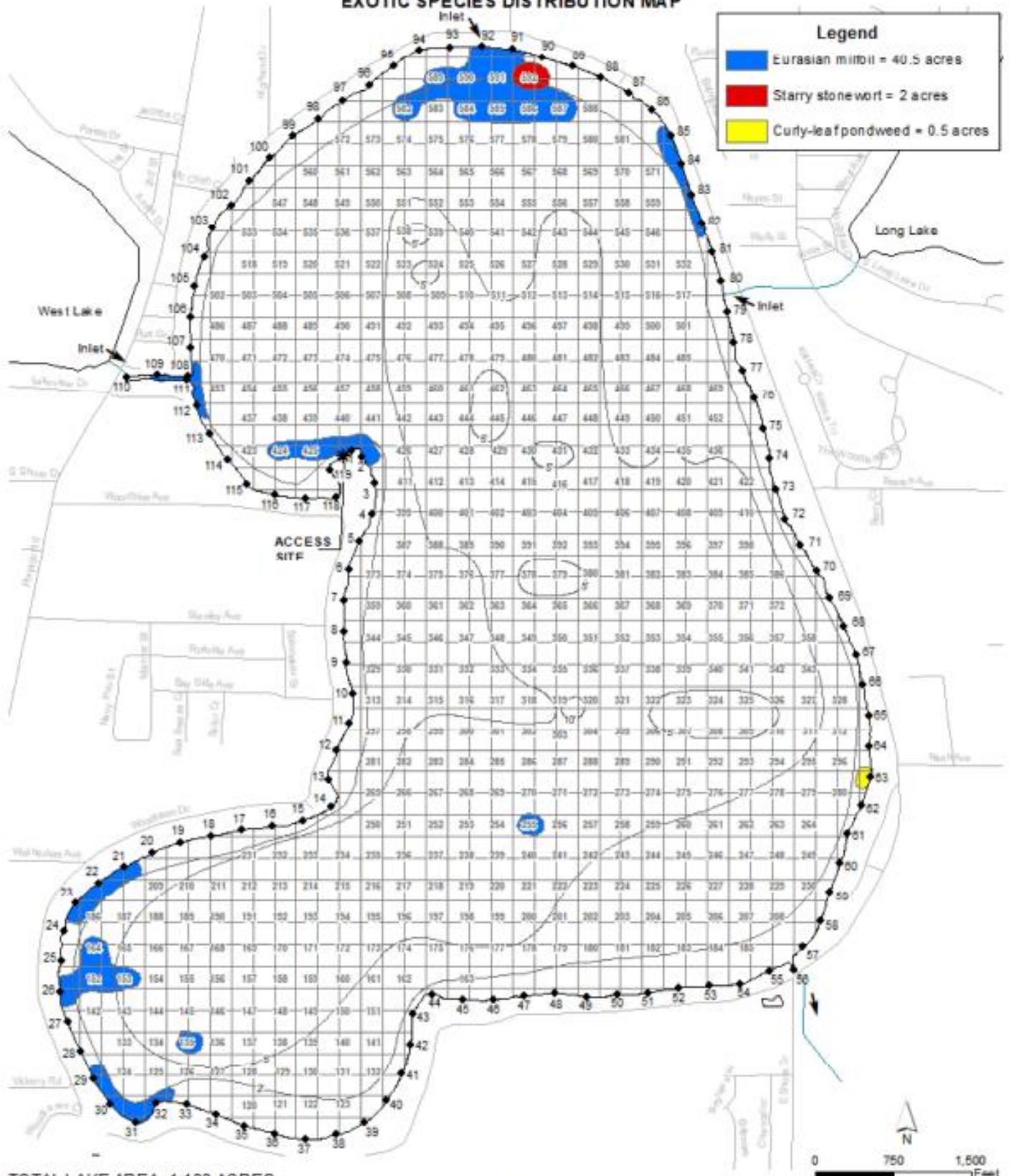
Gary Hahn  
ALRB Member

Ron Sayen  
ALRB Member

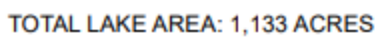
Mark Tiller  
ALRB Member

**AUSTIN LAKE  
KALAMAZOO COUNTY, MICHIGAN  
AUGUST 4, 2022  
EXOTIC SPECIES DISTRIBUTION MAP**

□ = 1 ACRE



□ = 1 ACRE







# Austin Lake 2022 Aquatic Vegetation/ Water Quality Report

October 2022

A publication of the Austin Lake Riparians

## Austin Lake Riparians

AustinLakePortage.com

A.J. Spicer  
President

Jeff Sedlak  
Vice President

Thorsten Wilmann  
Secretary

Dave Savoy  
Treasurer

## City of Portage

7900 South Westnedge Avenue  
Portage, MI 49002  
portagemi.gov

This report provides background information on the water quality of Austin Lake and a discussion of the aquatic vegetation surveys that took place in 2022.

Lakes can be classified into three broad categories based on their productivity or ability to support plant and animal life. The three basic lake classifications are oligotrophic, mesotrophic, and eutrophic.

*Oligotrophic* lakes are generally deep and clear with little aquatic plant growth. These lakes maintain sufficient dissolved oxygen in the cool, deep bottom waters during late summer to support cold water fish such as trout and whitefish.

*Eutrophic* lakes have poor clarity, and support abundant aquatic plant growth. In deep eutrophic lakes, the cool bottom waters usually contain little or no dissolved oxygen. Therefore, these lakes can only support warm water fish such as bass and pike.

Lakes that fall between the two extremes of oligotrophic and eutrophic are called *mesotrophic* lakes.

Under natural conditions, most lakes will ultimately evolve to a eutrophic state as they gradually fill with sediment and organic matter transported to the lake from the surrounding watershed. As the

lake becomes shallower, the process accelerates. When aquatic plants become abundant, the lake slowly begins to fill in as sediment and decaying plant matter accumulate on the lake bottom. Eventually, terrestrial plants become established and the lake is transformed to a marshland. The natural lake aging process can be greatly accelerated if excessive amounts of sediment and nutrients (which stimulate aquatic plant growth) enter the lake from the surrounding watershed. Because these added inputs are usually associated with human activity, this accelerated lake aging process is often referred to as *cultural eutrophication*.

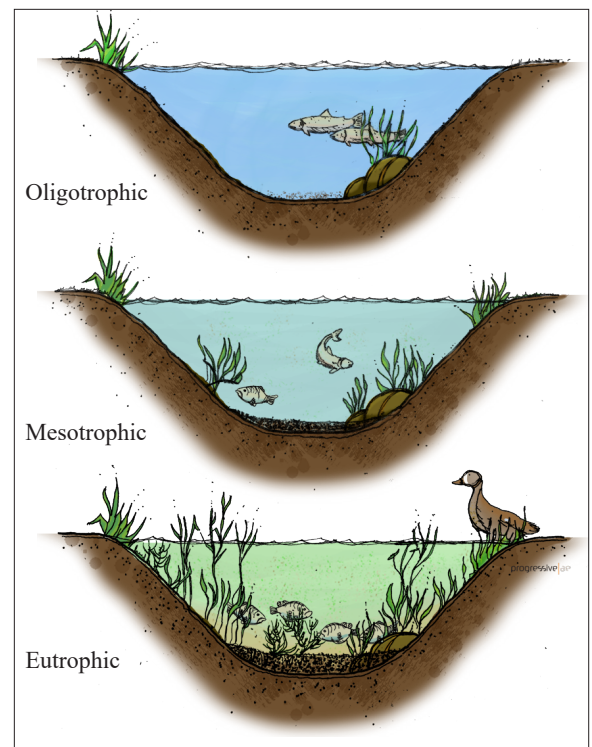


Figure 1: Lake trophic states.



LAKE AND WATERSHED CHARACTERISTICS

Austin Lake has a surface area of 1,133 acres, a maximum depth of 11 feet, and a mean or average depth of 5 feet. Austin Lake contains about 5,013 acre-feet of water, a volume which would cover an area over 7.8 square miles to a depth of 1 foot.

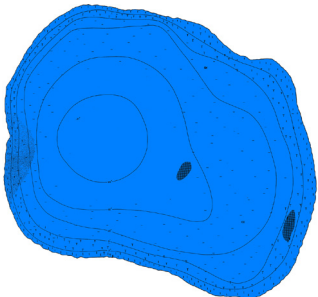
TABLE 1  
AUSTIN LAKE PHYSICAL CHARACTERISTICS

|                                                |                 |
|------------------------------------------------|-----------------|
| Lake Surface Area                              | 1,133 Acres     |
| Maximum Depth                                  | 11 Feet         |
| Mean Depth                                     | 4.4 Feet        |
| Lake Volume                                    | 5,013 Acre-Feet |
| Shoreline Length                               | 7 Miles         |
| Shoreline Development Factor                   | 1.5             |
| Shallowness Factor                             | 0.5             |
| Lake Elevation                                 | 855 Feet        |
| Watershed Area                                 | 8,649 Acres     |
| Ratio of Lake Area to Immediate Watershed Area | 1 : 7.6         |

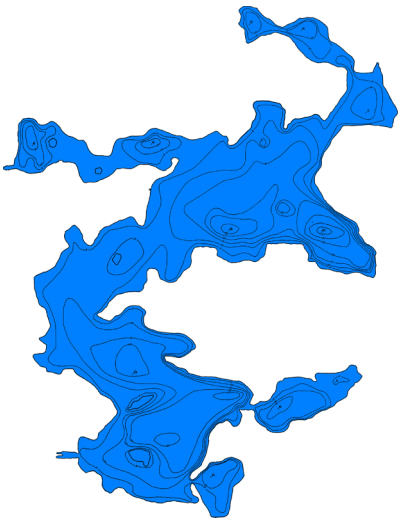
Shoreline development factor is a measure of the irregularity of the shoreline. A lake that is perfectly round would have a shoreline development factor of 1.0. Austin Lake has a shoreline 7 miles long and a shoreline development factor of 1.5. Thus, compared to a perfectly round lake with the same surface area as Austin Lake (i.e., 1,133 acres), the shoreline of Austin Lake is 1.5 times longer because of its irregular shape. Lakes with highly convoluted shorelines have the potential to support much more shoreland development compared to lakes with a more circular shape. Wagner (1991) noted:

The ratio of the length of shoreline around the lake to the circumference of a circle with the same area as the lake [shoreline development factor] provides a size-independent measure of the lake shape and indicates much about how motorized watercraft could affect the water body. Higher ratios suggest irregular shorelines with more waterfront per unit area than smaller ratios. Numerous coves may serve to isolate impacts, but there is a greater potential for the shoreline to be affected. High ratios also imply greater safety risks as well as ecological consequences.

Figure 1: Shoreline Development Factor



Walsh Lake, Washtenaw County = 1.03



Spider Lake, Grand Traverse County = 3.91

## Trophic State Indicators/Water Quality

Key parameters used to evaluate a lake's productivity or trophic state include total phosphorus, chlorophyll-*a*, and Secchi transparency.

*Phosphorus* is the nutrient that most often stimulates excessive growth of aquatic plants and causes premature lake aging. By measuring phosphorus levels, it is possible to gauge the overall health of a lake.

*Chlorophyll-a* is a pigment that imparts the green color to plants and algae. A rough estimate of the quantity of algae present in the water column can be made by measuring the amount of chlorophyll-*a* in the water column.

A *Secchi disk* is a round, black and white, 8-inch disk that is used to estimate water clarity. Generally, it has been found that plants can grow to a depth of about twice the Secchi disk transparency.

Generally, as phosphorus inputs to a lake increase, algae growth and chlorophyll-*a* increase and Secchi transparency decreases.

**TABLE 2**  
**TROPHIC CLASSIFICATION CRITERIA**

| Lake Classification | Total Phosphorus (µg/L) <sup>1</sup> | Chlorophyll-a (µg/L) <sup>1</sup> | Secchi Transparency (feet) |
|---------------------|--------------------------------------|-----------------------------------|----------------------------|
| Oligotrophic        | Less than 10                         | Less than 2.2                     | Greater than 15.0          |
| Mesotrophic         | 10 to 20                             | 2.2 to 6.0                        | 7.5 to 15.0                |
| Eutrophic           | Greater than 20                      | Greater than 6.0                  | Less than 7.5              |

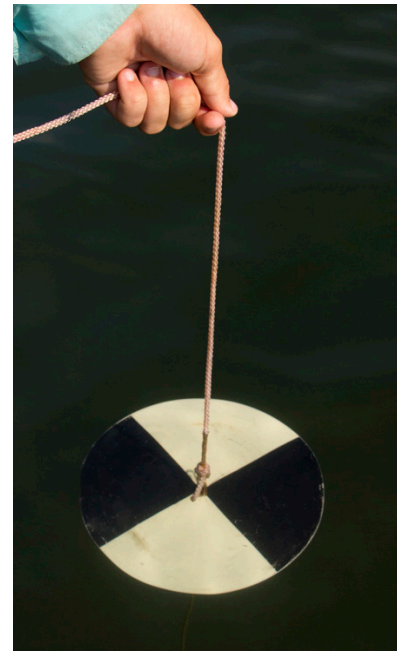
<sup>1</sup> µg/L = micrograms per liter = parts per billion.

**Carlson's Trophic State Index (TSI)** was developed from mathematical relationships that allowed phosphorus, chlorophyll-*a*, and Secchi transparency readings to be converted to a numerical scale from 0 to 100, with increasing numbers indicating more productive lakes. The TSI can be used to rate the trophic state of Michigan lakes as follows:

**TABLE 3**  
**TSI INDEX FOR MICHIGAN**

| Trophic State | TSI Value    |
|---------------|--------------|
| Oligotrophic  | Less than 38 |
| Mesotrophic   | 38 to 48     |
| Eutrophic     | 48+          |

There is limited historical sampling data provided by the Michigan Clean Water Corps. Classifying Austin Lake would require more data to best represent all three trophic state indicators. The data that is available was collected in the early 1990's and shows a phosphorous reading of 13 µg/L and an average Secchi disk reading of 5.5 feet. Regularly scheduled, biannual sampling on Austin Lake is recommended to accurately determine trophic state and monitor water quality trends.



A Secchi disk measures water clarity.

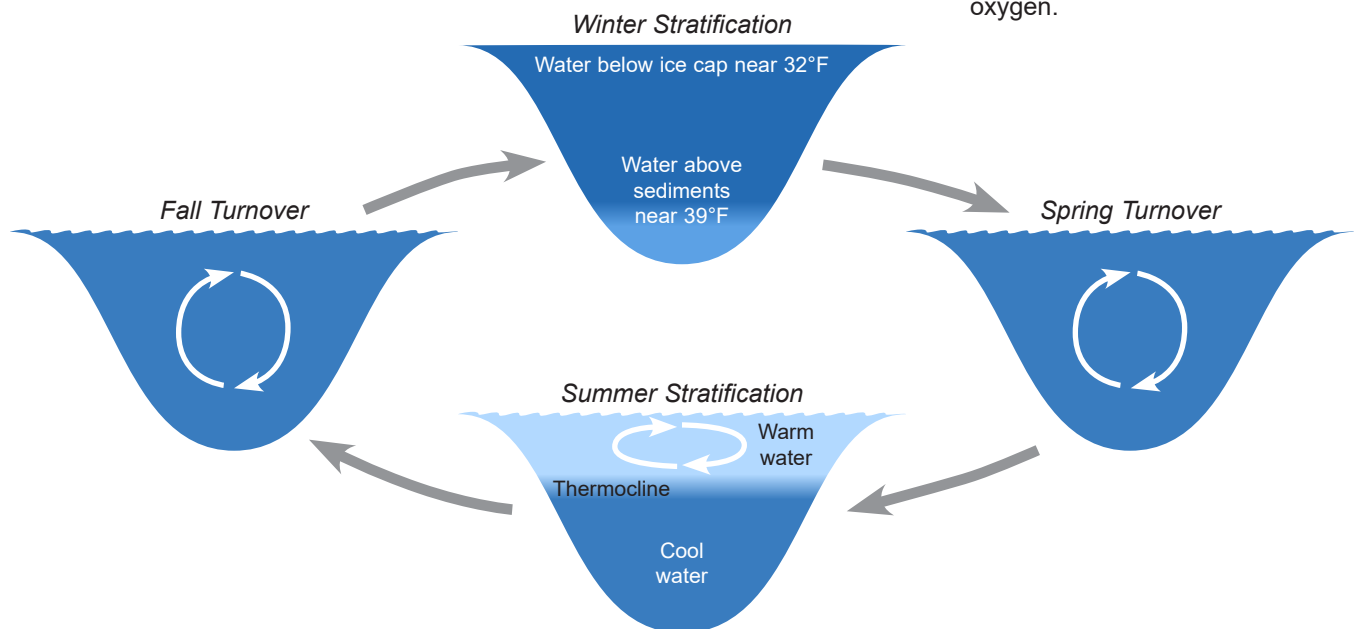
### Temperature

*Temperature* is important in determining the type of organisms that may live in a lake. For example, trout prefer temperatures below 68°F. Temperature also determines how water mixes in a lake. As the ice cover breaks up on a lake in the spring, the water temperature becomes uniform from the surface to the bottom. This period is referred to as *spring turnover* because water mixes throughout the entire water column. As the surface waters warm, they are underlain by a colder, more dense layer of water. This process is called thermal stratification. In deeper lakes during summer there are three distinct layers. This is referred to as *summer stratification*. Once thermal stratification occurs, there is little mixing of the warm surface waters with the cooler bottom waters. The transition layer that separates these layers is referred to as the *thermocline*. The thermocline is characterized as the zone where temperature drops rapidly with depth. As fall approaches, the warm surface waters begin to cool and become more dense. Eventually, the surface temperature drops to a point that allows the lake to undergo complete mixing. This period is referred to as *fall turnover*. As the season progresses and ice begins to form on the lake, the lake may stratify again. However, during *winter stratification*, the surface waters (at or near 32°F) are underlain by slightly warmer water (about 39°F). This is sometimes referred to as *inverse stratification* and occurs because water is most dense at a temperature of about 39°F. As the lake ice melts in the spring, these stratification cycles are repeated. These stratification cycles occur in deep lakes but not in shallow lakes or ponds. Lakes that are about 15 to 30 feet deep may stratify and destratify with storm events several times during the year. Austin Lake is shallow and thus, remains mixed throughout the summer months.

For more information, visit:  
[michiganlakeinfo.com/turnover-and-stratification](http://michiganlakeinfo.com/turnover-and-stratification)

### Dissolved Oxygen

An important factor influencing lake water quality is the quantity of *dissolved oxygen* in the water column. The major inputs of dissolved oxygen to lakes are the atmosphere and photosynthetic activity by aquatic plants. An oxygen level of about 5 mg/L (milligrams per liter, or parts per million) is required to support warm-water fish. In lakes deep enough to exhibit thermal stratification, oxygen levels are often reduced or depleted below the thermocline once the lake has stratified. This is because deep water is cut off from plant photosynthesis and the atmosphere, and oxygen is consumed by bacteria that use oxygen as they decompose organic matter (plant and animal remains) at the bottom of the lake. Bottom-water oxygen depletion is a common occurrence in eutrophic and some mesotrophic lakes. Thus, eutrophic and most mesotrophic lakes cannot support cold-water fish because the cool, deep water (that the fish require to live) does not contain sufficient oxygen.



**Figure 2: Seasonal thermal stratification. Stratification cycles occur in deep lakes but not in shallow lakes or ponds.**

In addition to identifying invasive plant species locations, a comprehensive full-lake vegetation survey of Austin Lake was conducted on August 4, 2022 to evaluate the type and abundance of all plants in the lake. The table below lists each plant species observed during the survey and the relative abundance of each. At the time of the survey, 15 submersed species, two floating-leaved species, and eight emergent species were found in the lake. Austin Lake maintains a good diversity of beneficial, native plant species.

**TABLE 4**  
**AUSTIN LAKE AQUATIC PLANTS**  
**AUGUST 4, 2022**

| Common Name          | Scientific Name                  | Group           | Percent of Sites Where Present |
|----------------------|----------------------------------|-----------------|--------------------------------|
| Chara                | <i>Chara</i> sp.                 | Submersed       | 76                             |
| Slender naiad        | <i>Najas flexilis</i>            | Submersed       | 46                             |
| Sago pondweed        | <i>Stuckenia pectinata</i>       | Submersed       | 40                             |
| Brittle-leaf naiad   | <i>Najas minor</i>               | Submersed       | 19                             |
| Eurasian milfoil*    | <i>Myriophyllum spicatum</i>     | Submersed       | 6                              |
| Variable pondweed    | <i>Potamogeton gramineus</i>     | Submersed       | 5                              |
| Illinois pondweed    | <i>Potamogeton illinoensis</i>   | Submersed       | 4                              |
| Bladderwort          | <i>Utricularia vulgaris</i>      | Submersed       | 2                              |
| Wild celery          | <i>Vallisneria americana</i>     | Submersed       | 1                              |
| Thin-leaf pondweed   | <i>Potamogeton</i> sp.           | Submersed       | 1                              |
| Water stargrass      | <i>Heteranthera dubia</i>        | Submersed       | 1                              |
| Underwater arrowhead | <i>Sagittaria</i> sp.            | Submersed       | 1                              |
| Flat-stem pondweed   | <i>Potamogeton zosteriformis</i> | Submersed       | 1                              |
| Starry stonewort*    | <i>Nitellopsis obtusa</i>        | Submersed       | 1                              |
| Curly-leaf pondweed* | <i>Potamogeton crispus</i>       | Submersed       | 1                              |
| White waterlily      | <i>Nymphaea odorata</i>          | Floating-leaved | 5                              |
| Yellow waterlily     | <i>Nuphar</i> sp.                | Floating-leaved | 2                              |
| Purple loosestrife*  | <i>Lythrum salicaria</i>         | Emergent        | 6                              |
| Iris                 | <i>Iris</i> sp.                  | Emergent        | 2                              |
| Bulrush              | <i>Schoenoplectus</i> sp.        | Emergent        | 2                              |
| Swamp loosestrife    | <i>Decodon verticillatus</i>     | Emergent        | 1                              |
| Arrowhead            | <i>Sagittaria latifolia</i>      | Emergent        | 1                              |
| Cattail              | <i>Typha</i> sp.                 | Emergent        | 1                              |
| Phragmites*          | <i>Phragmites australis</i>      | Emergent        | 1                              |
| Pickeralweed         | <i>Pontederia cordata</i>        | Emergent        | 1                              |

\*Invasive exotic species

## Plant Surveys

The method used to conduct the aquatic plant survey on Austin Lake follows the Aquatic Vegetation Assessment Site (AVAS) survey procedures established by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Using this method, the type and abundance of each plant species are recorded at each site. This approach provides a snapshot of the aquatic plant community and the results can be compared to historical data in order to track trends and changes in Austin Lake's aquatic plant community.

592 GPS reference points were established on Austin Lake between the shoreline and off-shore grid points. These points are used to guide plant surveys and to accurately identify the location of plant growth areas. The invasive plant species of primary concern that were present during the survey were Starry stonewort (*Nitellopsis obtusa*) and Eurasian milfoil (*Myriophyllum spicatum*). Their locations are shown in the map below. Other invasives including Curly-leaf pondweed (*Potamogeton crispus*), Purple loosestrife (*Lythrum salicaria*), and Phragmites (*Phragmites australis*) were also present.



Starry stonewort (*Nitellopsis obtusa*)



Eurasian milfoil (*Myriophyllum spicatum*)

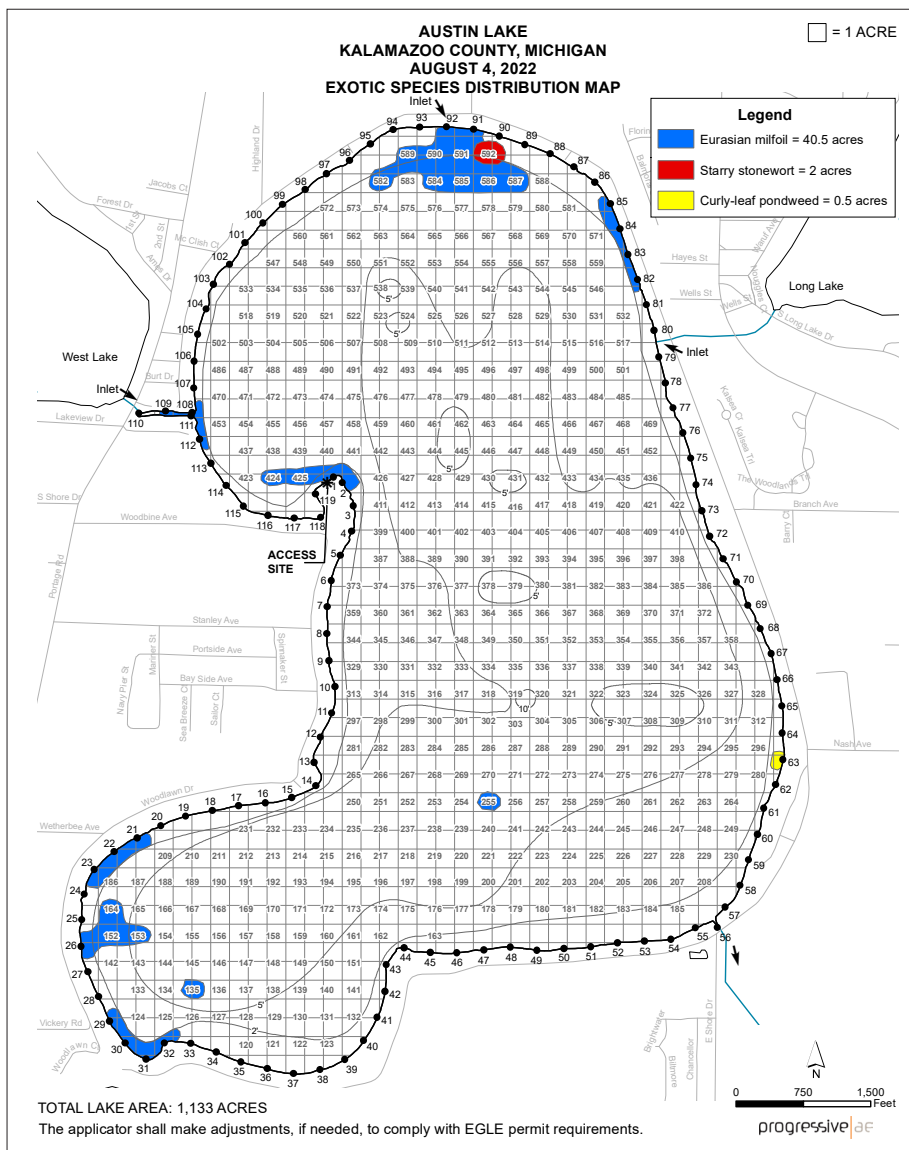


Figure 3: Exotic Species Distribution Map



# Potential Native Plant Treatment & Harvesting Areas

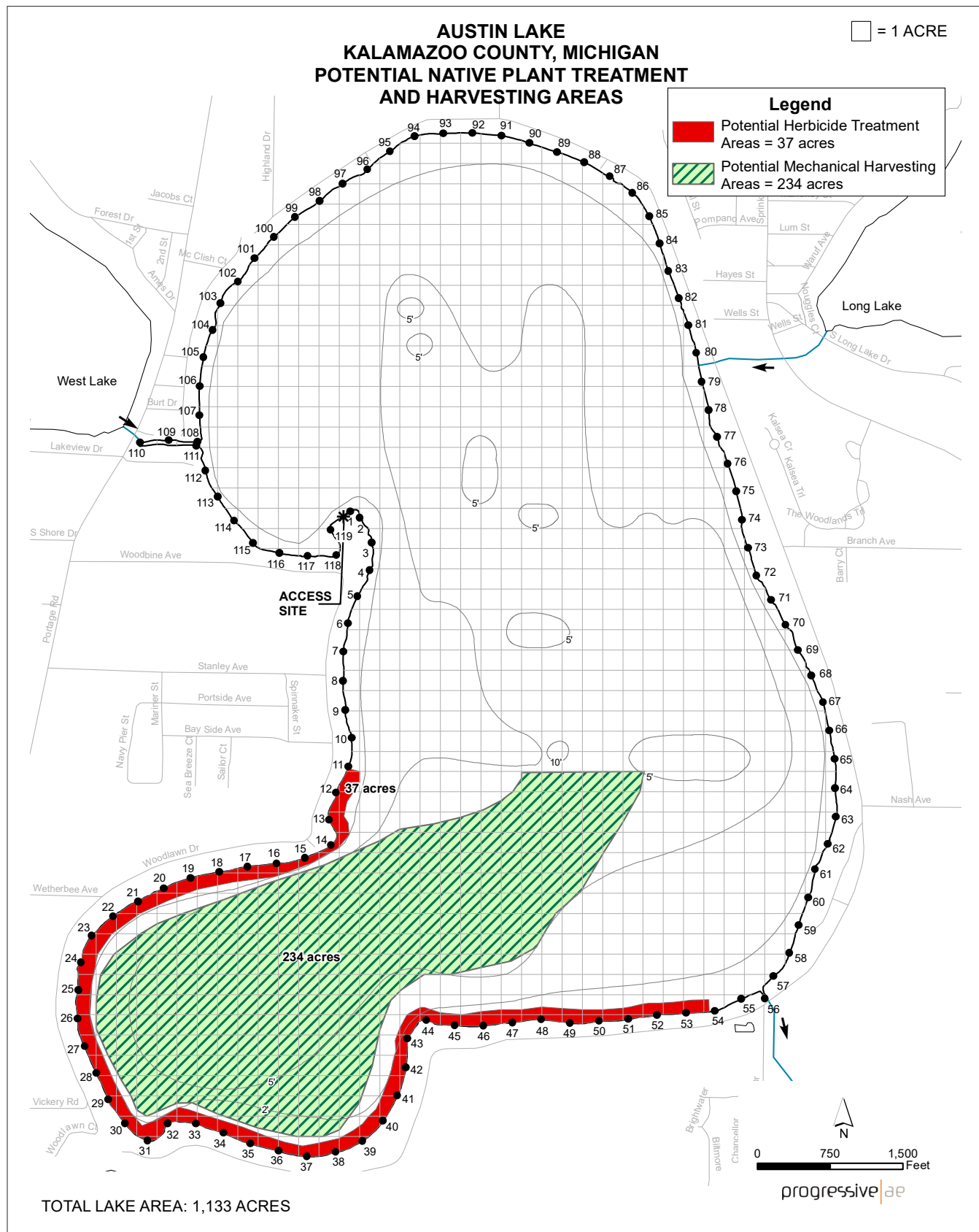
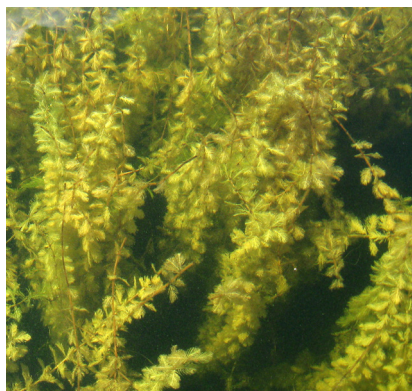


Figure 4: Potential Native Plant Treatment & Harvesting Areas

**AUSTIN LAKE IMPROVEMENT PROGRAM  
PROPOSED ANNUAL BUDGET  
2023 – 2027**

| Improvement                                         | Annual Cost    |
|-----------------------------------------------------|----------------|
| Aquatic Herbicide Treatments                        | \$35,000       |
| Mechanical Harvesting                               | \$30,000       |
| Lake Management Consulting & Project Administration | \$14,000       |
| Water Quality Monitoring                            | \$3,500        |
| Contingency Funds                                   | <u>\$4,500</u> |
| TOTAL                                               | \$87,000       |

The Austin Lake aquatic plant control program will focus on the control of exotic, invasive species in Austin Lake with the select use of herbicides. In addition, nuisance growth of native aquatic plants would be addressed with mechanical harvesting and removal. Plant species of primary concern include Eurasian milfoil, curly-leaf pondweed and starry stonewort. The amount of herbicide use in any given year will depend on the type and distribution of aquatic plants and Department of Environment, Great Lakes, and Energy permit conditions.



**Eurasian milfoil**



**Curly-leaf pondweed**



**Starry stonewort**

Plant control activities are proposed to be coordinated under the direction of the City of Portage's consultant. The consultant would be responsible for preparing contract documents for the plant control program, conducting GPS-guided surveys of the lake to determine the scope of work to be performed by the plant control contractor, and conducting follow-up surveys to evaluate contractor performance. The consultant would report to the City of Portage and the Austin Lake Riparians, Inc. and maintain a written record of the timing, scope and cost of plant control activities. Project administration would include consulting services related to meetings, the review and processing of contractor invoices, and public hearing proceedings.

Water samples will be collected from the surface, mid-depth, and near the bottom over the three deepest portions of the lake to evaluate baseline water quality conditions. Samples will be collected during the periods of early spring and late summer. Parameters sampled will include temperature, dissolved oxygen, total phosphorus, chloride, and surface water chlorophyll-a. In addition, during the same time periods, samples will be collected from the three major tributaries to Austin Lake (West Lake outlet, Long Lake outlet, and the Pfizer Pond outlet) and analyzed for discharge (flow), total phosphorus, and total suspended solids. This data will be compared to historical data and used to evaluate baseline water quality conditions in Austin Lake. Water quality data and aquatic plant control information would be compiled in an annual report each year and posted on each entities website.

Project contingency costs would be used to cover unforeseen project-related costs that may arise and any direct costs incurred by the City of Portage.