Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

REQUEST FOR LETTERS OF INTEREST AND STATEMENTS OF QUALIFICATIONS FOR PROFESSIONAL SERVICES

OAKBROOK PARK DISTRICT
1450 Forest Gate Road
Oak Brook, IL 60523

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OAK BROOK PARK DISTRICT
1450 Forest Gate Road
Oak Brook, IL 60523

RFQ NOTICE
REQUEST FOR LETTERS OF INTEREST, STATEMENTS OF QUALIFICATIONS AND PERFORMANCE DATA FOR PROFESSIONAL SERVICES

The Oak Brook Park District (the "District") is soliciting for letters of interest, statements of qualifications, and performance data from qualified professional civil engineers to provide Phase II engineering and construction oversight for a bridge replacement, low-head dam replacement, and streamway/streambank improvements at Ginger Creek in Central Park.

The Request for Qualifications and Submittal Requirements (the "RFQ") for the Project is on file and available for pick up at the District's Administration Office, in the Family Recreation Center at 1450 Forest Gate Road, Oak Brook, IL 60523, or by PDF format from the District's website (www.obparks.org/bids).

The RFQ will be available Monday – Friday, 9:00 a.m. – 5:00 p.m., beginning Monday, June 5, 2023 through Friday June 16, 2023.

Responses to the RFQ shall be submitted in a sealed, opaque envelope and marked with "Submittal for Professional Services for Central Park Bridge Project". Responses must be received on or before 3:00 p.m. on Friday, June 16, 2023 in the Administrative Office of the Oak Brook Park District, 1450 Forest Gate Road, Oak Brook, IL 60523. No e-mail or fax submittals will be accepted.

The firm(s) selected must comply with applicable federal, state and local laws, rules, regulations and executive orders including but not limited to those pertaining to equal employment opportunity.

The selection of the successful firm(s) shall be at the District's discretion and shall be made pursuant to the provisions of the Local Government Professional Services Selection Act, 50 ILCS 510/0.01, *et seq.* The District reserves the right to reject any and all proposals, or to accept any portion of the proposal, to waive any formality, technicality or irregularity in any proposal, and to be the sole judge of the value and merit of the proposals offered. Such decisions by the District shall be final.

Laure Kosey
Executive Director
Oak Brook Park District

Oak Brook Park District
1450 Forest Gate Road • Oak Brook, IL 60523-2151
Phone: 630-990-4233 • Fax: 630-990-8379 • www.obparks.org

June 5, 2023

Re: Request for Letters of Interest and Statements of Qualifications for Professional Services ("RFQ")

Deadline: June 16, 2023 at 3:00 p.m.

Location: Oak Brook Park District Administration Office
Family Recreation Center
1450 Forest Gate Road
Oak Brook, IL 60523

Dear Vendor:

Enclosed you will find information relating to the Oak Brook Park District's (the "District" or the "District's") request for letters of interest and statements of qualifications from qualified professional civil engineers to provide Phase II engineering and construction oversight for a bridge replacement, low-head dam replacement, and streamway/streambank improvements at Ginger Creek in Central Park. .

Enclosed is the project understanding. Please submit one (1) original and two (2) copies of your proposal to the location and by the deadline set forth above. Proposals received after the deadline set forth above will not be considered. It is the sole responsibility of the respondent to ensure that the District has received the proposal on time. Electronic or facsimile transmission will not be accepted.

For further information regarding the RFQ, please contact Laure Kosey, Executive Director, at 630-645-9535.

OAK BROOK PARK DISTRICT

Laure Kosey, Executive Director

We strive to provide the ***very best*** in **park** and **recreational opportunities, facilities** and **open lands** for **our community**.

OAKBROOK PARK DISTRICT
1450 Forest Gate Road
Oak Brook, IL 60523

REQUEST FOR LETTERS OF INTEREST AND STATEMENTS OF QUALIFICATIONS FOR PROFESSIONAL SERVICES

The Oak Brook Park District (the "District") is soliciting letters of interest and statements of qualification ("RFQ") from qualified professional civil engineers who can provide Phase II engineering and construction oversight for a bridge replacement, low-head dam replacement, and streamway/streambank improvements at Ginger Creek in Central Park (the "Project").

The selection of the successful firm(s) for the Project shall be at the District's discretion and shall be made pursuant to the provisions of the Local Government Professional Services Selection Act, 50 ILCS 510/0.01, *et seq.* The District reserves the right to reject any and all proposals, or to accept any portion of the proposal, to waive any formality, technicality or irregularity in any proposal, and to be the sole judge of the value and merit of the proposals offered. Such decisions by the District shall be final.

A. PROJECT UNDERSTANDING

The Oak Brook Park District has recently made significant improvements to Central Park. Ginger Creek bisects Central Park east/west through the entire property. The recent improvements are located on the north side of Ginger Creek and have been partially funded through State of Illinois grants. The Park District desires to improve accessibility for both pedestrians and maintenance vehicles from the south to the north section of Central Park over Ginger Creek. Currently, a concrete/asphalt/steel pedestrian walk connects the two sections at a low head dam located over Ginger Creek. The low head dam is constructed of gabion baskets with the low flow concrete channel covered with a steel grate. Frequently, during heavy rainfall events, the path is impassible due to high water conditions. Additionally, the high velocity of the water flowing over the dam is a safety concern, and the crossing is not ADA accessible.

The Park District hired Engineering Resource Associates to complete a phase I analysis of the existing bridge, gabion weir structures, Ginger Creek, and surrounding wetlands/shoreline. At the conclusion of the Phase I analysis, The Park District was presented with several options for bridge replacement while maintaining the integrity of the creek, and improving the surrounding wetlands area.

Upon review with the team at Engineering Resource Associates, the Park District ultimately decided to pursue what is referred to as option **"3A"** in the following documents. This option includes removal and replacement of the existing low-head dam, replacement of the existing bridge with a pre-fabricated structure, removal of the gabion weir rock baskets and adjacent sheet piling, stream bank grading, and construction of step pools east of the new bridge/dam to improve the creek design and improve fish passage.

The Park District applied for a Community Funding Grant for this project, and has received preliminary approval for the funding. However, the Park District anticipates that it will not find out if final approval is granted until late 2023 or early 2024. The Park District is requesting proposals from qualified engineering firms who can provide Phase II engineering through completion.

B. SCOPE OF SERVICES

The information described below shall be the expectations and requirements of the engineering firm that is awarded the project.

Existing Conditions

Topographic survey - Preliminary topographic features shall be obtained for the project site.

Wetland Delineation – A wetland delineation for the project area has previously been prepared and will be made available for review.

Structural Plans for Bridge and Dam

Structural plans shall be developed and reviewed for the new low-head dam and replacement bridge.

Updated Cost Estimates for the Project

The existing cost estimates for option "3A" shall be reviewed, updated, and discussed with the owner.

Permitting Requirements

A summary of the anticipated permitting requirements associated with this project is included in the Phase I report. The engineering firm shall be responsible for pursuing and obtaining the necessary permits for this project. Any requested changes made by permit review officials shall be made by the Engineer without any additional cost to the District.

Construction Documents and Bidding

Engineer shall prepare complete Construction Documents for the Project. The Construction Documents shall consist of Engineered Drawings, Specifications, and other necessary documents as required to seek proposals/bids from qualified General Contractors. Engineering firm will assist the owner with bid reviews and recommendations.

Construction Administration

Firms will be expected to provide resident engineers, architects, inspectors and any other technical personnel necessary to observe, monitor and document a contractor's progress on a project from the start of field operations to final completion.

C. SELECTION PROCESS

The District will select firms on a Quality Based Selection process. The selection process will be made in accordance with the Local Government Professional Services Selection Act, 50 ILCS 510/1 *et seq*. (the "Act").

1. Evaluation of Written Submissions:

   An evaluation committee, consisting of District staff members, will review and evaluate all written responses to the RFQ in accordance with the general evaluation criteria set forth below (Selection Criteria) and based on such other information and matters as the committee deems necessary or desirable to determine the qualifications, responsibility, and suitability of each firm submitting a proposal in response to the RFQ.

   After conducting such review and making such evaluations, the District may select not less than three (3) qualified firms (unless the District receives less than 3 submissions) to proceed to the oral interview stage of the selection process (a "Finalist" and/or the "Finalists"), or may reject all proposals.

2. Oral Interview:

   If one or more Finalists are selected, an oral interview or interviews may be conducted by the District. At the interview, each Finalist shall be required to explain its submission in detail, including a full discussion of how its approach to the Project satisfies the general evaluation criteria set forth below (Selection Criteria). In addition, each Finalist shall be required to answer questions posed by the District. Oral interviews may be tape recorded.

   Upon completion, review and consideration of the oral interviews, the District may request additional information from one or more of the Finalists if deemed necessary or desirable by the District to assist it in evaluating a Finalist's qualifications for the Project.

3. Ranking:

   Based upon the written submissions, oral interviews and any supplementary information submitted in response to the District's request, and based upon the general evaluation criteria listed in below (Selection Criteria), such other criteria as the District determines appropriate, and such independent investigation (e.g. discussions with previous clients) as the District determines to be necessary or

desirable to assist it in evaluating a Finalist's qualifications, the District will rank the Finalists in the order of their qualifications for the Project.

4. Negotiations:

Following such ranking, the District will contact the highest ranking firm and attempt to negotiate a contract for the services at a fair and reasonable compensation taking into consideration the Project budget and the estimated value, scope, complexity and nature of the services to be rendered.

If fewer than three (3) submissions are received and the District determines that the firm(s) which did submit statements of interest is (are) qualified, the District may negotiate a contract with any such firm(s) in accordance with the requirements of the Act.

The Oak Brook Board of Park Commissioners will make the final selection of the architect/engineer for each Project.

D. SELECTION CRITERIA

The evaluation committee shall review the responses to the RFQ for the Project. The engineer for the Project will be selected based on the following criteria (in no order):

1. Qualifications and experience of firm for the Project;
2. Qualifications and experience of staff assigned to the District;
3. Experience/Performance -- Review of past performance on public projects, evaluations of references, etc;
4. Method and/or approach to the Project;
5. Expressed understanding of issues related to the Project; and

E. SUBMITTAL REQUIREMENTS

Submissions for each Project shall include:

1) Letter of Interest

A letter of interest from the firm, introducing any team members, highlighting the team's proposal for performing the services in accordance with the Project description and meeting the results to be achieved as described in the RFQ.

Provide a cover letter indicating your firm's understanding of the requirements of the specific job proposal. The letter should be a brief formal letter from the prospective firm that provides information regarding the firm's interest in and ability to perform the requirements of the RFQ.

A duly authorized representative of the firm must sign the letter in response to the RFQ. The cover letter should be on letterhead and state the legal name of the firm, phone number, fax number, mailing address and e-mail address.

2) Firm History and Experience

a) Please give a brief history and description of your firm (years in business, type of ownership, type of organization, size of firm, professional affiliations, and mission/vision). Firm will have no less than five (5) years actual business experience in engineering services, with not less than two (2) years performing work for public agencies.

b) Provide an organization chart graphically depicting the staff to be assigned to the specific Project.

c) Please include resumes of all key personnel to be assigned to the specific Project, which should include, but is not limited to: years of experience, degrees, licensure, and etcetera. Attach any certifications, awards, or training that will assist in qualifying your firm for the Project.

d) Provide documentation of firm's licensure to practice engineering services in the State of Illinois. List all in-house design disciplines that your firm provides.

e) Submit descriptions for similar projects your firm has worked on and list your firm's role for each project. List at least three (3) of the firm's recent project references for projects of a similar scope and size that have been completed within a similar timeframe. Provide performance data on these similar projects and describe why they are effective. Experience with park district and other units of local government, non-for-profit or other non-commercial clients is preferred. Grant funding experience for similar projects is preferred. During the interview process we will expect performance data for previous work on the following:

- Project delivery method;
- Start and end dates of the project and start and end dates of your services for the project; the targeted substantial and final completion dates for the project and the actual dates the project was substantially complete and finally complete and if the targeted dates were not met, why not;
- The project budget and whether the project was completed within budget and if not, why not; number and scope (dollar amount/time extension) of change orders and reasons for change orders;
- Disputes on the project (including without limitation disputes between your firm and the Owner or Owner's Representative, your firm and the Construction Manager, or your firm and a contractor or material supplier) and with respect to each dispute, describe the nature of the dispute in detail and how the dispute was resolved. Your information

should include, but not be limited to any litigation, mediation or arbitration proceedings, work suspension or stoppage and suspension or termination of your services.

f) Provide a list of any projects in the past 3years that were not completed.

g) Provide at least three (3) references for any ***sub-consultants*** that will be involved, with ***current*** addresses, principal client representatives, phone numbers and email addresses.

3) Financial and Legal

a) Provide a copy of your firm's most recent audited financial statements.

b) Provide banking and insurance references (include name, titles and contact information).

c) A summary of all claims, litigation, administrative proceedings, arbitration or mediation which has been made against your firm, any of its principals and/or staff within the last five (5) years related to construction, architectural design or other professional services, or business activities. The summary should include claims whether or not a lawsuit was filed or if the claim, the amount of the claim, the type of project and services involved and the resolution of the claim.

4) Firm's Methodology/Approach to the Project

a) Discuss your firm's role, methodology and approach to the scope of services. Firms may suggest different approaches to achieving the objectives.

b) Please provide a description of your team's approach to value engineering, efficient permitting, and working with other consultants.

c) Describe how time will be allocated. Be precise about the division of responsibility.

d) Describe your typical approach to construction observation and administration, including but not limited to your recommended anticipated frequency of site visits for this Project and what you will do during those site visits.

e) Describe post construction services rendered, if any and whether such services are included as part of basic services.

5) The firm's capability to complete a project on schedule.

a). Provide an outline work plan and tentative schedule for the specific Project;

b) Break down work plan/timeline by task.

c) Discuss your firm's method/approach for controlling the schedule of a project.

d) Provide information on your team's current and planned workload and your ability to complete the Project within the desired timeline. Include a statement regarding the key personnel listed in this submission and their availability for the duration of the Project.

6) References/Signature Sheet

On the Reference and Signature sheet included, provide three (3) recent references for similar work. The list shall include the client's name, address, telephone number, project title and description, project location and the contact person.

Without a duly signed and executed Reference and Signature Sheet, the firm's submittal in response to this RFQ will not be considered.

7) RFQ Response Format

a) Submit one (1) original and two (2) copies of your response for the Project, including all required forms and supporting documentation, with the original copy of the submittal clearly labeled "Original."

b) Submissions must be presented on 8 ½" x 11" paper in a loose leaf folder or binder and inserted in a separate sealed, opaque envelope and labeled as "Submittal for Professional Services for Central Park Bridge Project".

c) A cover sheet containing the name of the firm making the proposal including the name, address, and telephone number of a specific contact person for this RFQ.

d) A Table of Contents: All requested information must be presented in the order as listed within the Submittal Requirements.

e) Any supplemental information you wish to provide. These additional supporting documents **should not exceed ten pages**. All submittals shall be bound and on 8.5" x 11" paper. The contents of the response to this RFQ by the successful firm will be referenced in any contract awarded for this Project.

f) Submittals become the property of the District. The cost of preparation of proposals shall be the sole obligation of the submitting firms; the District is not liable for any costs incurred by submitting firms. The District, at its sole discretion, may waive any informalities and act in what it determines to be in the District's best interest. Submissions will not be returned to the individual or the company that has submitted the proposal.

Submissions are due on or before June 16, 2023 at 3:00 p.m. at the following address: Oak Brook Park District Administration Office, Family Recreation Center, 1450 Forest Gate Road, Oak Brook, IL 60523.

F. COMPENSATION TO BE EXCLUDED

In accordance with the Local Government Professional Services Selection Act, 50 ILCS 510/1 *et. seq.*, please ensure that submissions and any related materials do not include estimates of costs or proposals in terms of dollars, hours required, percentage of construction cost, or any other measure of compensation related to the Project. Any submission containing cost estimates or other compensation related figures will be considered non-responsive and will not be considered by the District.

G. SELECTION SCHEDULE

RFQ available to the Public	June 5, 2022
Letter of Interest/Statement of Qualifications due	June 16, 2023 3:00 p.m.
Selection of "Short List" for interviews	June 20, 2023
Interviews with top rated firms	June 21-26, 2023
Recommendation of Firm(s)/Approval by Board of Commissioners	July 17, 2023

Request for Qualifications for Professional Services
Reference and Signature Sheet

All firms providing a submittal for "Professional Services" shall include the Reference and Signature sheet completed and signed by the individual providing the submittal in behalf of the firm.

Please provide three (3) recent references for similar work. The list shall include the client name, address, telephone number, project title and description, project location and the contact person

Reference # 1

Client Name: .....

Contact: .....

Address: .....

Telephone Number: .....

Project title: .....

Description of Project: .....

Project Location: .....

Reference # 2

Client Name: .....

Contact: .....

Address: .....

Telephone Number: .....

Project title: .....

Description of Project: .....

Project Location: .....

Reference # 3

Client Name: .....

Contact: .....

Address: .....

Telephone Number: .....

Project title: .....

Description of Project: .....

Project Location: .....

Submitted by:

Name of Firm: .....

Address of Firm: .....

City: ..... State: ..... Zip .....

Submitter's Name: .....

Telephone: ..... E-mail: .....

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

Request for Qualifications for Professional Services –
Oak Brook Park District Information

The Village of Oak Brook, nestled in the eastern suburbs of DuPage County is located near major expressways and is just minutes away from downtown Chicago. This successful upscale community is rich in history and yet offers the amenities that modern families, singles and retirees desire.

The population of Oak Brook averages around 8,091 residents that swells to a population of approximately 100,000 each day as Oak Brook is the headquarters location for 50 of the Fortune 500 companies.

The people of the Village of Oak Brook are fortunate to have the Oak Brook Sports Core, with 269 acres of open green space and sports facilities, which historically has featured gold, polo, trap, skeet, and game shooting; field and target archery, and miles of bridle trails. The Sports Core property now includes the Oak Brook Bath and Tennis Club, Oak Brook Golf Club, the Oak Brook Polo Grounds and open fields. The Sports Core property is zoned Conservation Recreation and is maintained by the Village of Oak Brook.

Additionally, over 390 acres of open land are maintained by the DuPage County Forest Preserve District to protect the natural ecosystem and historical sites of Graue's Mill, Ben Fuller House, and Mayslake Peabody Estate among others.

The Oak Brook Park District was created on November 5, 1962. The Park District serves the residents and corporate residents of Oak Brook, and also welcomes non-residents as well. The Oak Brook Park District owns 7 park sites, including a 40-acre nature sanctuary. In total, it controls approximately 140 acres of land.

The Oak Brook Park District features award winning facilities, parks and programs. The Park District has received the 2015 National Gold Medal Award for Excellence in Park and Recreation Management from the American Academy for Park and Recreation Administration and the National Park and Recreation Association for excellence in agency planning and management.

The Oak Brook Park District amenities include 3 recreational facilities and seven park locations as follows.

Recreational Facility	Location	Recreational Description
Family Recreation Center	1450 Forest Gate Road, Oak Brook, IL 60523	Fitness Center & indoor/outdoor Aquatic Center, Preschool Rooms, multipurpose rooms, kiln, Dance/Exercise Studios, 3 gyms, walking track
Tennis Center	1300 Forest Gate Road, Oak Brook, IL 60523	8 indoor tennis courts, 3 racquetball courts, 1walleyball court, one table top tennis court, sauna, spa, fitness center
Central Park West	1500 Forest Gate Road Oak Brook, IL 60523	Facility used for rentals and recreational programming

Parks	Location	Acreage
Central Park	1450 Forest Gate Rd 1315 Kensington Rd.	173 Acres
Chillem Park	32 Yorkshire Woods Oak Brook, IL 60525	1 Acre
Dorothy and Sam Dean Nature Sanctuary	115 Canterberry St. Oak Brook, IL 60525	40 acres
Forest Glen Park	Wood Glen Lane & Forest Glen St.	16.4 acres
Saddle Brook Park	Saddle Brook & Hambletonian Road	11 acres total (3 locations in Saddle Brook subdivision)

WETLAND DELINEATION & ASSESSMENT REPORT CENTRAL PARK NORTH FIELDS

WETLAND DELINEATION & ASSESSMENT REPORT
CENTRAL PARK NORTH FIELDS

WBK Project #190117

Prepared for:

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, Illinois, 60523

Prepared by:

Alyse Olson
Environmental Resource Specialist

Reviewed by:

Natalie Paver, PWS
Senior Environmental Specialist

May 31, 2019

WBK Engineering, LLC
WBKEngineering.com
Part of the Mno-Bmadsen Family

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WETLAND DELINEATION & ASSESSMENT REPORT
CENTRAL PARK NORTH FIELDS
OAK BROOK, DUPAGE COUNTY, ILLINOIS

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Appendix C: Vegetation Data

Wetland 1 Plant Community Inventory & Summary C1
Wetland 2 Plant Community Inventory & Summary C2
Wetland Fringe Plant Community Inventory & Summary C3

Introduction

WBK Engineering, LLC (WBK) performed a wetland delineation of the Central Park North Fields project area in Oak Brook, DuPage County, Illinois for the Oak Brook Park District on April 22, 2019. The project area is located west of Jorie Boulevard, east of Illinois Route 83, north of Forest Gate Road, and south of Kensington Road in Central Park. The study area is centered at 41.840238°N and -87.952911° W in the W ½ of Section 26, Township 39N, Range 11E (Exhibit 1). The wetland delineation was performed in accordance with the criteria and methods established by the U.S. Army Corps of Engineers (USACE) in their Corps of Engineers Wetlands Delineation Manual (1987) and Midwest Regional Supplement (2010).

Based on the information obtained from the field visit, WBK identified one Waters of the U.S. (Waters 1 - Ginger Creek) with associated areas of wetland fringe and two wetlands (Wetlands 1 & 2). The delineated Waters total 5.662 on-site acres, and the delineated wetlands and wetland fringe total 0.253 on-site acres. Jake Kyrias-Gann from Burns & McDonnell verified the wetland boundaries on May 6, 2019 with Jamie Patterson, the consulting civil engineer for the Village of Oak Brook, and Alyse Olson from WBK. The wetland on site appear to connect to Ginger Creek (Waters 1). Ginger Creek flows to Salt Creek, which is a tributary of the Des Plaines River. The Des Plaines River is a Traditional Navigable Waterway regulated by the U.S. Army Corps of Engineers. Therefore, the wetlands and waters on site appear to be under the jurisdiction of the U.S. Army Corps of Engineers.

Permit Requirements

Under the current regulations, a disturbance of a jurisdictional or isolated wetland area requires a permit (USACE Letter of No-Objection, Regional Permit, Individual Permit and/or DuPage County County-Wide Stormwater and Flood Plain Permit). However, mitigation may or may not be required, depending on the overall impact (> 0.10 acres) to the wetland or Waters of the United States. This determination is at the discretion of the Chicago District Corps of Engineers.

Wetland Determination Methodology

The USACE Wetland Delineation Manual, dated January 1987, identifies the mandatory technical criteria for wetland identification. The three essential characteristics of a wetland are: 1) hydrophytic vegetation; 2) hydric soils; and 3) wetland hydrology. These characteristics are described below:

Hydrophytic Vegetation:
The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;

2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in non-wetlands;
3) Facultative plants (FAC) are equally likely to occur in wetland or non-wetlands (estimated probability 34-66%);
4) Facultative upland plants (FACU) usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands (estimated probability 1-33%); and
5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in non-wetlands under natural conditions.

At each data point, vegetation is sampled in plots of varying size based on the type of vegetation being sampled. The following plot sizes are recommended by the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Midwest Region:

Trees	30-ft radius
Saplings/Shrubs	15-ft radius
Herbaceous Plants	1-m^2 plot
Woody vines	30-ft radius

If greater than 50% of the plants present in all strata or layers of the plant community are FAC, FACW, or OBL the subject area is considered a wetland in terms of vegetation (Dominance Test). If the vegetation does not meet the requirements of the Dominance Test, the Prevalence Index (PI) should be utilized.

The PI evaluates the coverage, on a weighted basis of coverage over all strata, of the vegetation within the plot. The PI ranges between 1.0 and 5.0, with a 3.0 or less indicating hydrophytic vegetation is present. If the PI is greater than 3.0, the dominance test is failed, but if there is also a hydric soil and wetland hydrology presence, the observation of morphological adaptations by vegetation can be used to indicate that the hydrophytic vegetation criteria is met.

Morphological adaptations are changes in the structure of vegetation in response to conditions outside the normal character of the plant. These adaptations include adventitious roots, multi-stemmed trunks, shallow root systems developed at or near the surface, and buttressing in tree species. To meet this indicator, more than 50% of the individuals of FACU species must exhibit the morphological adaptations. Care must be given that the adaptations observed are due to wetter conditions that the species is used to as opposed to other factors such as shallow roots present because of erosion of the surface.

Hydric Soils:
Hydric soils are defined in the manual as "soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part." Hydric soil indicators are distinctive characteristics that persist in the soil during both wet and dry periods, and are used to identify hydric soils in the field. Field indicators include color, mottling, gleying, and sulfidic odor. A specific set of indicators has been developed by the USDA Natural Resource

Conservation Service (NRCS) (Field Indicators of Hydric Soils in the United States), which provides a detailed description of what characteristics must be present to be hydric. A soil meets the definition of a hydric soil if it exhibits at least one of these indicators.

Wetland Hydrology:
Indicators of hydric soil and hydrophytic vegetation typically reflect the middle and long-term conditions of a site but not the short term conditions. The wetland hydrology criterion is often the most difficult to determine because of climatological variation. Typically, the presence of water for a week or more during the growing season creates anaerobic conditions indicative of wetland hydrology. Anaerobic conditions lead to the prevalence of wetland plants. The 2010 USACE Regional Supplement for the Midwest Region provides specific indicators in four different groups for wetland hydrology:

1. Observation of Surface Water or Saturated Soils
2. Evidence of Recent Inundation
3. Evidence of Current or Recent Soil Saturation
4. Evidence from Other Site Conditions or Data

If a site exhibits 1 primary indicator or 2 secondary indicators, then it meets the hydrology criteria for a wetland.

Vegetation Data

A meander vegetation inventory was taken at the time of the field visit within the wetland and plant communities. This inventory was entered into a Floristic Quality Assessment (FQA) program, which calculates a value for the Floristic Quality Index (FQI) and Coefficient of Conservatism (C-value). The FQI gives an idea of the quality of the community being inventoried. Wilhelm and Rericha established C-values for plants to give some insight as to the overall quality of the community. Each plant species is rated on a scale of 0 to 10, 0-representing non-native or noxious species commonly found in a variety of habitats, and 10 representing plants found only under specific ecological conditions. Communities containing an abundance of plants with a low C-value suggest that these communities have been disturbed in the past. Communities containing an abundance of plants with a high C-value suggest that specific ecological conditions necessary for their survival are intact thus disturbance is probably minimal and the community maintains at least some of its original integrity.

The native C-values and native FQI values were recorded for the wetland plant communities within the project area. This analysis is required by the USACE Chicago District. These values are shown below in Table 2. The complete FQA for the wetland plant communities are located in Appendix C.

Site Conditions

The Central Park North Fields project site is an open, grassy plot used by the Oak Brook Park District for soccer fields. Ginger Creek (Waters 1) runs along the south side of the project area and contains adjacent wetland and wetland fringe communities. The project area is surrounded by residential and commercial property. The majority of the project area contains non-hydric soil (Orthents, clayey, undulating – 805B) according to the USDA SSURGO soil data (Exhibit 4). The soil surrounding Ginger Creek, however, is mapped, hydric soil (Sawmill silty clay loam, heavy till plain – 3107A). The National Wetlands Inventory (NWI) Map (Exhibit 3A) classifies Ginger Creek as freshwater pond (PUBGx). According to the DuPage County Wetlands Inventory Map (Exhibit 3B), Ginger Creek is identified as a River/Stream and Lake/Pond. The site does not contain Regulatory or Critical Wetlands according to the DuPage County Wetlands Inventory Map. The Digital Flood Insurance Rate Map (Exhibit 6A) and DuPage County Regulatory Flood Map (Exhibit 6B) show that Zone AE Floodway, Zone AE Special Flood Hazard areas, and Zone X flood areas outside of the 500-year floodplain exist within the project site. At the time of the site visit, the project area contained one Waters of the U.S., two wetlands, and two areas of wetland fringe.

Data points were taken at the time of the field visits in wetland and upland areas. At each data point, the vegetation, soil, and hydrology was observed and the details of each were recorded onto a USACE Data Form. Data points are taken to help determine the location of wetland boundaries. The information collected on-site is listed in the USACE Data Forms located in Appendix B.

See Appendix A for the Aerial Photograph with Wetland Delineation exhibit (Exhibit 2), which shows the delineated waters and wetland boundaries as well as the data point locations. Also see Appendix A for the Site Photograph Exhibits (Exhibits 7A & 7B), which show photographs of the site conditions at the time of the field visit.

Table 1: Water Summary Table

Delineated Area	Type	On-Site Length (ft.)	On-Site Acres	NWI Classification	County Classification	Jurisdiction*	Photos
Waters 1	Ginger Creek	2,229	5.662	PUBGx	River/Stream & Lake/Pond	USACE	3 & 6

*A Jurisdictional Determination has not been completed but based on Ginger Creek's connection to Salt Creek, which connects to the Des Plaines River, USACE jurisdiction is anticipated.

Table 2: Wetland Summary Table

Delineated Area	Wetland Type	Data Point	On-Site Acres	Native FQI	Native Mean C	Mapped Soil	NWI Classification	County Classification	Jurisdiction*	Photos
Wetland 1	Riparian	1A	0.201	9.24	2.67	3107A	None	None	USACE & DuPage County	1 & 3
Wetland 2	Riparian	2A	0.026	10.25	3.63	3107A	None	None	USACE & DuPage County	4
Wetland Fringe	Fringe	N/A	0.026	8.67	2.89	3107A	None	None	USACE & DuPage County	N/A
TOTAL			**0.253**							

*A Jurisdictional Determination has not been completed but based on wetlands location adjacent to Ginger Creek, USACE jurisdiction is anticipated.

The following is a description of the waters and wetlands identified during the site visit:

Waters of the US:
Ginger Creek (Waters 1) is a perennial stream that flows west to east within the project area and was delineated at the Ordinary High Water Mark (OHWM). The OHWM is established by the fluctuations of water and is indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation and/or the presence of litter and debris. The National Wetlands Inventory Map (Exhibit 3A) identifies Waters 1 as a Palustrine, Unconsolidated Bottom, Intermittently Exposed, and Excavated (PUBGx) freshwater pond. The DuPage County Wetlands Inventory Map (Exhibit 3B) identifies Waters 1 as a River/Stream and Lake/Pond. The Hydrologic Investigations Atlas shows the project area contains areas of historic flooding. The Digital Flood Insurance Rate Map (Exhibit 6A) identifies Waters 1 as Zone AE floodway within the project area. The DuPage County Regulatory Flood Map (Exhibit 6B) also identifies Waters 1 as a floodway area.

A plant community consisting of Great Bulrush (*Schoenoplectus tabernaemontani*), sedges (*Carex ssp.*), and Water Willow (*Justicia Americana*) was observed just east of the dam structure located in the center of Ginger Creek. The plant community was located in a small area (approximately 6'x5') where the dam structure and sea wall come together (see Photo 6). Despite the presence of hydrophytic vegetation and hydrology, this area was delineated as part of the Waters of the U.S. due to the presence of piled rock and riprap preventing a soil sample from being obtained.

Wetland 1 – Data Point 1A:
Wetland 1 is a 0.201 acre riparian wetland community located along Ginger Creek (Waters 1). Wetland 1 has a Floristic Quality Index of 9.24, a Native Mean C-value of 2.67, and a Native Mean Wetness Coefficient Value of -0.83. The delineated wetland fulfills all three indicators of a wetland; hydrophytic vegetation, hydric soils, and wetland hydrology. The dominant plant species of Wetland 1 include Spreading Bent (*Agrostis stolonifera*), Common Reed (*Phragmites australis ssp. americanus*), Cattails (*Typha ssp.*), and Willows (*Salix ssp*.). The hydrophytic vegetation indicator is met with greater than 50% of the dominant species present being FAC, FACW, and OBL and a Prevalence Index of less than or equal to 3 at Data Point 1A. The Soil Survey Map (Exhibit 4) shows the delineated area to be within the hydric soil unit Sawmill silty clay loam (3107A). Field observations verify the presence of poorly drained hydric soils with the indicators Depleted Below Dark Surface (A11), Sandy Redox (S5), Dark Surface (S7), and Depleted Matrix (F3) at Data Point 1A. Wetland hydrology is met with the presence of a High Water Table (A2) at a depth of 8 inches, Saturation (A3) at a depth of 7 inches, and Water-Stained Leaves (B9). The secondary hydrology indicators Saturation Visible on Aerial Imagery (C9) and Geomorphic Position (D2) also apply to Wetland 1.

Wetland 2 – Data Point 2A:
Wetland 2 is a 0.026 acre riparian fringe wetland community located along Ginger Creek (Waters 1). Wetland 2 has a Floristic Quality Index of 10.25, a Native Mean C-value of 3.63, and a Native Mean Wetness Coefficient Value of 0.00. The delineated wetland fulfills all three indicators of a

wetland; hydrophytic vegetation, hydric soils, and wetland hydrology. The dominant plant species of Wetland 2 include Cutleaf Coneflower (*Rudbeckia laciniata*), Black Alder (*Alnus glutinosa*), European Buckthorn (*Rhamnus cathartica*), and Wild Parsnip (*Pastinaca sativa*). The hydrophytic vegetation indicator is met with greater than 50% of the dominant species present being FAC, FACW, and OBL at Data Point 2A. The Soil Survey Map (Exhibit 4) shows the delineated area to be within the hydric soil unit Sawmill silty clay loam (3107A). Field observations verify the presence of poorly drained hydric soils with the indicator Redox Dark Surface (F6) at Data Point 2A. Wetland hydrology is met with the secondary indicators Geomorphic Position (D2) and FAC-Neutral Test (D5).

Wetland Fringe:
During the site visit, two areas of wetland fringe, totaling 0.026 on-site acres, were observed along Ginger Creek. Data points were not taken but the vegetation was recorded within the wetland fringe. The dominant plant species include Blue Vervain (*Verbena hastata*), Spreading Bent (*Agrostis stolonifera*), and Lesser Poverty Rush (*Juncus tenuis*). The wetland fringe has a Floristic Quality Index of 8.67, a Native Mean C-value of 2.89, and a Native Mean Wetness Coefficient Value of -0.44.

Reference Materials

The following materials were reviewed and utilized to assist in the field reconnaissance and completion of this report. See Appendix A for the Reference Materials (Exhibits 1 through 7B).

Location Map:
The project is located in Oak Brook, DuPage County, Illinois. The project area is located west of Jorie Boulevard, east of Illinois Route 83, north of Forest Gate Road, and south of Kensington Road in Central Park. The study area is centered at 41.840238°N and -87.952911° W in the W ½ of Section 26, Township 39N, Range 11E (Exhibit 1).

Aerial Photograph with Wetland Delineation:
A 2018-2019 ESRI World Imagery aerial photograph of the Central Park North Fields project area was reviewed to determine areas of inundation and saturation within the project boundary. Areas of inundation or saturation can indicate wetland areas. The Aerial Photograph with Wetland Delineation (Exhibit 2) shows the limits of the field delineated waters, wetlands, and data points.

National Wetlands Inventory Map and DuPage County Wetlands Inventory Map:
The U.S. Fish and Wildlife Service's National Wetlands Inventory for DuPage County (Exhibit 3A) and DuPage County's Web Mapping – Wetland Inventory Layer (Exhibit 3B) resources were reviewed to determine the location of wetland areas. The National Wetlands Inventory (NWI) Map identifies Waters 1 (Ginger Creek) as a Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated (PUBGx) freshwater pond. The DuPage County Wetlands Inventory Map identifies Waters 1 (Ginger Creek) as a River/Stream and Lake/Pond.

It should be noted that the NWI map is only a large scale guide, actual wetland locations and types may vary.

Soil Survey Map:
The USDA SSURGO Soil Data of September 2017 (Exhibit 4) was investigated to determine the location of hydric soils on the subject site. Mapped hydric soils are indicators of potential wetland areas. The following soil types were mapped within the project area:

805B: Orthents, clayey, undulating
3107A: Sawmill silty clay loam (Hydric)

USGS Topographic Map:
The 2018 USGS 7.5 Topographic Map of the Hinsdale Quadrangle (Exhibit 5A) was reviewed for site topography and drainage. Based on the map, it can be seen that Ginger Creek runs through the project area and eventually connects to Salt Creek.

Hydrologic Investigations Atlas:
The United States Geological Survey (USGS) Hydrological Investigations Atlas for the Hinsdale Quadrangle, HA-86 of 1964 (Exhibit 5B) was reviewed to determine the historical local drainage pattern. The atlas shows that the project contains areas of historic flooding from 1952, 1954, 1957, 1960, and 1962.

Digital Flood Insurance Rate Map and DuPage County Regulatory Flood Map:
The Federal Emergency Management Agency's (FEMA) Digital Flood Insurance Rate Map (DFIRM) for DuPage County, Community Panel No. 17043C0609H effective date December 16, 2004 (Exhibit 6A) and FEMAs Regulatory Flood Map No. 17043C0179A for DuPage County effective date July 7, 2010 (Exhibit 6B) were reviewed to determine the location of regulatory floodplain and floodway within the subject site. Mapped floodplains can be indicative of wetland hydrology. Based on the maps, the waters and wetlands onsite are identified as a Zone AE Floodway. The site also contains Special Flood Hazard Areas inundated by the 1% annual chance flood event (Zone AE) and areas determined to be outside of the 500-year floodplain (Zone X).

Site Photographs:
Site Photographs (Exhibits 7A & 7B) were taken at the time of the April 22, 2019 site visit to show the areas investigated and the conditions of the site. Exhibit 7A shows Wetland 1 and the adjacent upland. Exhibit 7B shows Wetland 2, the adjacent upland, and an area of wetland vegetation growing within Waters 1.

Conclusions

WBK has identified that the Central Park North Fields project area contains one Waters of the U.S. (Waters 1 – Ginger Creek), with associated areas of wetland fringe and two wetlands (Wetlands 1 & 2). The delineated Waters total 5.662 on-site acres, and the delineated wetlands and wetland fringe total 0.253 on-site acres. This is based on field reconnaissance conducted using techniques outlined in the USACE 1987 Delineation Manual, 2010 Midwest Regional Supplement, historical maps, and aerial images depicting the condition of the site. The field determination for the presence of wetland supersedes all published maps as they are general guidance only. The wetlands are connected to Ginger Creek, which flows to Salt Creek. Salt Creek is a tributary to the Des Plaines River. The Des Plaines River is a Traditional Navigable Waterway regulated by the U.S. Army Corps of Engineers. Based on WBK's findings and the current guidelines, the wetlands and waters on site appear to be under the jurisdiction of the U.S. Army Corps of Engineers.

References

DuPage County Web Mapping – Wetland Inventory Layer. DuPage County Wetlands Inventory Map.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers, Waterways Experimental Station, Vicksburg, MS, USA. Technical Report Y-87 1.

ESRI Basemaps – World Street Map. 2019. Location Map.

ESRI World Imagery. 2018-2019. Aerial Photograph with Wetland Delineation.

Federal Emergency Management Agency, Digital Flood Insurance Rate Maps, DuPage County, Illinois, Map Number 17043C0609H. 2004. Digital Flood Insurance Rate Map.

Federal Emergency Management Agency, Regulatory Flood Maps, DuPage County, Illinois, Map Number 17043C0179A. 2010. DuPage County Regulatory Flood Map.

Herman, B., Sliwinski, R. and S. Whitaker. 2017. Chicago Region FQA (Floristic Quality Assessment) Calculator. U.S. Army Corps of Engineers, Chicago, IL.

Lichvar, Robert W. and John T. Kartesz. 2012. North American Digital Flora: National Wetland Plant List, version 3.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC.

United States Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. U.S. Army Engineer Research and Development Center, Vicksburg, MS.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 2012. *Field Book for Describing and Sampling Soils, Version 3.0*. ed. P. J. Schoeneberger, D. A. Wysocki, E. C. Benham, and W. D. Broderson. Lincoln, NE: National Soil Survey Center.

United States Department of Agriculture SSURGO Soil Data. 2017. Soil Survey Map.

United States Fish and Wildlife Service National Wetlands Inventory Wetlands Mapper. National Wetlands Inventory Map.

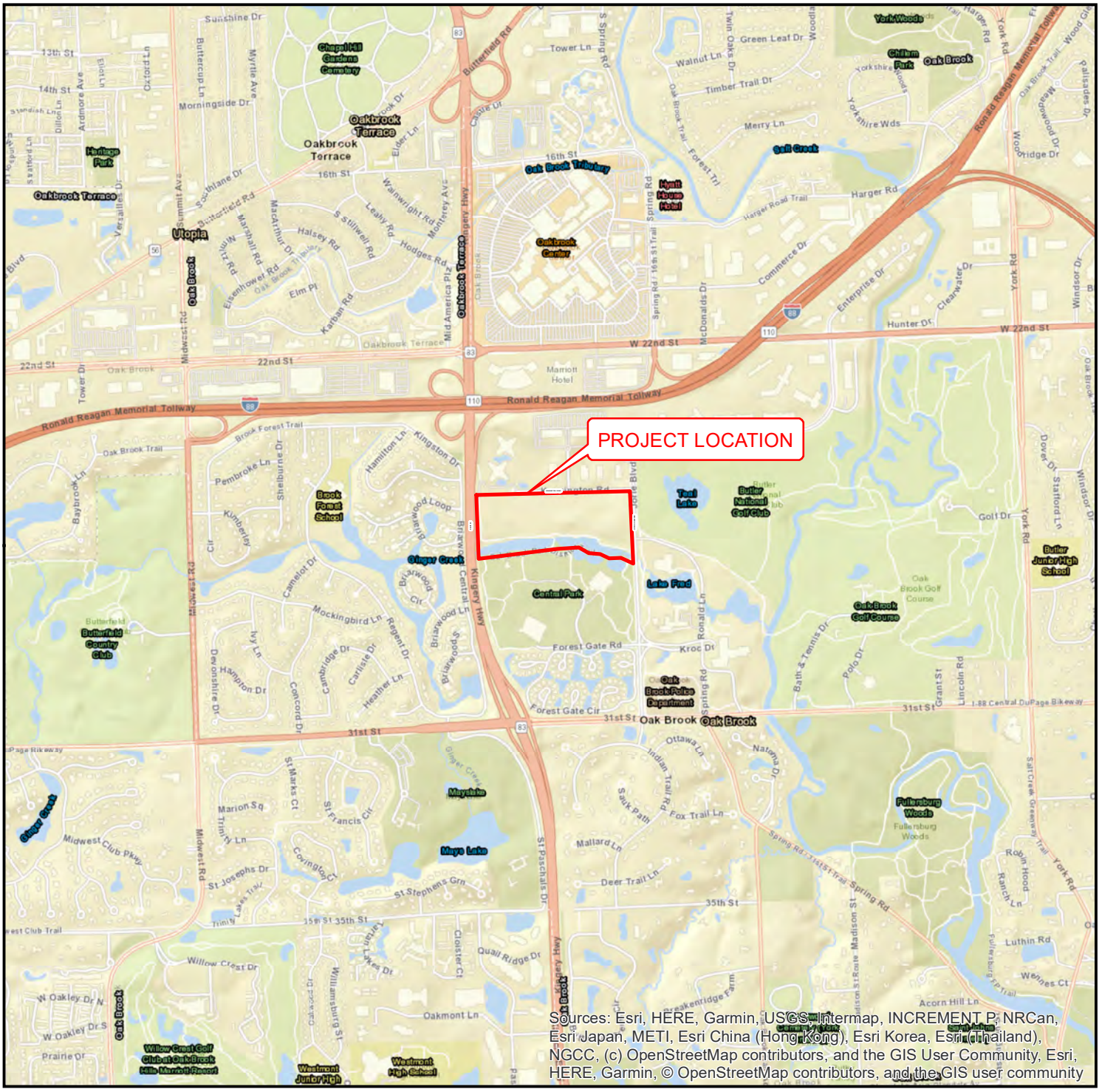
United States Geological Survey, Hinsdale Quadrangle, HA-86. 1964. Hydrologic Investigations Atlas.

United States Geological Survey 7.5' Topographic Map Hinsdale Quadrangle. 2018. USGS Topographic Map.

Wilhelm, G and Rericha, L. 2017. *Flora of the Chicago Region, A Floristic and Ecological Synthesis*. Indianapolis, IN: Indiana Academy of Science.

APPENDIX A

Reference Materials

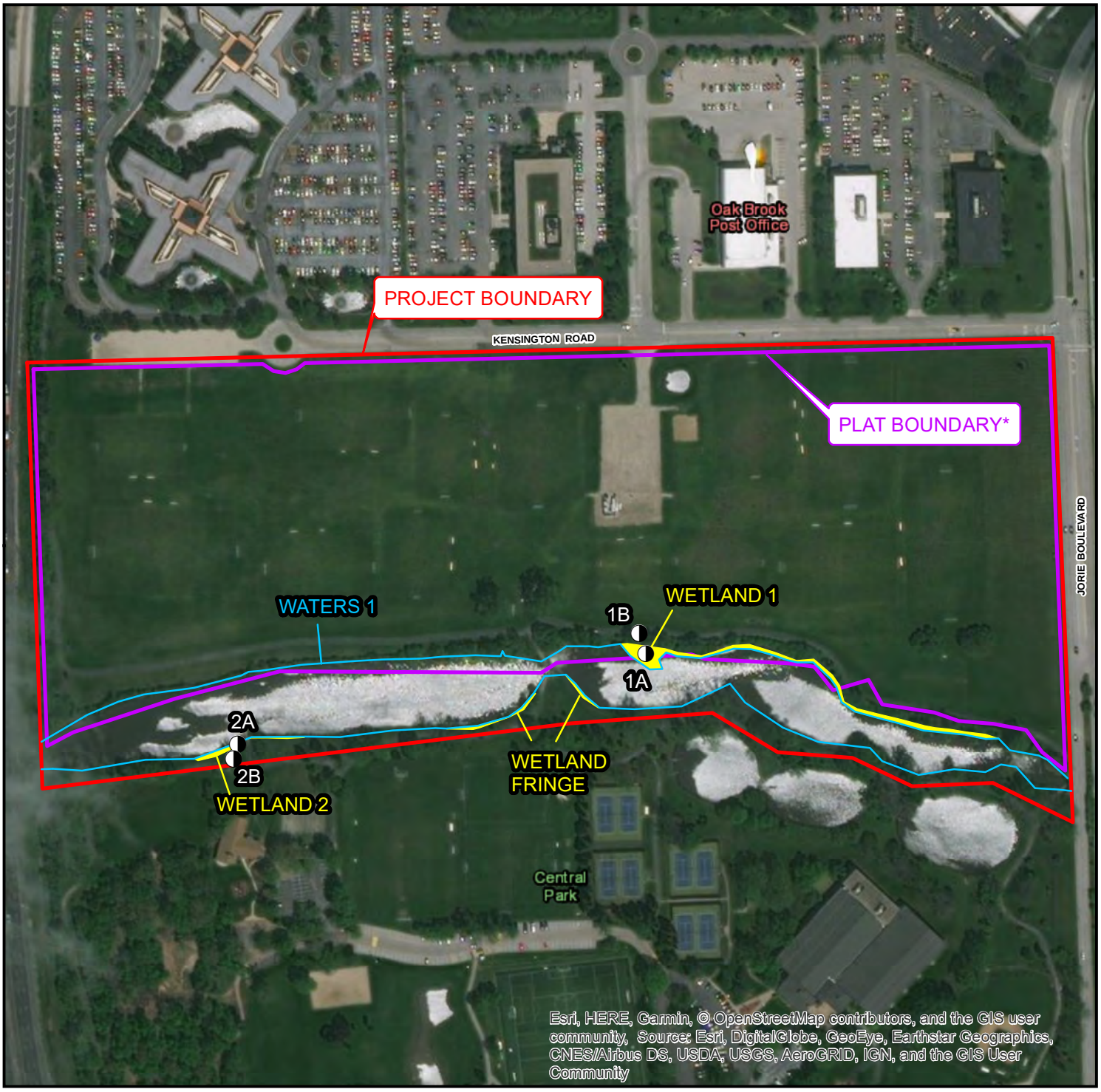


SOURCE: ESRI WORLD STREET MAP

SCALE: 1 " = 2,000 '

PLSS DESCRIPTION - W 1/2 SECTION 26, TOWNSHIP 39N, RANGE 11E
LATITUDE: N041.840238 DEGREES
LONGITUDE: W-087.952911 DEGREES

CLIENT OAK BROOK PARK DISTRICT 1450 FOREST GATE ROAD OAK BROOK, IL 60523	TITLE CENTRAL PARK NORTH FIELDS	DWN.	ACO	CHKD.	NMP
		JOB# 190117			N
WBK engineering **WBK ENGINEERING, LLC** 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	LOCATION MAP			DATE 05/09/2019	
				EXHIBIT 1	



SOURCE: AERIAL PHOTOGRAPH ESRI IMAGERY DuPAGE COUNTY 2018-2019

SCALE: 1 " = 300 '

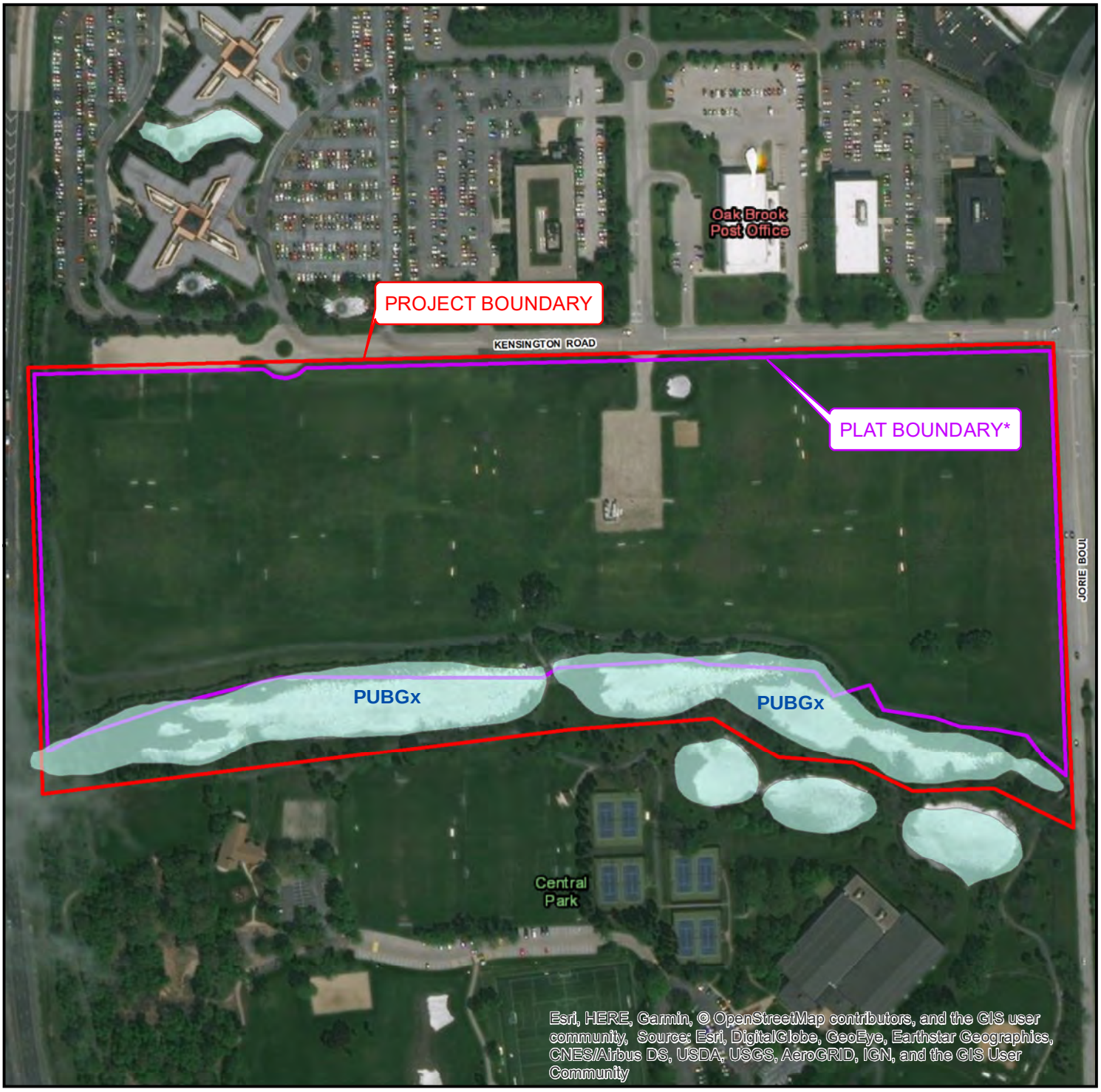
◑ **DATA POINT LOCATION**

WETLAND BOUNDARY

WATERS BOUNDARY

*BOUNDARY SURVEY AND PLAT PERFORMED AND PREPARED BY CEMCON, LTD. IN APRIL 2019

CLIENT OAK BROOK PARK DISTRICT 1450 FOREST GATE ROAD OAK BROOK, IL 60523	TITLE CENTRAL PARK NORTH FIELDS	DWN.	ACO	CHKD. NMP
		JOB# 190117		N
WBK engineering **WBK ENGINEERING, LLC** 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	AERIAL PHOTOGRAPH WITH WETLAND DELINEATION			DATE 05/14/2019
				EXHIBIT 2



SOURCE: U.S. FISH AND WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY, DuPAGE COUNTY

SCALE: 1 " = 300 '

LEGEND:
PUBGx: PALUSTRINE, UNCONSOLIDATED BOTTOM, INTERMITTENTLY EXPOSED, EXCAVATED FRESHWATER POND

*BOUNDARY SURVEY AND PLAT PERFORMED AND PREPARED BY CEMCON, LTD. IN APRIL 2019

CLIENT OAK BROOK PARK DISTRICT 1450 FOREST GATE ROAD OAK BROOK, IL 60523	TITLE CENTRAL PARK NORTH FIELDS	DWN.	ACO	CHKD.	NMP
		JOB# 190117			N
WBK engineering **WBK ENGINEERING, LLC** 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	NATIONAL WETLANDS INVENTORY MAP				DATE 05/09/2019
					EXHIBIT 3A

SOURCE: DuPAGE COUNTY WEB MAPPING - WETLAND INVENTORY LAYER

SCALE: 1 " = 300 '

LEGEND:

- LAKES AND PONDS
- RIVERS AND STREAMS
- REGULATORY WETLANDS
- CRITICAL WETLANDS

*BOUNDARY SURVEY AND PLAT PERFORMED AND PREPARED BY CEMCON, LTD. IN APRIL 2019

CLIENT OAK BROOK PARK DISTRICT 1450 FOREST GATE ROAD OAK BROOK, IL 60523	TITLE CENTRAL PARK NORTH FIELDS	DWN.	ACO	CHKD. NMP
		JOB# 190117		N
WBK engineering WBK ENGINEERING, LLC 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	DuPAGE COUNTY WETLANDS INVENTORY			DATE 05/09/2019
				EXHIBIT 3B

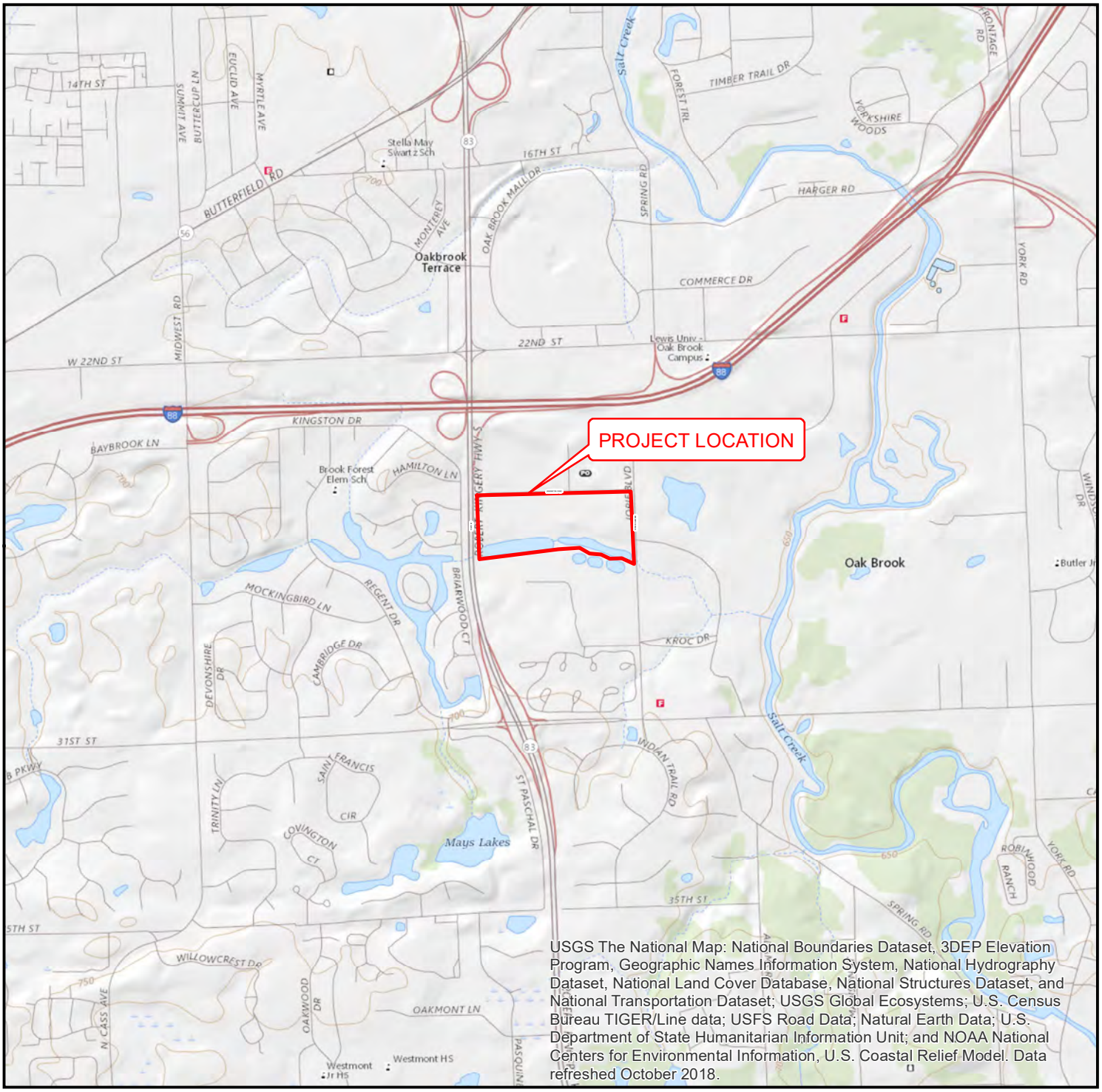
SOURCE: USDA SSURGO SOIL DATA, DuPAGE COUNTY, ILLINOIS, SEPTEMBER 2017

SCALE: 1 " = 300 '

LEGEND:
805B - Orthents, clayey, undulating
3107A - Sawmill silty clay loam (Hydric)

*BOUNDARY SURVEY AND PLAT PERFORMED AND PREPARED BY CEMCON, LTD. IN APRIL 2019

CLIENT OAK BROOK PARK DISTRICT 1450 FOREST GATE ROAD OAK BROOK, IL 60523	TITLE CENTRAL PARK NORTH FIELDS	DWN.	ACO	CHKD.	NMP
		JOB# 190117			N
WBK engineering WBK ENGINEERING, LLC 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	SOIL SURVEY MAP				DATE 05/09/2019
					EXHIBIT 4

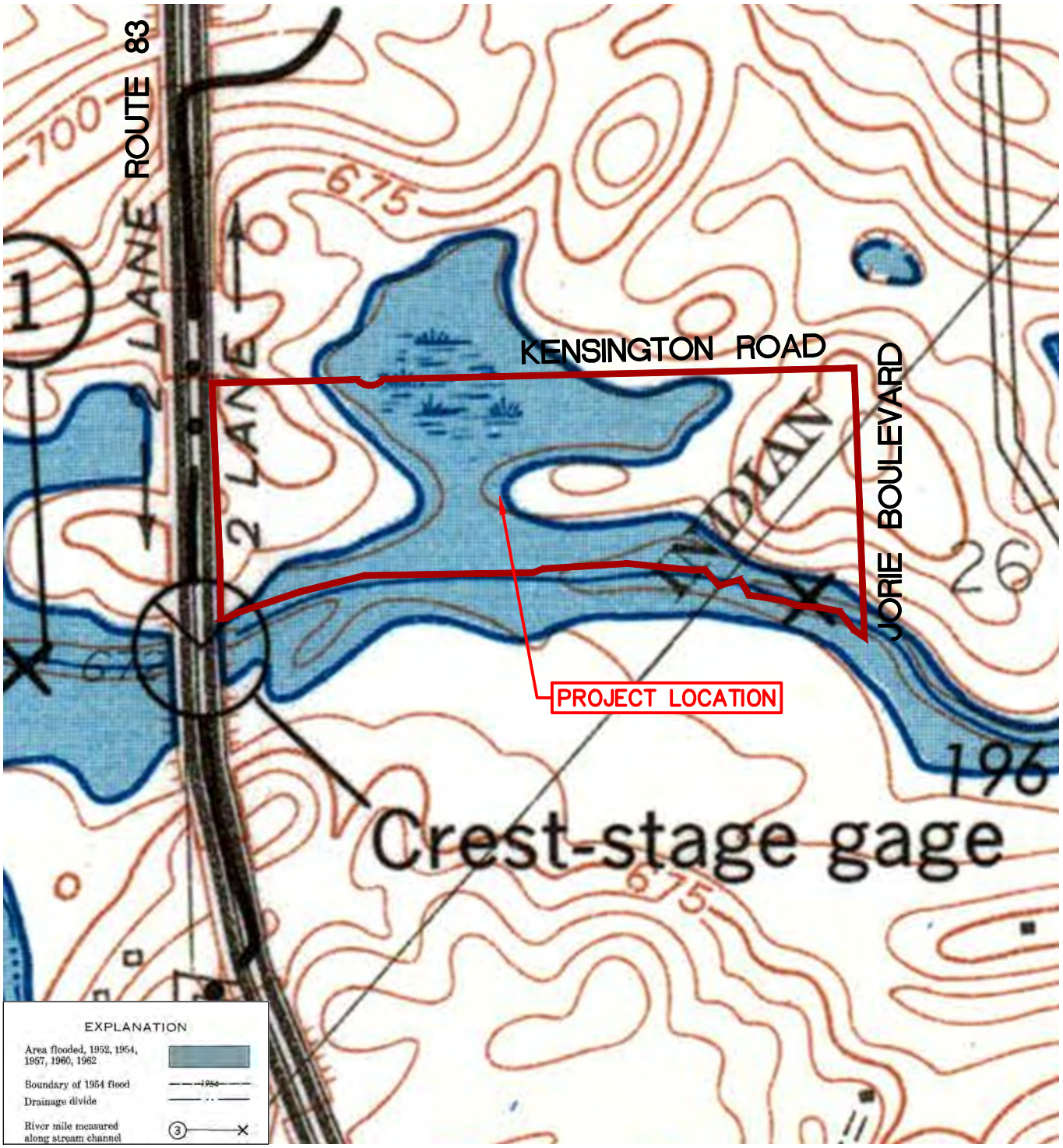


SOURCE: USGS 7.5 TOPO MAP, HINSDALE QUADRANGLE 2018

SCALE: 1 " = 2,000 '

PLSS DESCRIPTION - W 1/2 SECTION 26, TOWNSHIP 39N, RANGE 11E
LATITUDE: N041.840238 DEGREES
LONGITUDE: W-087.952911 DEGREES

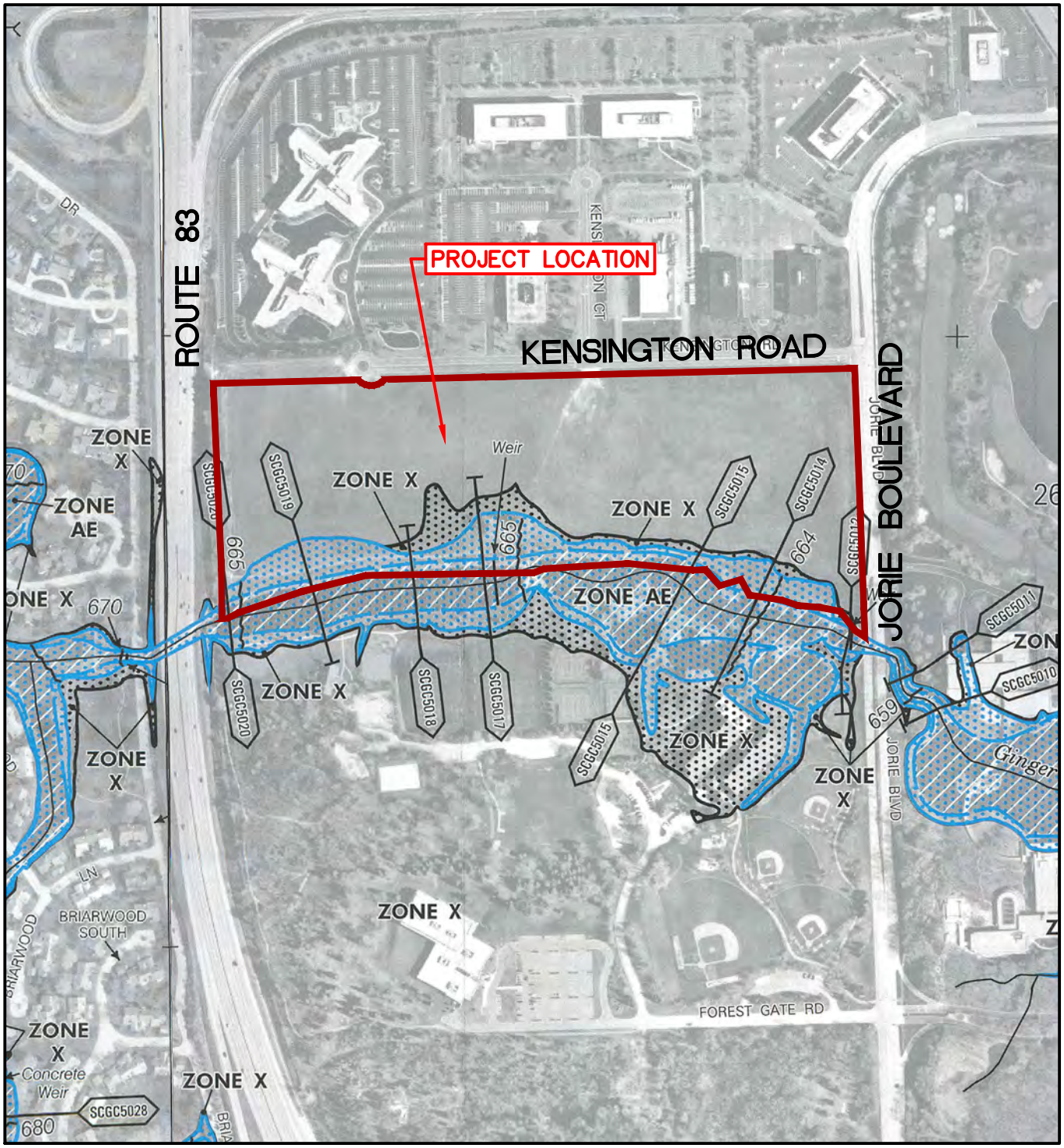
CLIENT OAK BROOK PARK DISTRICT 1450 FOREST GATE ROAD OAK BROOK, IL 60523	TITLE CENTRAL PARK NORTH FIELDS	DWN.	ACO	CHKD. NMP
		JOB# 190117		N
WBK engineering **WBK ENGINEERING, LLC** 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	USGS TOPOGRAPHIC MAP			DATE 05/09/2019 EXHIBIT 5A



SOURCE: U.S. GEOLOGICAL SURVEY HYDROLOGIC INVESTIGATIONS ATLAS HINSDALE QUADRANGLE, 1964, HA-86

SCALE: 1" = 500'

CLIENT **OAK BROOK PARK DISTRICT** 1450 FOREST GATE ROAD OAK BROOK, ILLINOIS	TITLE **CENTRAL PARK NORTH FIELDS**	DWN.	GMP	CHKD.	NMP
		JOB# 190117			N
WBK engineering **WBK ENGINEERING, LLC** 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	**HYDROLOGIC INVESTIGATIONS ATLAS**				DATE 05/09/2019
					EXHIBIT 5B

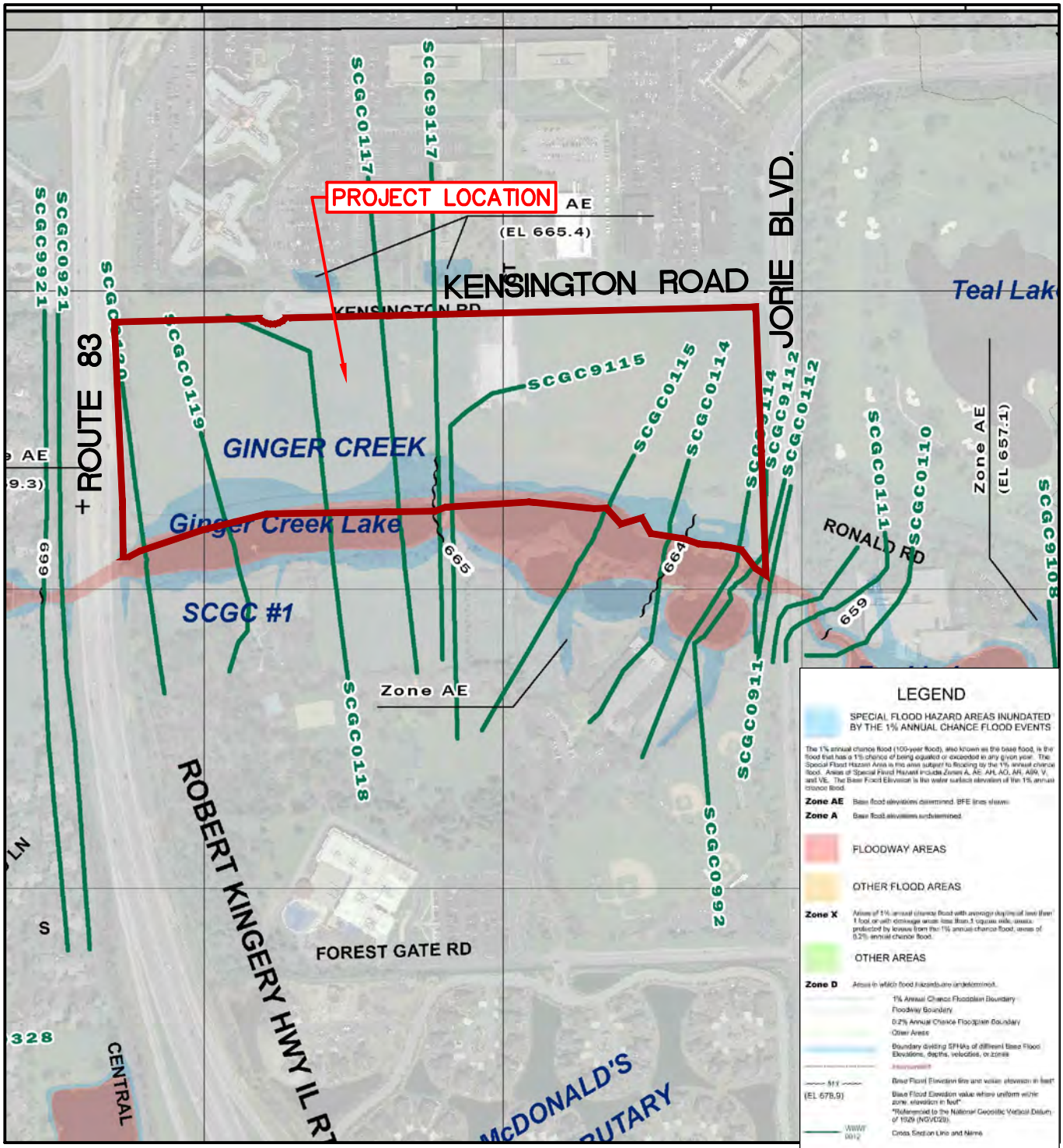


SOURCE(S): FEDERAL EMERGENCY MANAGEMENT, DIGITAL FLOOD INSURANCE RATE MAPS, DEC. 16, 2004 SCALE: 1" = 500'
County, Illinois MAP NUMBER(S): 17043C0609H

LEGEND

ZONE AE - Base flood elevations determined.
ZONE X - Areas determined to be outside 500-year floodplain.

CLIENT **OAK BROOK PARK DISTRICT** 1450 FOREST GATE ROAD OAK BROOK, ILLINOIS	TITLE **CENTRAL PARK NORTH FIELDS**	DWN. GMP	CHKD. NMP	
		JOB# 190117		N
WBK engineering **WBK ENGINEERING, LLC** 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	**DIGITAL FLOOD INSURANCE RATE MAP**			DATE 05/09/2019
				EXHIBIT 6A



SOURCE(S): FEDERAL EMERGENCY MANAGEMENT AGENCY, REGULATORY FLOOD MAPS, JULY 7, 2010. DuPAGE COUNTY, ILLINOIS. MAP NUMBER: 17043C0179A

SCALE: 1" = 500'

CLIENT **OAK BROOK PARK DISTRICT** 1450 FOREST GATE ROAD OAK BROOK, ILLINOIS	TITLE **CENTRAL PARK NORTH FIELDS**	DWN. GMP	CHKD. NMP	
		JOB# 190117		N
WBK engineering **WBK ENGINEERING, LLC** 116 WEST MAIN STREET, SUITE 201 ST. CHARLES, ILLINOIS 60174 (630) 443-7755	**DuPAGE COUNTY REGULATORY FLOOD MAP**			DATE 05/09/2019 **EXHIBIT 6B**

Photo 1: View from Data Point 1A in Wetland 1 looking east.

Photo 2: View from Data Point 1B in the upland adjacent to Wetland 1 looking east.

Photo 3: View of Wetland 1 fringe along Ginger Creek (Waters 1). View looking west.

CLIENT **OAK BROOK PARK DISTRICT** 1450 FOREST GATE ROAD OAK BROOK, IL 60523	JOB # 190117	DSGN.	ACO	CHKD. NMP
		TITLE **CENTRAL PARK NORTH FIELDS**		
WBK engineering **WBK ENGINEERING, LLC** 116 W. MAIN STREET, SUITE 201 ST. CHARLES, IL 60174 (630) 443-7755	**SITE PHOTOGRAPHS**	DATE 05/07/19		
		EXHIBIT 7A		

Photo 5: View from Data Point 2B in the upland adjacent to Wetland 2 looking west.

Photo 4: View from Data Point 2A in Wetland 2 looking west.

Photo 6: View of wetland plant community growing within Waters 1 near dam and sea wall.

CLIENT **OAK BROOK PARK DISTRICT** 1450 FOREST GATE ROAD OAK BROOK, IL 60523	JOB # 190117	DSGN.	ACO	CHKD. NMP
		TITLE **CENTRAL PARK NORTH FIELDS**		
WBK engineering **WBK ENGINEERING, LLC** 116 W. MAIN STREET, SUITE 201 ST. CHARLES, IL 60174 (630) 443-7755	**SITE PHOTOGRAPHS**	DATE 05/07/19		
		EXHIBIT 7B		

APPENDIX B

USACE Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Central Park North Fields | City/County: Oak Brook/DuPage | Sampling Date: 4/22/19

Applicant/Owner: Oak Brook Park District | State: IL | Sampling Point: 1A

Investigator(s): Alyse Olson | Section, Township, Range: Sec. 26, T39N, R11E

Landform (hillside, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave

Slope (%): 0-2 | Lat: 41.839412 | Long: -87.952588 | Datum: NAD83

Soil Map Unit Name: 3107A: Sawmill silty clay loam | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: R=15ft)			
1. *Rhamnus cathartica*	10	Yes	FAC
2. *Lonicera maackii*	10	Yes	UPL
3.			
4.			
5.			
	20 =Total Cover		
Herb Stratum (Plot size: R=1m)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Poa pratensis*	20	Yes	FAC
3. *Solidago canadensis*	15	Yes	FACU
4. *Typha latifolia*	15	Yes	OBL
5. *Securigera varia*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
	75 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. *N/A*			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	15	x 4 =	60
UPL species	15	x 5 =	75
Column Totals:	95 (A)		260 (B)

Prevalence Index = B/A = 2.74

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/1	85	10YR 4/6	15	C	M	Sandy	Prominent redox concentrations
7-16	10YR 5/1	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 7

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Geomorphic Position: Located adjacent to Ginger Creek

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Central Park North Fields | City/County: Oak Brook/DuPage | Sampling Date: 4/22/19

Applicant/Owner: Oak Brook Park District | State: IL | Sampling Point: 1B

Investigator(s): Alyse Olson | Section, Township, Range: Sec. 26, T39N, R11E

Landform (hillside, terrace, etc.): Top of slope | Local relief (concave, convex, none): Convex

Slope (%): 0-2 | Lat: 41.839493 | Long: -87.952614 | Datum: NAD83

Soil Map Unit Name: 3107A: Sawmill silty clay loam | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	30	Yes	FAC
2. *Acer negundo*	10	Yes	FAC
3.			
4.			
5.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: R=15ft)			
1. *Rhamnus cathartica*	40	Yes	FAC
2.			
3.			
4.			
5.			
	40	=Total Cover	
Herb Stratum (Plot size: R=1m)			
1. *Dipsacus fullonum*	10	Yes	FACU
2. *Solidago altissima*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. *N/A*			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	100 (A)		320 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					Loamy/Clayey	
15-18	10YR 2/1	80	10YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Central Park North Fields | City/County: Oak Brook/DuPage | Sampling Date: 4/22/19

Applicant/Owner: Oak Brook Park District | State: IL | Sampling Point: 2A

Investigator(s): Alyse Olson | Section, Township, Range: Sec. 26, T39N, R11E

Landform (hillside, terrace, etc.): Hillside | Local relief (concave, convex, none): Convex

Slope (%): 0-2 | Lat: 41.838879 | Long: -87.955725 | Datum: NAD83

Soil Map Unit Name: 3107A: Sawmill silty clay loam | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: R=15ft)			
1. *Rhamnus cathartica*	20	Yes	FAC
2. *Alnus glutinosa*	15	Yes	FACW
3.			
4.			
5.			
	35	=Total Cover	
Herb Stratum (Plot size: R=1m)			
1. *Rudbeckia laciniata*	20	Yes	FACW
2. *Pastinaca sativa*	15	Yes	UPL
3. *Dipsacus fullonum*	10	No	FACU
4. *Thalictrum dioicum*	5	No	FACU
5. *Allium canadense*	5	No	FACU
6. *Solidago altissima*	5	No	FACU
7. *Monarda fistulosa*	5	No	FACU
8.			
9.			
10.			
	65	=Total Cover	
Woody Vine Stratum (Plot size:)			
1. *N/A*			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	30	x 3 =	90
FACU species	30	x 4 =	120
UPL species	15	x 5 =	75
Column Totals:	110 (A)		355 (B)
Prevalence Index = B/A =			3.23

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100					Loamy/Clayey	
5-11	10YR 2/1	80	10YR 4/2	15	D	M	Loamy/Clayey	
			10YR 5/8	5	C	PL		Prominent redox concentrations
11-19	10YR 2/1	50	10YR 4/2	20	D	M	Loamy/Clayey	
			10YR 5/1	20	D	M		
			10YR 5/8	10	C	PL		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Geomorphic Position: Located adjacent to Ginger Creek.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Central Park North Fields | City/County: Oak Brook/DuPage | Sampling Date: 4/22/19

Applicant/Owner: Oak Brook Park District | State: IL | Sampling Point: 2B

Investigator(s): Alyse Olson | Section, Township, Range: Sec. 26, T39N, R11E

Landform (hillside, terrace, etc.): Top of slope | Local relief (concave, convex, none): Convex

Slope (%): 0-2 | Lat: 41.838816 | Long: -87.955719 | Datum: NAD83

Soil Map Unit Name: 3107A: Sawmill silty clay loam | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: R=15ft)			
1. *Rhamnus cathartica*	50	Yes	FAC
2.			
3.			
4.			
5.			
	50	=Total Cover	
Herb Stratum (Plot size: R=1m)			
1. *Pastinaca sativa*	20	Yes	UPL
2. *Solidago altissima*	15	Yes	FACU
3. *Monarda fistulosa*	10	No	FACU
4. *Dipsacus fullonum*	5	No	FACU
5. *Securigera varia*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
	55	=Total Cover	
Woody Vine Stratum (Plot size:)			
1. *N/A*			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	30	x 4 =	120
UPL species	25	x 5 =	125
Column Totals:	115 (A)		425 (B)
Prevalence Index = B/A =			3.70

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/1	100					Loamy/Clayey	
7-11	10YR 2/1	90	10YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
11-17	10YR 4/1	60	10YR 4/2	20	D	M	Loamy/Clayey	
			10YR 5/8	20	C	M		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX C

Vegetation Data

Wetland 1 Plant Community Inventory & Summary

Species Acronym	Species Name (NWPL/Mohlenbrock)	Species(Synonym)	Common Name	C Value	Midwest WET indicator	NC-NE WET indicator	WET indicator (numeric)	Habit	Duration	Nativity
AGRSTO	Agrostis stolonifera	Agrostis alba palustris	Spreading Bent	2	FACW	FACW	-1	Grass	Perennial	Native
BARVUL	Barbarea vulgaris	BARBAREA VULGARIS	Garden Yellow-Rocket	0	FAC	FAC	0	Forb	Biennial	Adventive
CXTRIB	Carex tribuloides	Carex tribuloides	Blunt Broom Sedge	7	OBL	FACW	-2	Sedge	Perennial	Native
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
JUNTEN	Juncus tenuis	Juncus tenuis	Lesser Poverty Rush	0	FAC	FAC	0	Forb	Perennial	Native
LONMAA	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
PHRAUSM	Phragmites australis ssp. americanus	Phragmites americanus	Common Reed	3	FACW	FACW	-1	Grass	Perennial	Native
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SCHTAB	Schoenoplectus tabernaemontani	Scirpus validus creber	Soft-Stem Club-Rush	3	OBL	OBL	-2	Sedge	Perennial	Native
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
SECVAR	Securigera varia	CORONILLA VARIA	Crown Vetch	0	UPL	UPL	2	Forb	Perennial	Adventive
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TYPLAT	Typha latifolia	Typha latifolia	Broad-Leaf Cat-Tail	5	OBL	OBL	-2	Forb	Perennial	Native
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native

Conservatism-Based Metrics

Mean C (native species)	2.67
Mean C (all species)	1.60
Mean C (native trees)	0.00
Mean C (native shrubs)	2.00
Mean C (native herbaceous)	3.00
FQAI (native species)	9.24
FQAI (all species)	7.16
Adjusted FQAI	20.66
% C value 0	50%
% C Value 1-3	30%
% C value 4-6	15%
% C value 7-10	5%

Additional Metrics

Species Richness (all)	20
Species Richness (native)	12
% Non-native	40%
Wet Indicator (all)	-0.15
Wet Indicator (native)	-0.83
% hydrophyte (Midwest)	65%
% native perennial	60%
% native annual	0%
% annual	0%
% perennial	90%

Wetland 2 Plant Community Inventory & Summary

Species Acronym	Species Name (NWPL/Mohlenbrock)	Species(Synonym)	Common Name	C Value	Midwest WET indicator	NC-NE WET indicator	WET indicator (numeric)	Habit	Duration	Nativity
ACENEG	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
ALLCAN	Allium canadense	Allium canadense	Meadow Garlic	3	FACU	FACU	1	Forb	Perennial	Native
ALNGLU	Alnus glutinosa	ALNUS GLUTINOSA	European Alder	0	FACW	FACW	-1	Tree	Perennial	Adventive
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
IRIVIR	Iris virginica var. shrevei	Iris virginica shrevei	Virginia Blueflag	5	OBL	OBL	-2	Forb	Perennial	Native
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
PASSAT	Pastinaca sativa	PASTINACA SATIVA	Parsnip	0	UPL	UPL	2	Forb	Biennial	Adventive
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
SILPER	Silphium perfoliatum	Silphium perfoliatum	Cup-Plant	5	FACW	FACW	-1	Forb	Perennial	Native
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
THADIO	Thalictrum dioicum	Thalictrum dioicum	Early Meadow-Rue	7	FACU	FACU	1	Forb	Perennial	Native

Conservatism-Based Metrics

Mean C (native species)	3.63
Mean C (all species)	2.42
Mean C (native trees)	0.00
Mean C (native shrubs)	0.00
Mean C (native herbaceous)	4.14
FQAI (native species)	10.25
FQAI (all species)	8.37
Adjusted FQAI	29.60
% C value 0	42%
% C Value 1-3	17%
% C value 4-6	33%
% C value 7-10	8%

Additional Metrics

Species Richness (all)	12
Species Richness (native)	8
% Non-native	33%
Wet Indicator (all)	0.17
Wet Indicator (native)	0.00
% hydrophyte (Midwest)	50%
% native perennial	67%
% native annual	0%
% annual	0%
% perennial	83%

Wetland Fringe Plant Community Inventory & Summary

Species Acronym	Species Name (NWPL/Mohlenbrock)	Species(Synonym)	Common Name	C Value	Midwest WET indicator	NC-NE WET indicator	WET indicator (numeric)	Habit	Duration	Nativity
AGRSTO	Agrostis stolonifera	Agrostis alba palustris	Spreading Bent	2	FACW	FACW	-1	Grass	Perennial	Native
ASCINC	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	OBL	-2	Forb	Perennial	Native
BETNIG	Betula nigra	Betula nigra	River Birch	5	FACW	FACW	-1	Tree	Perennial	Native
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
JUNTEN	Juncus tenuis	Juncus tenuis	Lesser Poverty Rush	0	FAC	FAC	0	Forb	Perennial	Native
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PLALAN	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native

Conservatism-Based Metrics

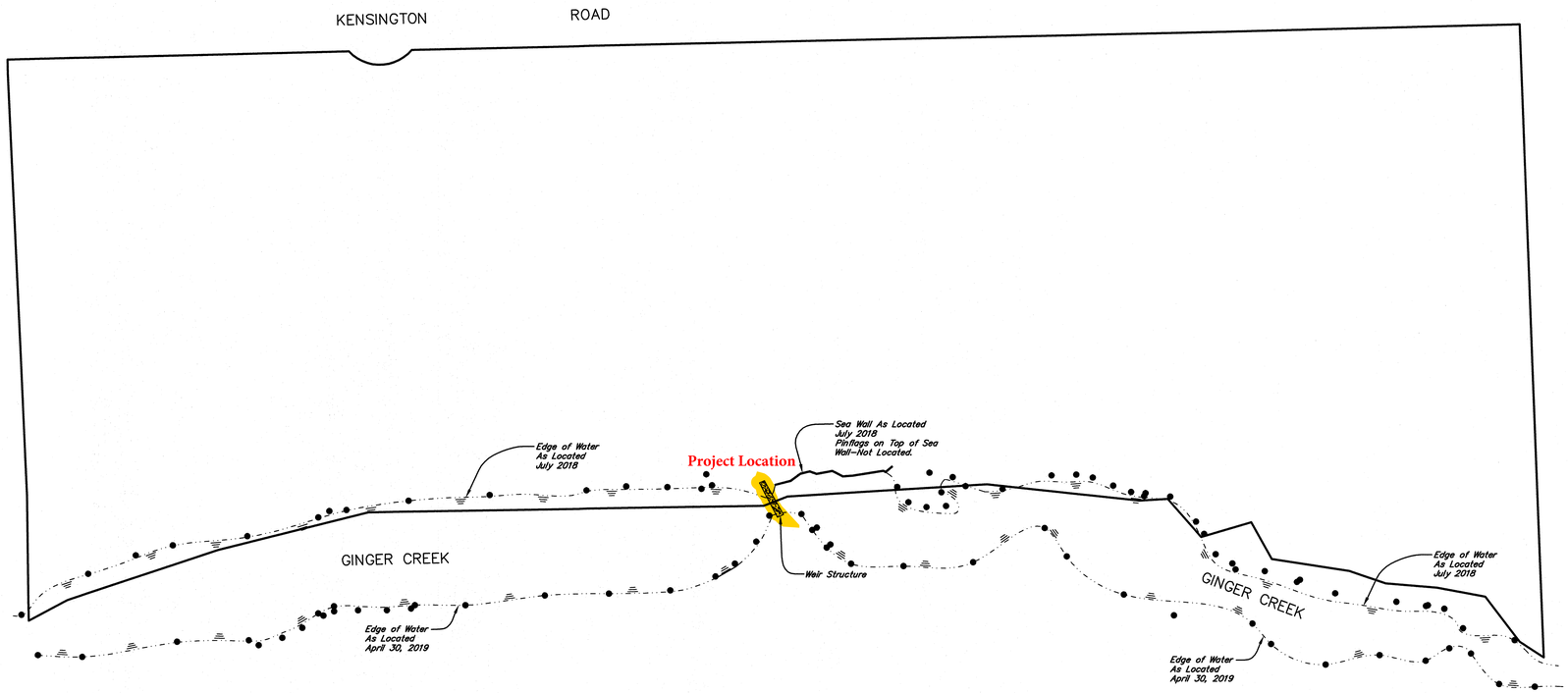
Mean C (native species)	2.89
Mean C (all species)	1.86
Mean C (native trees)	5.00
Mean C (native shrubs)	0.00
Mean C (native herbaceous)	2.63
FQAI (native species)	8.67
FQAI (all species)	6.95
Adjusted FQAI	23.16
% C value 0	43%
% C Value 1-3	29%
% C value 4-6	29%
% C value 7-10	0%

Additional Metrics

Species Richness (all)	14
Species Richness (native)	9
% Non-native	36%
Wet Indicator (all)	-0.07
Wet Indicator (native)	-0.44
% hydrophyte (Midwest)	64%
% native perennial	64%
% native annual	0%
% annual	0%
% perennial	86%

MAP OF GINGER CREEK & WETLANDS

BETWEEN IL ROUTE 83 & JORIE BLVD.
OAK BROOK , IL



N

100 50 0 100

SCALE: 1 INCH = 100 FEET

LINE/SYMBOL LEGEND

- BOUNDARY LIMITS
- EDGE OF WATER
- WETLAND PINFLAG AS LOCATED 4–30–19 AND STAKED BY OTHERS

SURVEYOR'S NOTES

- NORTH EDGE OF GINGER CREEK LOCATED DURING FIELD SURVEY CONDUCTED IN JULY 2018 UNDER NORMAL WATER LEVEL CONDITIONS.
- SOUTH EDGE OF GINGER CREEK LOCATED APRIL 30, 2019 UNDER HIGH WATER CONDITIONS BASED ON SEVERAL DAYS OF SUBSTANTIAL RAINFALL.
- BOUNDARY LINE LIMITS PURSUANT TO BOUNDARY SURVEY AND PLAT PERFORMED AND PREPARED BY CEMCON, LTD. IN APRIL 2019.

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
SS
COUNTY OF DUPAGE)

I, PETER A. BLAESER, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, #035–003072, HEREBY STATE THIS MAP WAS PREPARED UNDER MY DIRECTION BASED ON FIELD SURVEY PERFORMED IN APRIL OF 2018 AND 2019.

GIVEN UNDER MY HAND AND SEAL AT AURORA, ILLINOIS

THIS 2ND DAY OF MAY, A.D., 2019.

PETER A. BLAESER 3072 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS AURORA, ILLINOIS

ILLINOIS PROFESSIONAL LAND SURVEYOR #035–003072.
REGISTRATION/EXPIRATION RENEWAL DATE: NOVEMBER 30, A.D., 2020
PROFESSIONAL DESIGN FIRM LICENSE NO. 184–002937,
EXPIRATION DATE IS APRIL 30, 2021

PREPARED FOR:
OAK BROOK PARK DISTRICT
1450 FOREST GATE ROAD
OAK BROOK, IL 60523

PREPARED BY:

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DISC NO.: 904310 FILE NAME: WETLAND EXHIBIT
DRAWN BY: AJB FLD. BK. / PG. NO.: D81\34–39 & NOTES
COMPLETION DATE: 05–02–19 JOB NO.: 904.310
PROJECT REFERENCE: 402.122

PLOT FILE CREATED 5/2/2019 BY: TONY BIUS DRAWING PATH: P:\904310\DWG\SURVEY\DRAWINGS\EXHIBITS\WETLAND EXHIBIT.DWG

Bridge Condition & Alternative Analysis Report

Bridge Condition & Alternative Analysis Report

ERA Project #W22317.00

FEATURE CROSSED: Ginger Creek
COUNTY: DuPage

Prepared for:

Oak Brook Park District

DATE INSPECTED: February 10th, 2023
SUBMITTAL DATE: March 3rd, 2023
FINAL DELIVERABLE: April 21st, 2023

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I. INTRODUCTION

This Bridge Condition & Alternative Analysis Report describes the condition of the existing Class 3 dam controlling Ginger Creek and presents a recommended scope of work along with the estimated construction cost. The structure was last inspected on May 4th, 2015, and it is not historically significant. The information provided in this report is based on the past inspection reports, existing plans and Engineering Resource Associates, Inc. (ERA)'s inspection of the bridge performed on February 10th, 2023.

II. ADMINISTRATIVE DATA

COUNTY:	DuPage
FEATURE CARRIED:	Central Park Pedestrian Path
FEATURE CROSSED:	Ginger Creek

III. STRUCTURE DATA

Construction / Reconstruction / Repair History

Year	Comments
1976	Original Construction
1982	Concrete Footing Construction, Path Repair & Grating Installation
1988	Gabion Weir Removal & Replacement, Grout Pumping, Placement of Clay Fill, Geotextile Fabric & Riprap
2001	Gabion Weir Removal & Replacement, Riprap Installation

IV. PHYSICAL DESCRIPTION OF STRUCTURE

The pedestrian path through Central Park is carried over Ginger Creek by a water control structure consisting of concrete cut of walls supporting open grating. The structure is located within a public park owned by the Oak Brook Park District, located approximately 0.34 mile south of I-88 and 0.22 miles east of IL-83 in the Village of Oak Brook, Illinois as shown in Appendix A.

- Concrete Weir and Spillway (9'-7" clear weir width from face-to-face of footing)
- Steel grate (9'-4" x 10'-4") supported on reinforced, concrete footings and approach slabs
- Tiered, gabion basket sidewalls (5'-9" wide) & concrete sidewalls (1 ft. wide)
- No railings attached to the structure

- Unknown Design Loading
- Asphalt and concrete approach paths (8 ft. wide)
- Downstream slope protection consisting of riprap & cast-in-place (CIP) concrete mattress
- Adjacent, permanent steel sheet piling retaining wall (approximately 109 ft. in length)

Oak Brook Park District has present jurisdiction and maintenance of the structure. The existing plans are included in Appendix E.

V. FIELD INSPECTION & PHYSICAL EVALUATION

The bridge was inspected on February 10th, 2023, with a temperature of approximately 30 degrees Fahrenheit. The inspection team consisted of one (1) NBIS Program Manager and one (1) Field Inspector. The field inspection consisted of a visual inspection of all structure components from the ground to determine deteriorated structure elements. The areas adjacent to the structure and in the waterway were accessed with the use of a boat. Traffic control was not utilized to complete the inspection. Inspection photos can be referenced in Appendix D.

Water Control Structure

The steel grate is in good condition, however, debris buildup was observed at the face of the weir and around the perimeter of the grate. The clearance between the top of grate and spillway below is low causing debris to buildup and scour at the upstream face. Additionally, once the flood waters decrease, vegetation is left on top of the grate causing a slippery surface which is a hazard for pedestrians. The concrete weir and spillway are in fair condition with some cracking, spalling of the concrete and upstream scour.

The concrete approach and footings are in fair condition. The northern slab is spalled at the joint with the sidewalk, and there are hairline spider cracks extending outwards from the spall. Transverse cracking was also observed in the top of slab adjacent to the grate (see Photograph 2). The south approach and adjacent concrete sidewalk were wet with water staining on both approaches likely due to overtopping events (see Photograph 3). Full width, transverse cracking was also observed in the southern, concrete approach path.

The tiered, gabion walls are in poor condition. At the dam, the northern wall appears to be leaning outwards towards the waterway (see Photograph 5). Both the northern and southern wall show signs of rock displacement, wire distortion and corrosion (see Photographs 6 to 7). Vertical cracking and spalled concrete were seen on the exposed face of the concrete retaining wall (see Photograph 8). Mortared riprap adjacent to the path has been displaced, exposing the underlying geotechnical fabric at the northern wall.

Permanent Steel Sheet Pile Retaining Wall
The sheet pile retaining wall is in poor condition. The wall is approximately 109 ft. long with a retained height varying from 4'-0" to 7'-8" (see Photograph 9). The front face of the sheet pile wall shows signs of deterioration throughout nearly two-thirds of the wall's height, particularly near the water line (see Photograph 13). Numerous holes were spotted on the front face of the sheet piling at areas with moderate to severe corrosion (see Photographs 10, 12 & 13). Steel scaling, corrosion with section loss and pitting was also observed on the exposed face of the wall throughout the length of the wall (see Photographs 10 & 11).

Minimal ground cover and slope stabilization was present behind the wall. The adjacent area drains towards the back wall resulting erosion of the back slope measuring up to 6" beneath the top wall plate at some locations (see Photograph 15). Surface runoff has created voids between the top plate and the vertical, sheet piling (see Photograph 14). Vegetation, including sizeable trees and brush, was observed along half of the top of the wall (see Photograph 16). At the east end, the slope behind the wall has eroded away exposing approximately one-third of the height of the back face of the wall at this location (see Photograph 13). Riprap and CIP concrete mattress were observed along the front face of the sheet pile wall, primarily near the water control structure (see Photograph 17).

Slope Protection & Channel
The slope protection and channel are in satisfactory condition. Swirling water was observed at the face of the north footing suggesting there the occurrence of local scour at this location (see Photograph 18). There is CIP concrete mattress along the upstream face of the dam and gabion baskets, and along the front face of the sheet pile wall near the dam. The CIP fabric-formed revetment system is in satisfactory condition. The revetment mat is covered in moss, creating a slippery surface, which is hazardous for park users attempting to access the creek to fish. Riprap was also identified at the downstream face of the dam and along the front face of the sheet pile wall (see Photograph 17). Debris was seen at the upstream face of the structure (see Photograph 20).

Inspection History

Year	Overall Condition
2015	Good to Excellent

Geometric Data \ Horizontal & Vertical Clearance \ Hydraulic Data
The existing path is on a horizontal and vertical curve through the limits of the structure with the low point located over the structure. The vertical path profile grade across the structure is approximately 0.65%. The clearance between top of grate and top of spillway at the pedestrian crossing is approximately 1'-2".

The existing dam retains Ginger Creek, a tributary in the Salt Creek Watershed. The drainage area to the dam is 4.84 square miles and the weir is within the FEMA floodway within Zone AE floodplain. The rectangular, broad crested weir carries flows to the downstream side of the dam. During rainfall events, the upstream head exceeds the height of the weir and will frequently overtop the dam and the multi-use path is unpassable. Both the north and south approaches are within the 100 yr. floodplain. As the hydraulic head builds along the rock gabions, the dam functions as a combination weir. The waterway adequacy is insufficient with frequent overtopping of the structure and the approaches with significant pedestrian traffic disturbances.

VI. POTENTIAL SCOPE OF WORK DETERMINATION AND ANALYSIS

The purpose to this project is to evaluate the need for structural replacement to restore the structural and hydraulic integrity of the water control structure, and to ensure the safe travel of pedestrian traffic over the crossing. The following courses of action (alternatives) have been analyzed and cost estimates performed for the anticipated scopes of work:

Alternative 1 – New Pedestrian Bridge (Existing Dam and Retaining Wall to Remain)

Alternative 2A -New Pedestrian Bridge, Dam, And Step Pools (Straight Bridge Alignment)
Alternative 2B -New Pedestrian Bridge, Dam, And Sloped Wall (Straight Bridge Alignment)

Alternative 3A -New Pedestrian Bridge, Dam, And Step Pools (Skewed Bridge Alignment)
Alternative 3B -New Pedestrian Bridge, Dam, And Sloped Wall (Skewed Bridge Alignment)

Repairs to the water control structure, including the gabion sidewalls, and the sheet pile retaining wall were evaluated, but ultimately not considered a feasible option based on the structure's maintenance history and the existing conditions observed in the field. Due to the accelerated deterioration of the structure, it is not anticipated to reach the typical life expectancy of modern dams (~75 yrs.). The additional lifespan resulting from repairs, estimated at 5 to 10 years, is not reasonable relative to the anticipated cost and complexity of the repair scope. Due to these combined factors, it is not recommended to rehabilitate the existing structures.

The structure is located within a public park and carries a pedestrian path over Ginger Creek. It is recommended the proposed scope of work be completed during a posted, path closure. No alternative routes were identified as this is the only crossing over Ginger Creek within the park limits. Park users will be able to access the northern half of the park using the Kensington Road entrance, and the southern half of the park using the Forest Gate Road entrance.

All the proposed design alternatives provide grade separation between the pedestrian path and the water control structure through construction of a new pedestrian bridge. The proposed bridge design consists of the following:

- *Type: Prefabricated Truss*
- *Superstructure Material:* Painted, Weathering Steel
- *Deck Type:* 6" Cast-In-Place (CIP) Reinforced Concrete
- *Proposed Span:* 100'-0" (center to center of piles)
- *Clear Bridge Width:* 10'-0" (face to face of railings)
- *Railings:* Horizontal Safety Rail (ADA Compliant)
- *Design Loading*: H-10 Vehicle (20,000 lbs.)

A summary of the estimated costs for each alternative is given in Table 1. Detailed cost estimates are provided in Appendix B, the proposed structure drawings are shown in Appendix C and the overall site plans are located in Appendix H.

Table 1 – Estimated Cost Summary and Comparison

Alternative	Estimated Cost	% Comparison
1. New Pedestrian Bridge (Existing Dam & Retaining Wall to Remain)	$1,246,000	
2A. New Pedestrian Bridge, Dam & Step Pools (Straight Bridge Alignment)	$1,205,900	97% of Alt. 1
2B. New Pedestrian Bridge, Dam & Sloped Walls (Straight Bridge Alignment)	$1,165,800	94% of Alt. 1
3A. New Pedestrian Bridge, Dam & Step Pools (Skewed Bridge Alignment)	$1,203,900	97% of Alt. 1
3B. New Pedestrian Bridge, Dam & Sloped Walls (Skewed Bridge Alignment)	$1,246,300	100% of Alt. 1

The proposed alternatives and cost estimates are based on the key components listed below.

ALTERNATIVE #1: NEW PEDESTRIAN BRIDGE – EXISTING DAM & RETAINING WALL TO REMAIN

This alternative was analyzed to provide a base level construction cost for providing grade separation between the pedestrian path and the water control structure while maintaining the use of the existing dam. A significant profile raise is anticipated for the path and bridge in order to provide adequate vertical clearance for a future dam reconstruction, thus requiring the use of retaining walls along the approach and departure paths for this design option. The retaining walls limit the fill in the floodplain by eliminating the embankment grading. This alternative does not provide a suitable cut area to compensate for the additional fill generated by the raise profile, therefore, it is not a viable option.

The scope of work includes:

- Install a prefabricated, pedestrian truss superstructure supported on high-wall abutment on pile supported footings and wrap around retaining walls
- Construct Redi-Rock Big Block retaining walls (~ 700 ft. long) to accommodate the path profile raise
- Reconstruct approach path for new bridge alignment

The estimated construction cost for this scope of work is $1,246,000.

ALTERNATIVE #2A: NEW PEDESTRIAN BRIDGE, DAM & STEPPED POOLS (STRAIGHT BRIDGE ALIGNMENT)

This alternative was analyzed because it provides a naturalized creek bottom utilizing step pools with a combination of boulders and cobbles to reduce the velocity of the water and minimize the potential scour and erosion adjacent to the dam. The stepped pools will also guide the flows towards the south, which will reduce sedimentation along the northern streambank. This alternate will also balance the compensatory storage cut and the fill volumes within the project limits.

The scope of work includes:

- Remove existing weir, spillway and gabion walls
- Remove the existing steel sheet pile wall by grading out behind the wall (creating cut in the floodplain & floodway)
- Install a prefabricated, pedestrian truss superstructure on pile supported abutments
- Reconstruct approach path for new bridge alignment
- Install a new dam west of the new pedestrian structure consisting of permanent steel sheet piling with concrete facing (~ 70-ft. in length)
- Create stepped pools downstream of the dam by building up the creek and utilizing boulders

to create elevation jumps at 50 ft. intervals (elevations will drop from 758.5 ft. down to 755 ft.)

The estimated construction cost for this scope of work is $1,205,900.

ALTERNATIVE #2B: NEW PEDESTRIAN BRIDGE, DAM & SLOPED WALLS (STRAIGHT BRIDGE ALIGNMENT)

This alternative was analyzed because it mimics the design of the existing dam and provides a balanced volume of cut and fill within the floodplain and floodway. Additionally, the baffles will reduce the velocity of the water as it enters the downstream waterway. This design option does not allow for fish passage.

The scope of work includes:

- Remove existing weir, spillway and gabion walls
- Remove the existing steel sheet pile wall by grading out behind the wall (creating cut in the floodplain & floodway)
- Install a prefabricated, pedestrian truss superstructure on pile supported abutments
- Reconstruct approach path for new bridge alignment
- Install a new dam west of the new pedestrian structure consisting of permanent steel sheet pile with concrete facing (~ 70 ft. in length)
- Construct a sloped wall to create the grade difference from 758.5 ft. to 755 ft. and install concrete baffles to dissipate energy and render flows to acceptable velocities

The estimated construction cost for this scope of work is $1,165,800.

ALTERNATIVE #3A: NEW PEDESTRIAN BRIDGE, DAM & STEPPED POOLS (SKEWED BRIDGE ALIGNMENT)

This alternative is similar to Alternative #2A with the exception of the bridge location. This design option was analyzed because it provides a better path alignment with the main walkway from the Kensington Road entrance/parking lot to the pedestrian bridge. The proposed dam is located further west, which allows the bridge to be lowered since the water surface elevations will be lower east of the dam. This design also provides a naturalized creek bottom utilizing stepped pools with a combination of boulders and cobbles to reduce the velocity of the water and minimize the potential scour and erosion adjacent to the dam. The stepped pools will also guide the flows towards the south, which will reduce sedimentation along the northern streambank. This alternate will also balance the compensatory storage cut and the fill volumes within the project limits.

The scope of work includes:

- Remove existing weir, spillway and gabion walls
- Remove the existing steel sheet pile wall by grading out behind the wall (creating cut in the floodplain & floodway)
- Install a prefabricated, pedestrian truss superstructure on pile supported abutments
- Reconstruct approach paths for new bridge
- Install a new dam west of the new pedestrian structure consisting of permanent steel sheet pile with concrete facing (approximately 70 ft. in length)
- Create stepped pools downstream of the dam by building up the creek and utilizing boulders to create elevation jumps at 50 ft. intervals (elevations will drop from 758.5 ft. down to 755 ft.)

The estimated construction cost for this scope of work is $1,203,900.

ALTERNATIVE #3B: NEW PEDESTRIAN BRIDGE, DAM & SLOPED WALLS (SKEWED BRIDGE ALIGNMENT)

This alternative is similar to Alternative #2B with the exception of the bridge location. This alternative was analyzed because it provides a better path alignment with the main walkway from the Kensington Road entrance/parking lot to the pedestrian bridge. The proposed dam is located further west which allows the bridge to be lowered since the water surface elevations will be lower east of the dam. This alternative also mimics the design of the existing dam and provides a balanced volume of cut and fill within the floodplain and floodway. Additionally, the baffles will reduce the velocity of the water as it enters the downstream waterway. This design option does not allow for fish passage.

The scope of work includes:

- Remove existing weir, spillway and gabion walls
- Remove the existing steel sheet pile wall by grading out behind the wall (creating cut in the floodplain & floodway)
- Install a skewed, prefabricated, pedestrian truss superstructure on pile supported abutments
- Reconstruct approach paths for new bridge
- Install a new dam west of the new pedestrian structure consisting of permanent steel sheet piling with concrete facing (~ 70 ft. in length)
- Create stepped pools downstream of the dam by building up the creek and utilizing boulders to create elevation jumps at 50 ft. intervals (elevations will drop from 758.5 ft. down to 755 ft.)

The estimated construction cost for this scope of work is $1,246,300.

VII. HYDRAULIC ANALYSIS

The existing dam retains Ginger Creek, a tributary in the Salt Creek Watershed. The rectangular, broad crested weir carries flows to the downstream side of the dam. During rainfall events, the upstream hydraulic head exceeds the height of the weir and will frequently overtop the dam and the multi-use path is unusable. As the head builds along the rock gabions, the dam functions as a combination weir. In addition to the flows over the weir, an inlet at the upstream side of the dam siphons water to three ponds in series downstream of the dam in the Ginger Creek floodway. These ponds discharge to the rocked riffles installed east of the dam. The drainage area to the dam is 4.84 square miles and the weir is in the FEMA floodway within Zone AE floodplain.

The regulatory model is a Full Equations (FEQ) model, a USGS model. The initial model was created through a cooperative partnership between DuPage County and FEMA in 2004 and was revised by LandC, etc. LLC in 2013. ERA obtained the FEQ model from DuPage County as well as the PVSTATS file with the results from the model. The regulatory model includes surveyed cross sections up and down stream of the dam, the dam and pedestrian path through the center of Central Park as well as the eastern dam that was removed in 2019.

For this preliminary analysis, ERA utilized the data obtained from the FEQ model, the regulatory elevations, to design the bridge and dam alternatives. Those flood elevations are shown in the table below. The proposed weir will maintain the elevation of the existing weir to ensure the normal water surface elevation of the upstream pond remains the same and the downstream areas are not at an increased risk of flooding.

Table 2 – Flood Elevations & Depths at the Existing Dam Crossing

Storm Frequency (year)	Water Surface Elevation (NAVD 88)	Depth of Water Above Pedestrian Path (feet)
10 year	662.9’	2.9’
50 year	664.4’	4.4’
100 year	664.8’	4.8’
500 year	665.6’	5.6’

ERA created a modified existing conditions model that can be used in future analysis of the dam and the preferred alternatives. ERA utilized the data in the FEQ model to create a HEC-RAS model. The HEC-RAS model includes the FEQ cross sections, manning’s roughness coefficient, expansion and contraction rates, flows and weir/dam structure information. In addition to the regulatory model data, ERA supplemented the HEC-RAS model with surveyed information of the current condition including removing the second dam structure and replacing it with the existing rocked riffles. All elevations have been converted to NAVD 88 and cross sections were added downstream of the dam where potential stepped pools may be added. The boundary condition for

the model is set with known water surface elevations from the regulatory model. This modified existing conditions model may be used during the design of the proposed bridge and dam. When this project moves into permitting, a FEQ model is required since the regulatory floodplain model is in a USGS Full Equations Model. The floodplain maps and regulatory hydraulic outputs can be referenced in Appendix I.

Due to the topography at the site and the proposed fill in the alternatives that include fish passages, the proposed bridge will span the floodplain with abutments placed at the existing high points on either side of the existing dam. This will reduce the overall proposed fill in the floodplain and floodway. The proposed dam improvements will maintain the existing weir elevation and dimensions. Since the design proposes maintaining the elevations of the dam and a bridge design that almost completely spans the floodplain, it is anticipated that there will be no adverse changes in water surface elevations or the conveyance capacity of Ginger Creek in this stretch. To analyze this concept, ERA created a proposed HEC-RAS model that evaluated the changes described in Alternative 3A. All elevations and streambank improvements are preliminary and should not be used for design or permitting purposes. Additional analysis is required during the design of the bridge and dam infrastructure. Appendix K of the report includes the results of the preliminary model, the preliminary proposed cross sections and compensatory storage calculations of Alternative 3A.

VIII. ENVIRONMENTAL ANALYSIS

Ginger Creek is a jurisdictional Waters of the United States. The creek within Central Park was restricted by two dams in 1976 to create a series of ponds. One of the dams failed in 2017 and was not replaced. The shoreline of the pond upstream of the remaining dam is naturalizing. On the northern side the vegetation is predominantly scrub shrub. On the southern side, there is a mix of mowed turf, scrub shrub and prairie vegetation. The pond has some wetland fringe associated with the shoreline on the south side. Downstream of the dam the shoreline of the creek within the project area consists of a sheet pile wall on the north and a combination of fabric formed concrete and prairie vegetation on the south side.

Most impounded streams deposit sediment on the upstream side of the impoundment and scour the stream bed on the downstream side. This is evident of the dam on Ginger Creek. The pond upstream of the impoundment has a lot of floating aquatic vegetation present indicating shallow water depths, stagnant water, and sediment deposition. On the downstream side of the dam there appears to be a scour hole. This sediment displaced by scour has deposited within the creek forming a peninsula. Following the removal of the downstream dam in 2019 the creek appears to be seeking equilibrium and has begun to meander towards the south. However, the scour hole and sediment peninsula remain.

Step Pools/Fish Passage

As the dam is approximately 3.5 ft in height it is not possible for fish to move upstream of this structure. In order to allow fish to migrate upstream stepped pools are recommended to be added to the downstream face of the dam within the channel for grade transition. The stepped pools consist of boulder arches and pools. The stepped pools will be designed so that velocities will be low enough for fish passage during normal flows. There may still be some passage restrictions for various species since this design can often require some level of jumping required by fish to pass upstream.

It should also be noted that impoundments created by dams also have low dissolved oxygen (DO) levels and sediment beds associated with the stagnant water upstream. DO is the amount of free oxygen that is present in the water. Fish require oxygen to survive. Flowing water and gravel stream beds with low levels of sediment are essential for fish and macroinvertebrates (insects). This stepped pool option does not improve any upstream DO issues or restore the flow of water or reduce streambed sediment. To remedy these issues the dam would need to be removed, however, this would result in the loss of the pond and have potential to impact flood elevations and create an indirect impact to wetlands.

Wetland/Riparian Restoration

A Wetland Delineation and Assessment Report for the Central Park North Fields was completed on May 31st, 2019, by WBK Engineering, LLC. This delineation included the ponds and dam. The boundary was reviewed by ERA in summer 2022 for the Central Park OSLAD improvements. During permitting of the stone outcropping, the Village of Oak Brook required that the boundary be reverified as it had been greater than two years since the delineation had been completed. ERA met with the Village's representative on February 15th, 2023, and no changes to the boundary were made. It was noted at the time of the verification that the downstream wetland on the sediment peninsula may have expanded. The wetland peninsula should be delineated on an aerial and avoided by the project if possible.

Minor direct wetland impacts may result due to the construction of this project. Impacts are necessary to access the creek to replace the dam, construct the bridge and place stone if the stepped pool option is selected. Indirect wetland impacts are not anticipated as the existing dam at its current elevation will remain. Wetland impacts may be mitigated onsite through enhancement of existing wetland areas, like the wetland peninsula currently dominated by Giant Reed. Additionally, the rock areas within the existing scour pool created by the stepped pools could be planted with wetland vegetation.

Wetland buffer impacts are also anticipated due to access and regrading of the slopes. The limited functions of the buffer can be replaced by restoration with native deep rooted prairie

vegetation and native trees and shrubs that provide more wildlife benefits than the existing Buckthorn and Honeysuckle dominated scrub shrub areas.

IX. PERMITTING

The activities associated with the identified improvements are regulated by various agencies and regulations, including the following. For more information about each permit and their requirements, please see Appendix F.

- U.S. Army Corps of Engineers
- IDNR-OWR (Part 3708) Floodway Construction Permit
- IDNR-OWR (Part 3702) Dam Construction and Maintenance Permit
- IEPA Construction Site Runoff NOI (ILR10)
- IEPA Section 404/401 Permit
- IDNR Interagency Wetland Policy Act
- IDNR Threatened and Endangered Species signoff
- Illinois Historical Preservation Agency
- Kane-DuPage Soil and Water Conservation District
- DuPage County Stormwater Management Permit
- Village of Oak Brook

X. FUNDING OPPORTUNITIES

Potential funding sources exist through the following sources. For more information about each grant opportunity and project eligibility, please see Appendix G.

- DuPage County Water Quality Improvement Program (WQIP) Funds
- Environmental Protection Agency Section 319h
- Environmental Protection Agency Green Infrastructure Grant Opportunity
- DuPage River Salt Creek Workgroup (DRSCW)
- Illinois Department of Transportation – Wildlife Crossing Discretionary Grant Pilot Program (WCPP)

A site visit was conducted with a representative from the DRSCW to evaluate the project. Even though this proposed project did not include total dam removal it would be evaluated by DRSCW and if funding was available may be considered. In addition, ERA staff called Illinois Department of Transportation (IDOT) staff to discuss the WCPP grant and the IDOT staff member indicated this is the type of project they would consider for funding.

XI. RECOMMENDED SCOPE OF WORK

Based upon the existing condition of the water control structure, the recommended scope of work is Alternative #2A or Alternative #3A. These alternatives include complete dam replacement, grade separation between the proposed dam and path utilizing a new pedestrian bridge, and the creation of step pools downstream of the dam.

The proposed bridge design is comprised of a single-span, prefabricated steel pedestrian bridge with a cast-in-place concrete deck on pile supported abutments. The proposed dam design includes a new dam located west of the proposed pedestrian structure consisting of permanent steel sheet piling with concrete facing. The proposed stream improvements include step pools downstream of the dam, which accommodate fish passage.

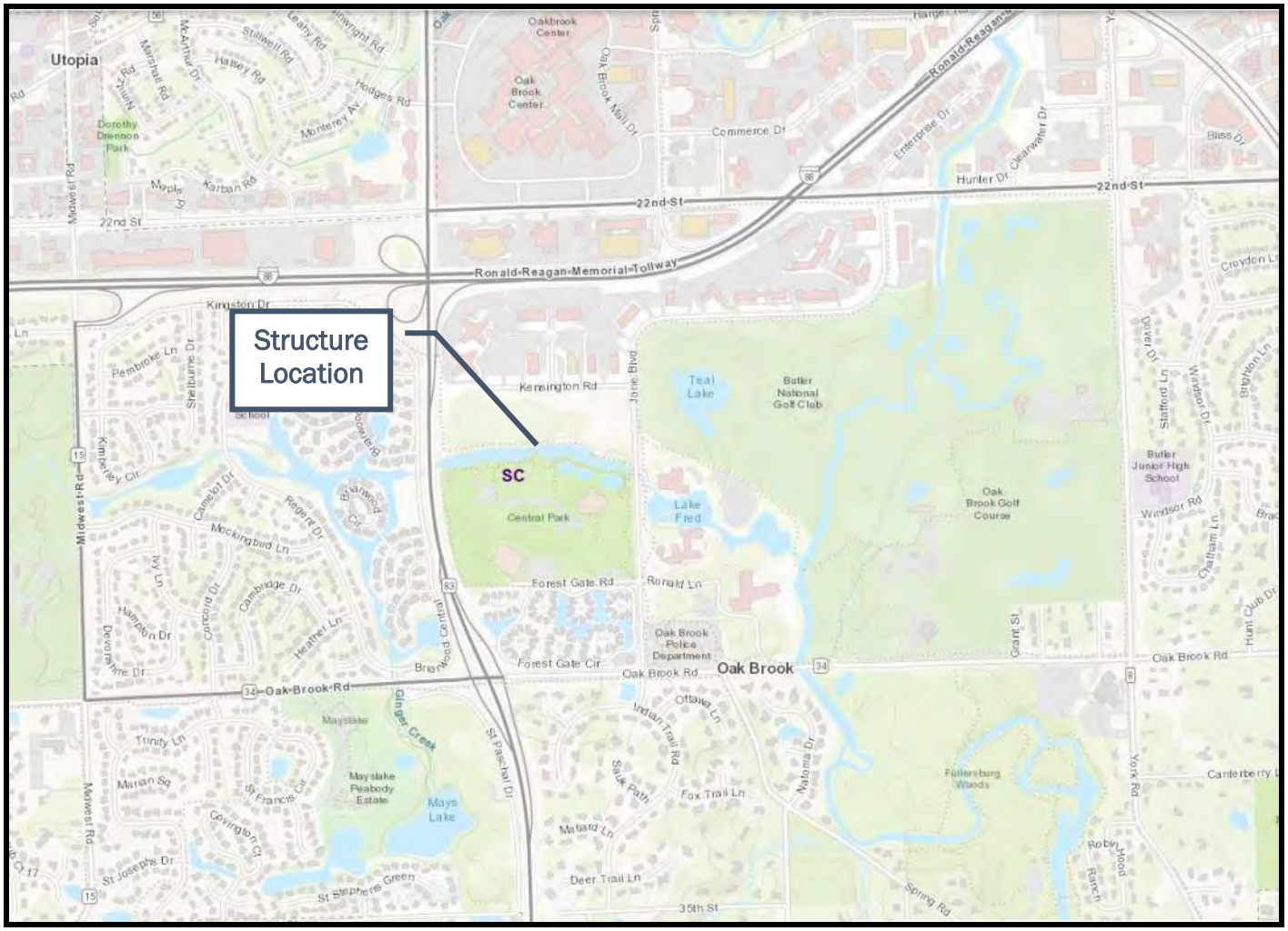
The estimated construction cost for Alternative #2A is $1,205,900, which includes the dam bridge, path, and stream improvements for the project.

The estimated construction cost for Alternative #3A is $1,203,900, which includes the dam bridge, path, and stream improvements for the project.

APPENDIX A

Location Map

Appendix A: Location Map



APPENDIX B

Cost Estimates

ALTERNATIVE #3A - NEW PEDESTRIAN BRIDGE, DAM AND STEP POOLS
ALTERNATIVE #3B - NEW PEDESTRIAN BRIDGE, DAM AND SLOPED WALLS
(SKEWED BRIDGE ALIGNMENT)

CODE	ITEM	UNIT	QUANTITY	UNIT COST	COST
20200100	EARTH EXCAVATION	CU YD	348	$65	$22,619
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	274	$3	$822
21101505	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	86	$35	$2,996
35102000	AGGREGATE BASE COURSE, TYPE B 8"	SQ YD	274	$17	$4,658
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	43	$475	$20,425
44000100	PAVEMENT REMOVAL	SQ YD	196	$10	$1,960
50200100	STRUCTURE EXCAVATION	CU YD	35.0	$75	$2,625
50300225	CONCRETE STRUCTURES	CU YD	31.1	$1,800	$56,067
50300255	CONCRETE SUPERSTRUCTURE	CU YD	19.0	$2,300	$43,700
50300260	BRIDGE DECK GROOVING	SQ YD	113	$20	$2,260
50300300	PROTECTIVE COAT	SQ YD	215	$8	$1,720
50301350	CONCRETE SUPERSTRUCTURES (APPROACH SLAB)	CU YD	8.5	$1,400	$11,900
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	11,760	$3.0	$35,280
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	200	$175	$35,000
51202305	DRIVING PILES	FOOT	200	$1	$200
51203200	TEST PILE METAL SHELLS	EACH	2	$9,600	$19,200
52200015	PERMANENT SHEET PILING	SQ FT	1,580	$60	$94,800
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	22	$90	$1,980
58700300	CONCRETE SEALER	SQ FT	104	$7	$728
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	18	$50	$900
60100060	CONCRETE HEADWALL FOR PIPE UNDERDRAINS	EACH	2	$700	$1,400
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	90	$35	$3,150
67100100	MOBILIZATION	L SUM	1	$45,000	$45,000
X0322508	PEDESTRIAN TRUSS SUPERSTRUCTURE	SQ FT	1,000	$340	$340,200
X0426200	DEWATERING	L SUM	1	$3,750	$3,750
X0900071	SHEET PILE REMOVAL (SPECIAL)	SQ FT	1,080	$22	$23,760
X2850001	REVETMENT MAT REMOVAL	SQ YD	155	$75	$11,625
X5010205	REMOVAL OF EXISTING STRUCTURE (SPECIAL)	EACH	1	$35,930	$35,930
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	$3,750	$3,750
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	$7,750	$7,750

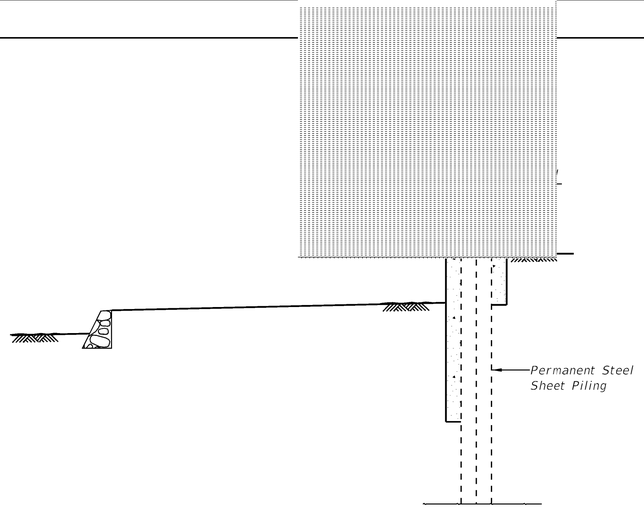
SUBTOTAL = $836,154
20% MISC = $167,231
TOTAL = $1,004,000

STEP POOLS = $199,900
TOTAL 3A = $1,203,900

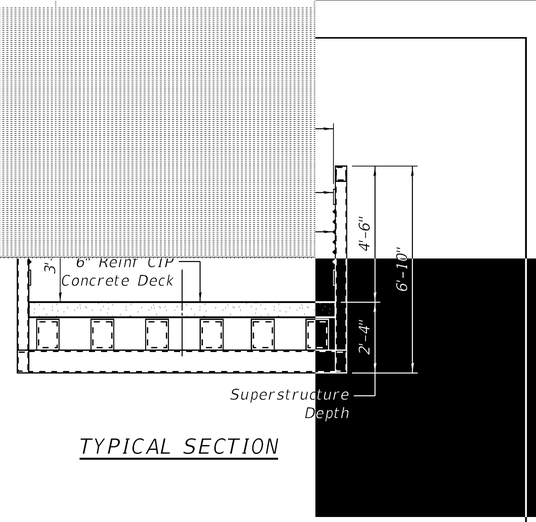
SLOPED WALL = $242,300
TOTAL 3B = $1,246,300

APPENDIX C

Proposed Structure Drawings



SECTION A-A



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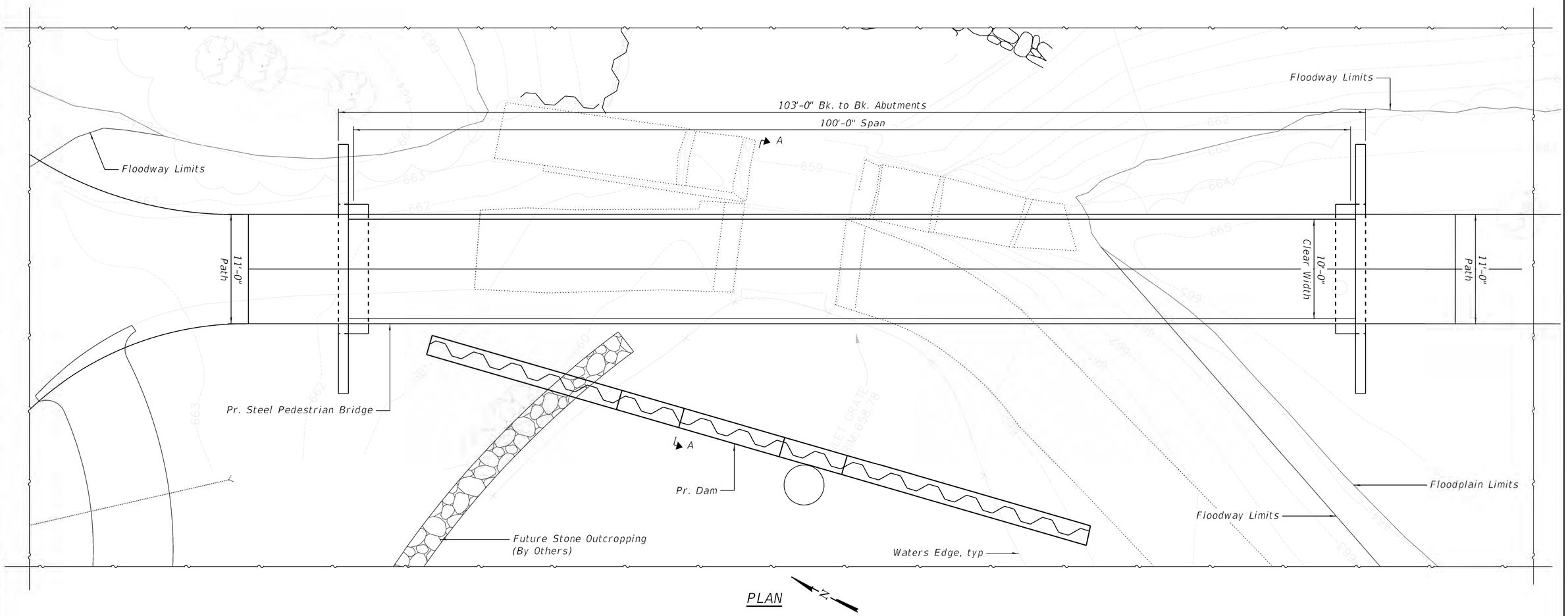

PLAN

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ENGINEERING RESOURCE ASSOCIATES

USER NAME =	DESIGNED - K. KOLODZIEJCZYK	REVISED -	
	CHECKED - K. KOLODZIEJCZYK	REVISED -	
PLOT SCALE =	DRAWN - K. KOLODZIEJCZYK	REVISED -	
PLOT DATE = 3/3/2023	CHECKED - M. LANGE	REVISED -	

OAK BROOK PARK DISTRICT

APPENDIX C - ALTERNATIVE #3A
GINGER CREEK BRIDGE & DAM IMPROVEMENTS

SHEET 4 OF 5 SHEETS

TOTAL SHEETS	SHEET NO.
5	4

APPENDIX D

Structure Photographs

Photograph 1: Downstream face of the structure – Looking east

Photograph 2: Spider cracking in north approach slab & debris buildup on grate

Photograph 3: Approach path – Looking north

Photograph 4: South gabion wall and south approach path – Looking east

Photograph 5: East face of northern gabion wall – Looking south

Photograph 6: Rock displacement, wire distortion and corrosion at gabion wall

Photograph 7: Rock displacement, wire distortion and corrosion at gabion wall

Photograph 8: West face of north concrete & gabion retaining wall – Looking east

Photograph 9: Sheet pile retaining wall – Looking northeast

Photograph 10: Pitting & scaling of steel and visible holes on face of sheet pile wall

Photograph 11: Steel scaling, section loss and visible holes on face of sheet pile wall

Photograph 12: Deterioration of steel sheet pile retaining wall

Photograph 13: East end of sheet pile retaining wall – Looking southeast

Photograph 14: Voids between the top plate and sheet piling

Photograph 15: Eroded backslope behind the sheet pile wall

Photograph 16: Vegetative growth and slope erosion at the top of wall

Photograph 17: Exposed top of deck at north abutment – Looking west

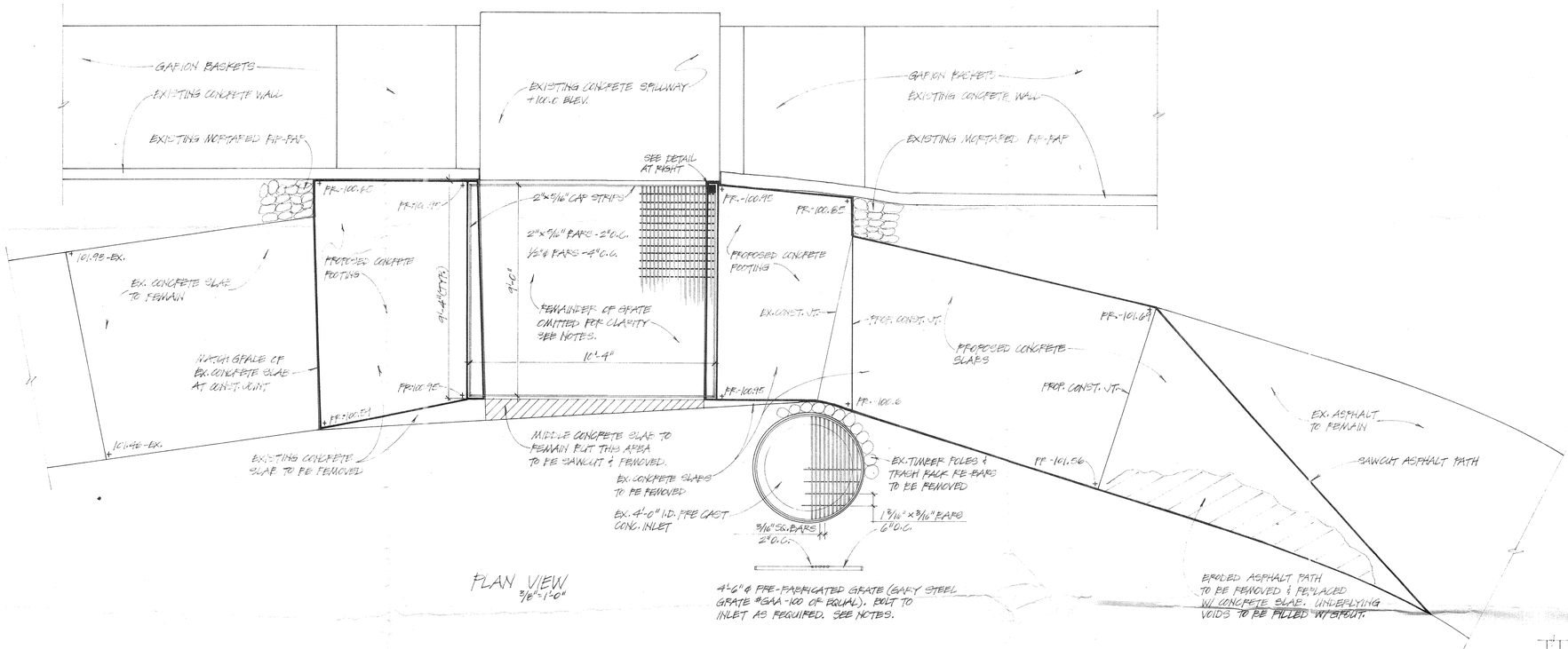
Photograph 18: Debris buildup on grate & water swirling at north footing

Photograph 19: CIP concrete mattress on downstream side of structure – Looking west

Photograph 20: Debris at upstream face of structure – Looking west

APPENDIX E

Existing Plans



PLAN VIEW
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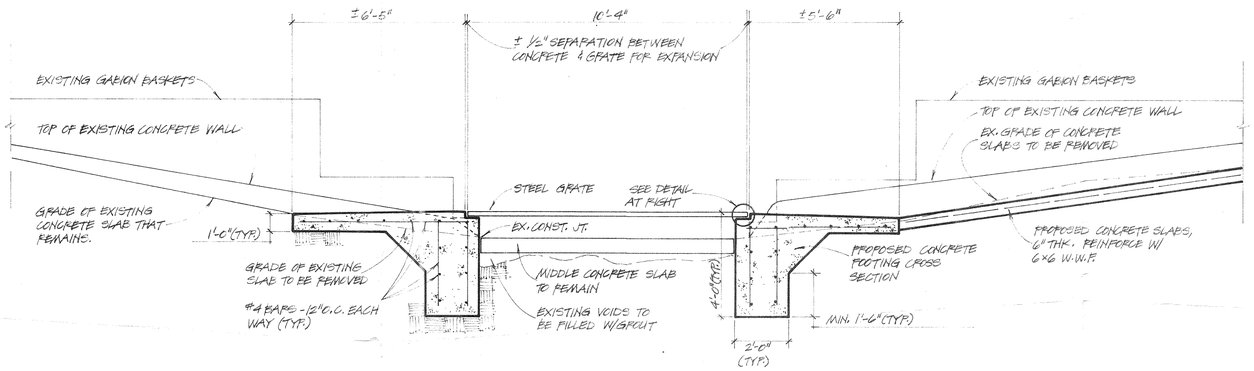

PROFILE VIEW
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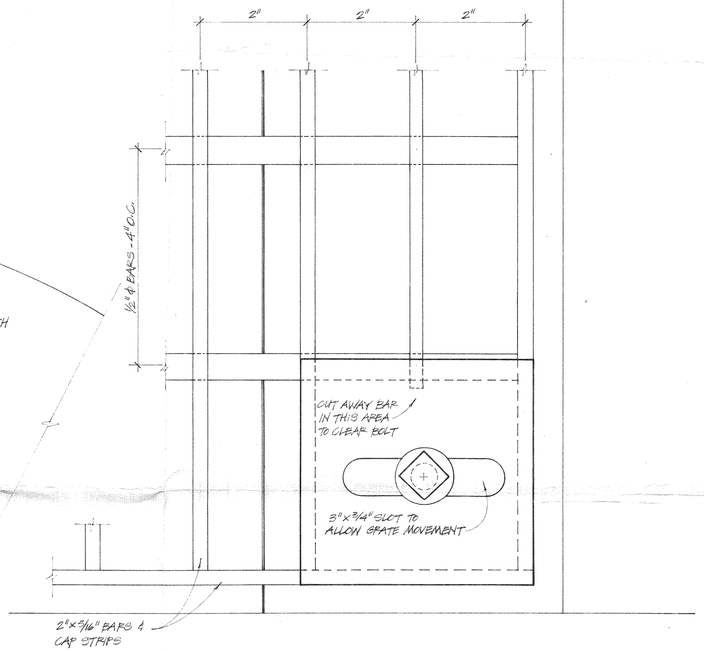
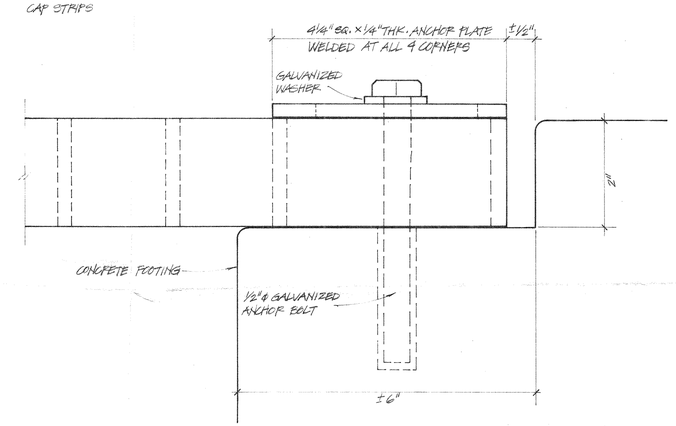




GRATE FASTENING DETAIL
N.T.S.

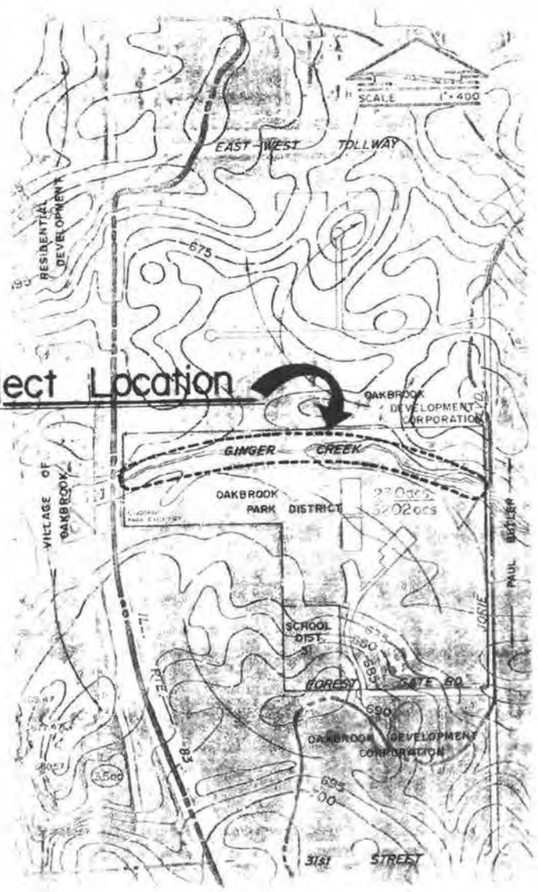
OAK BROOK PARK DISTRICT
GRATING & REPAIR WORK FOR GABION WEIR

LINDLEY & SONS, INC.
9200 S. Kingery Road Hinsdale Illinois 60521
(312) 325-8190

Revisions	
Designed By	Scale AS NOTED
Drawn By	Date 5/13/82
Checked By	Sheet 1 of 1

GINGER CREEK CONTROL FACILITIES

Oak Brook Park District



Index

1. COVER SHEET

2. PLAN SHEET

3. DETAILS & STANDARDS

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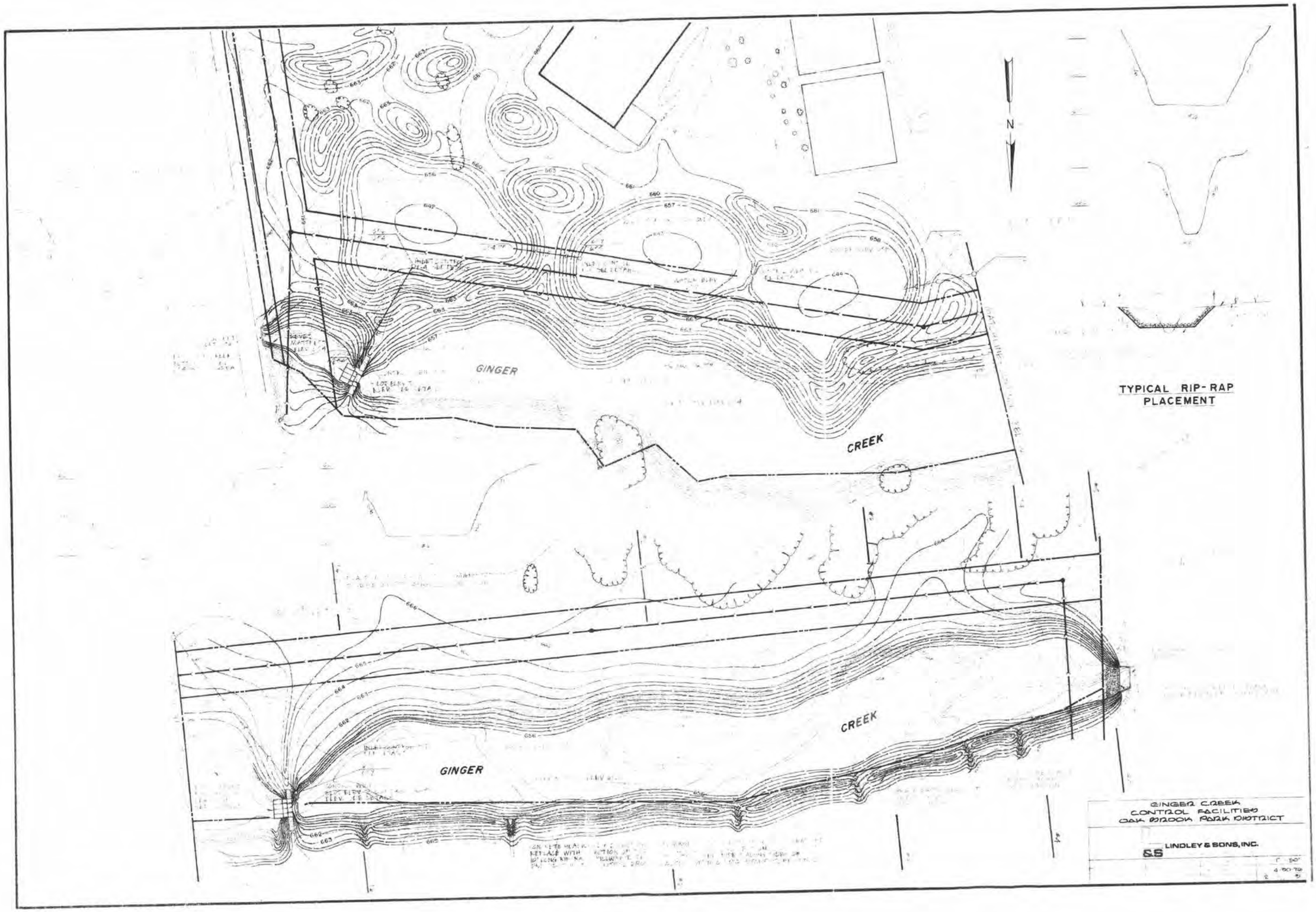
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GINGER
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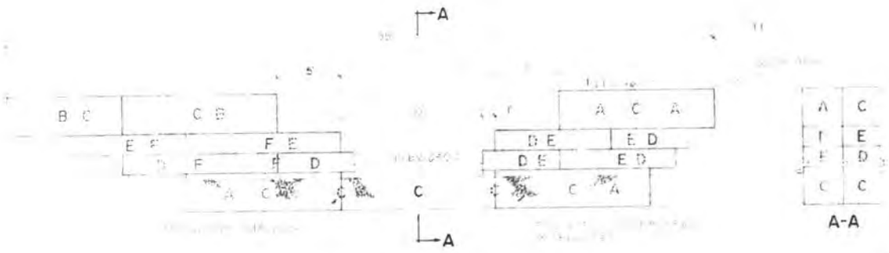
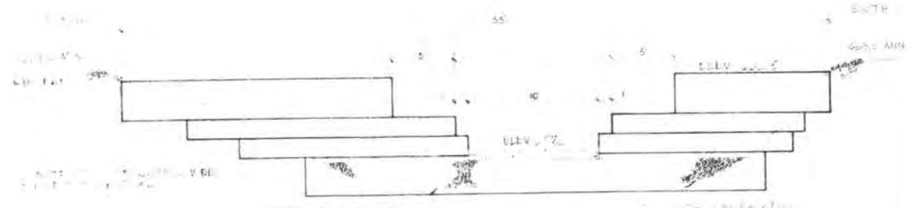
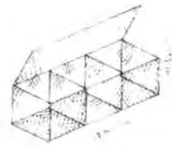
PLACEMENT
GINGER CREEK
CONTROL FACILITIES
OAK BROOK PARK DISTRICT
LINDLEY & SONS, INC.

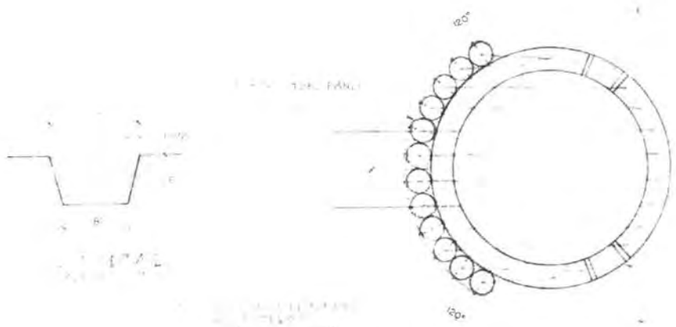


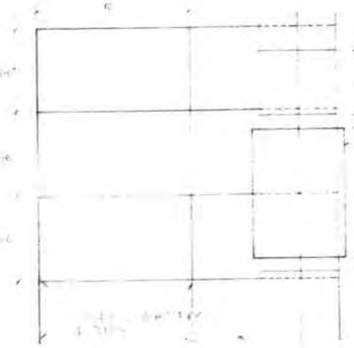


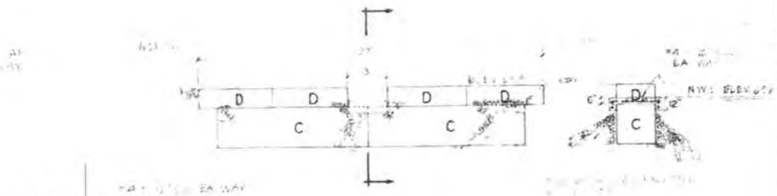
GABIONS-STANDARD SIZES-SERIES 300

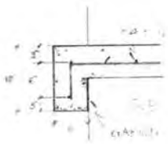
GUTTER CODE	LENGTH	WIDTH	HEIGHT	NO OF CELLS	CAPACITY CU YDS
A	6'	3'	3'	2	20
B	9'	3'	3'	3	30
C	12'	3'	3'	4	40
D	6'	3'	1'6"	2	10
E	9'	3'	1'6"	3	15
F	12'	3	1'6"	4	20
U	12'	6'-6"	0'-9"	6	22

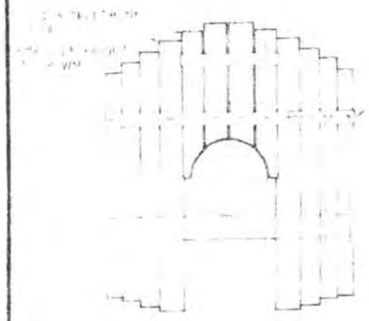


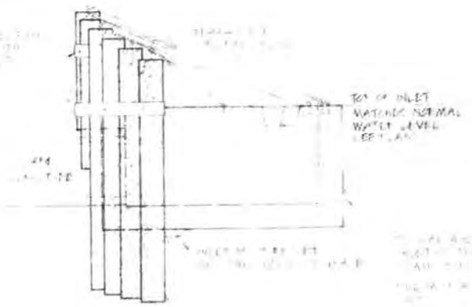


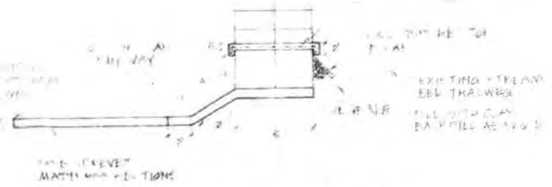


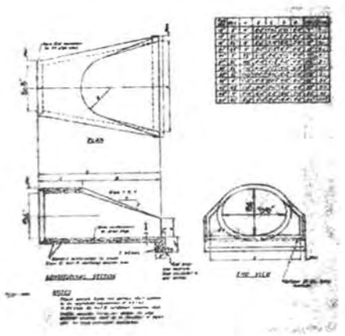












GINGER CREEK
CONTROL FACILITIES
OAK BROOK PARK DISTRICT

LINDLEY & SONS, INC.

APPENDIX F

Permit Matrix

Appendix F: Permit Matrix

AGENCY PERMITTING INFORMATION		
Agency Name	United States Army Corps of Engineers	Illinois Department of Natural Resources – Office of Water Resources
Type of Permit	Nationwide Permit #s 13 & 27	IDNR-OWR (Part 3708) Floodway Construction Permit
Permitting Submittal Requirements	• Joint Application (USACE, IDNR, IEPA) • NWP Narratives • Engineering Plans • Wetland Delineation Report • Section 7 T&E Species Consultation • WOTUS/Wetland Impact Plan	• Joint Application (USACE, IDNR, IEPA) • Engineering Plans • H&H Model
Anticipated Review Time	3 to 6 Months	3 to 6 Months
Anticipated Permitting Fee	No Cost	$200 to $5,000

AGENCY PERMITTING INFORMATION		
Agency Name	Illinois Department of Natural Resources – Office of Water Resources	Illinois Department of Natural Resources
Permitting Submittal Requirements	• Joint Application (USACE, IDNR, IEPA) • Engineering Plans • Hydraulic Model • Option 1 – Not Required	• EcoCAT Consultation
Type of Permit	IDNR-OWR (Part 3702) Dam Construction & Maintenance Permit	Threatened & Endangered Species Signoff
Anticipated Review Time	3 to 6 Months	10 Days
Anticipated Permitting Fee	$200 to $5,000	$125 (may be waived if applying if state funds are used)

AGENCY PERMITTING INFORMATION		
Agency Name	Illinois Department of Natural Resources	Illinois Environmental Protection Agency (NOI)
Permitting Submittal Requirements	• EcoCAT Consultation (only required if state funds are used)	• Application • SWPPP Plans • Historic Preservation Approval Letter • EcoCAT Consultation Signoff
Type of Permit	Interagency Wetland Policy Act	Construction Site Runoff (ILR10)
Anticipated Review Time	10 Days	2 Months
Anticipated Permitting Fee	$0	$250

AGENCY PERMITTING INFORMATION		
Agency Name	Illinois Environmental Protection Agency	Illinois Historical Preservation Agency
Permitting Submittal Requirements	• Joint Application (USACE) (USACE will issue this permit unless greater than 1000 ft of bank stabilization is proposed. If greater than 1000 ft of stabilization is proposed, then an individual 401 WQP is required.)	• Digital Submittal • Cover Letter • Location Map • Engineering Plans
Type of Permit	404 Permit/401 Permit	Historic Preservation
Anticipated Review Time	3 Months	1 Month
Anticipated Permitting Fee	No Fee < 1000 ft (10% up to $10,000 if individual 401 required)	No Fee

AGENCY PERMITTING INFORMATION		
Agency Name	Kane-DuPage Soil & Water Conservation District	Village of Oak Brook
Permitting Submittal Requirements	• Application • Narrative • Engineering Plans	• Stormwater Application • Stormwater Report • H&H Model • Wetland Delineation Report • Engineering Plans
Type of Permit	Soil Erosion & Sediment Control	Stormwater Management Permit
Anticipated Review Time	1 Month	1 to 3 Months
Anticipated Permitting Fee	$3,000 to $5,000	$1,000 to $3,000

AGENCY PERMITTING INFORMATION		
Agency Name	Village of Oak Brook	DuPage County Stormwater Management
Permitting Submittal Requirements	• Application • Engineering Plans	• Stormwater Application • Stormwater Report • H&H Model • Engineering Plans
Type of Permit	Building Permit	Stormwater Floodway Permit
Anticipated Review Time	1 to 3 Months	1 to 3 Months
Anticipated Permitting Fee	$1,000 to $3,000	$8, 395 to $11,000

APPENDIX H

Overall Site Plans

0 15 30 45
SCALE IN FEET

N

FLOODWAY LIMITS

FLOODPLAIN LIMITS

PR STEP STONES

FLOODWAY LIMITS

FLOODPLAIN LIMITS

PR PEDESTRIAN BRIDGE

PR PATH RECONSTRUCTION

PR PATH RECONSTRUCTION

PR DAM

FUTURE STONE OUTCROPPING & PATH (BY OTHERS)

EXAMPLE PHOTO OF SIMILAR BRIDGE

MODEL: Default
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3/3/2023 11:53:20 AM

ENGINEERING RESOURCE ASSOCIATES

USER NAME =	DESIGNED - K. KOLODZIEJCZYK	REVISED -	
	CHECKED - K. KOLODZIEJCZYK	REVISED -	
PLOT SCALE =	DRAWN - K. KOLODZIEJCZYK	REVISED -	
PLOT DATE = 3/3/2023	CHECKED - M. LANGE	REVISED -	

OAK BROOK PARK DISTRICT

APPENDIX H - OVERALL SITE PLAN - ALTERNATIVE #3A
GINGER CREEK BRIDGE & DAM IMPROVEMENTS
SHEET 4 OF 5 SHEETS

TOTAL SHEETS	SHEET NO.
5	4

APPENDIX I

Regulatory Hydraulic Output and Floodplain Location Maps

APPENDIX I : REGULATORY HYDRAULIC OUTPUT

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Salt Creek Watershed (SC) - continued								
Ginger Creek (SCGC)								
SCGC0103	203	137	637	2.4	655.8	655.8	655.9	0.1
SCGC0106	1,145	62	482	3.0	655.8	655.8	655.9	0.1
SCGC0110	2,041	36	190	7.0	657.7	657.7	657.8	0.1
SCGC0111	2,217	27	123	10.7	659.0	659.0	659.1	0.1
SCGC0115	3,044	346	2,604	0.5	663.7	663.7	663.8	0.1
SCGC0117	3,752	145	1,248	1.0	664.8	664.8	664.9	0.1
SCGC0118	3,982	151	1,265	1.0	664.8	664.8	664.9	0.1
SCGC0119	4,314	150	1,212	1.0	664.8	664.8	664.9	0.1
SCGC0120	4,611	115	844	1.4	664.8	664.8	664.9	0.1
SCGC0921	4,985	31	172	6.9	669.3	669.3	669.4	0.1
SCGC0230	6,426	92	656	1.1	670.5	670.5	670.6	0.1
SCGC0231	6,565	39	280	2.6	670.5	670.5	670.6	0.1
SCGC0232	6,768	149	1,263	0.6	670.5	670.5	670.6	0.1
SCGC0233	6,990	135	1,010	0.7	670.5	670.5	670.6	0.1
SCGC0235	7,349	27	146	5.1	670.5	670.5	670.6	0.1
SCGC0236	7,549	56	106	7.0	673.1	673.1	673.2	0.1
SCGC0238	7,876	220	1,564	0.5	673.9	673.9	674.0	0.1
SCGC0239	8,389	32	147	4.7	674.2	674.2	674.3	0.1
SCGC0240	8,705	39	85	7.8	677.2	677.2	677.3	0.1
SCGC3101	9,225	90	293	2.3	687.1	687.1	687.2	0.1

PROJECT AREA

[1] Feet above confluence with Salt Creek (SCSC)

TABLE 12

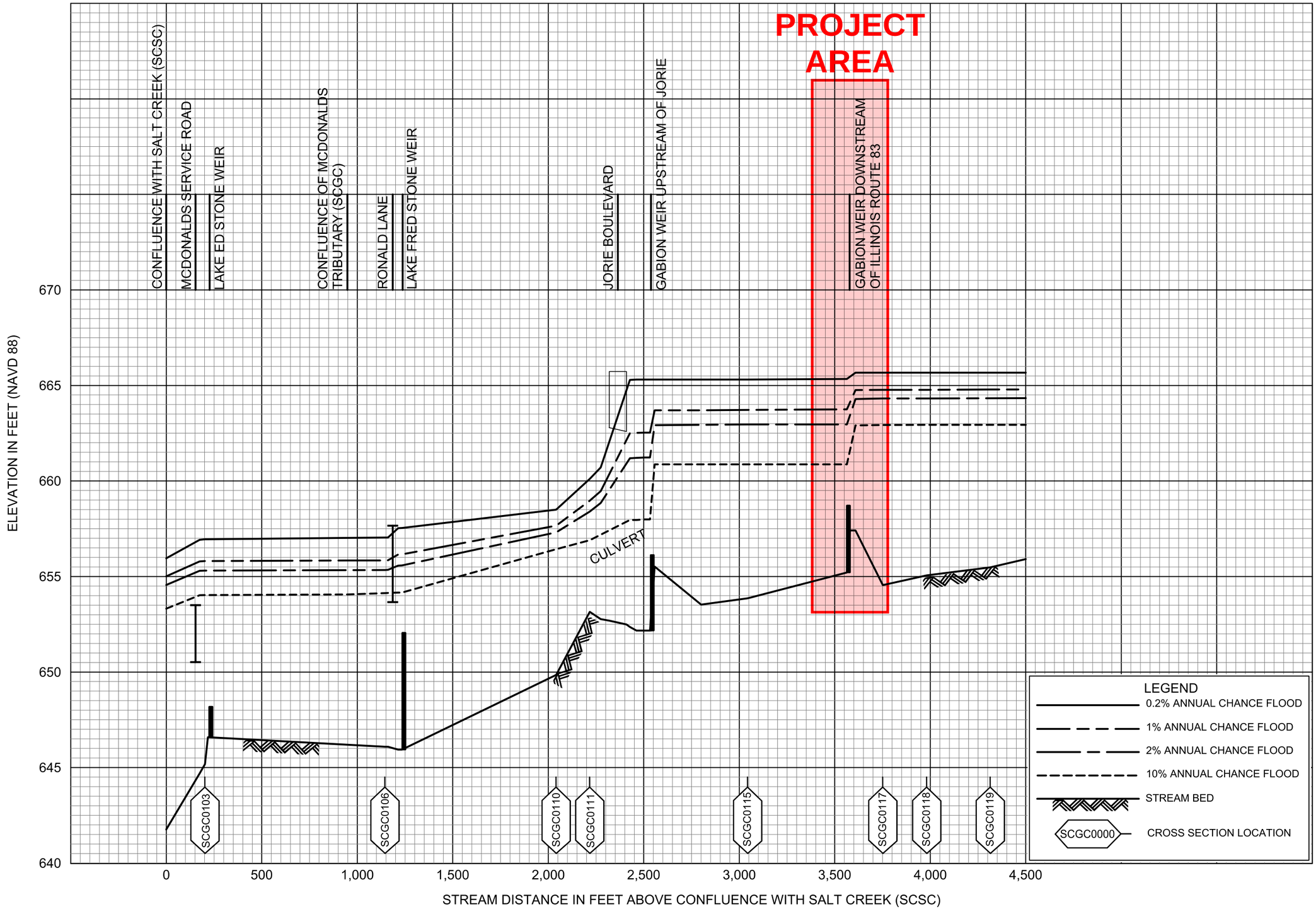
FEDERAL EMERGENCY MANAGEMENT AGENCY

DU PAGE COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

GINGER CREEK (SCGC)

APPENDIX I : REGULATORY HYDRAULIC OUTPUT



FLOOD PROFILES

GINGER CREEK (SCGC)

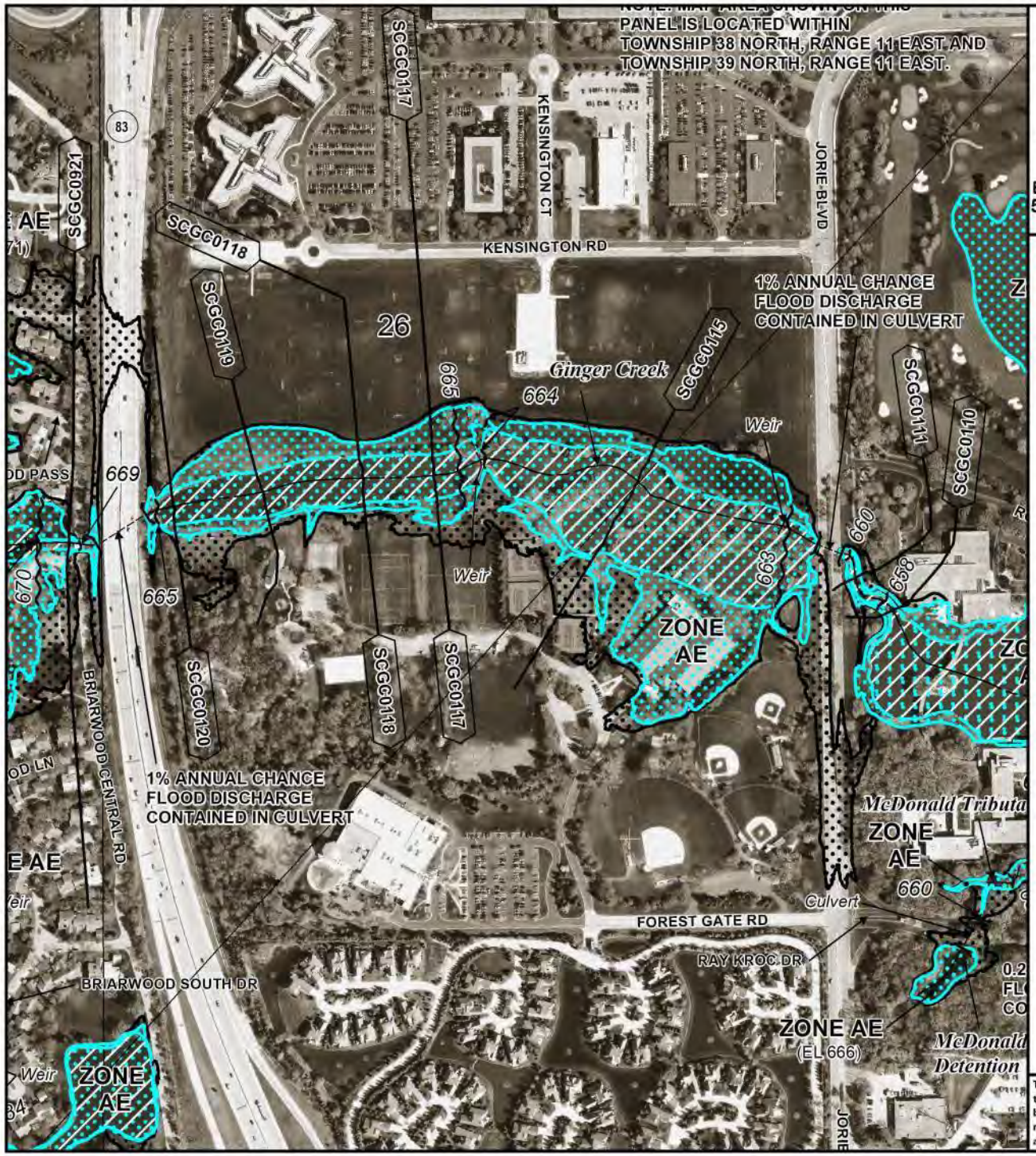
FEDERAL EMERGENCY MANAGEMENT AGENCY

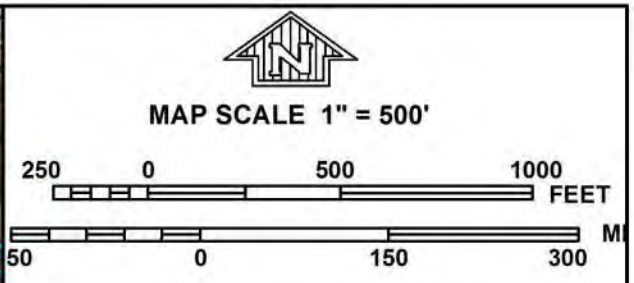
DU PAGE COUNTY ,IL

AND INCORPORATED AREAS

127P

APPENDIX I : FLOODPLAIN LOCATION MAP





NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0179J

FIRM

FLOOD INSURANCE RATE MAP

DU PAGE COUNTY, ILLINOIS

AND INCORPORATED AREAS

PANEL 179 OF 287

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HINSDALE, VILLAGE OF	170105	0179	J
OAK BROOK, VILLAGE OF	170214	0179	J
WESTMONT, VILLAGE OF	170220	0179	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
17043C0179J

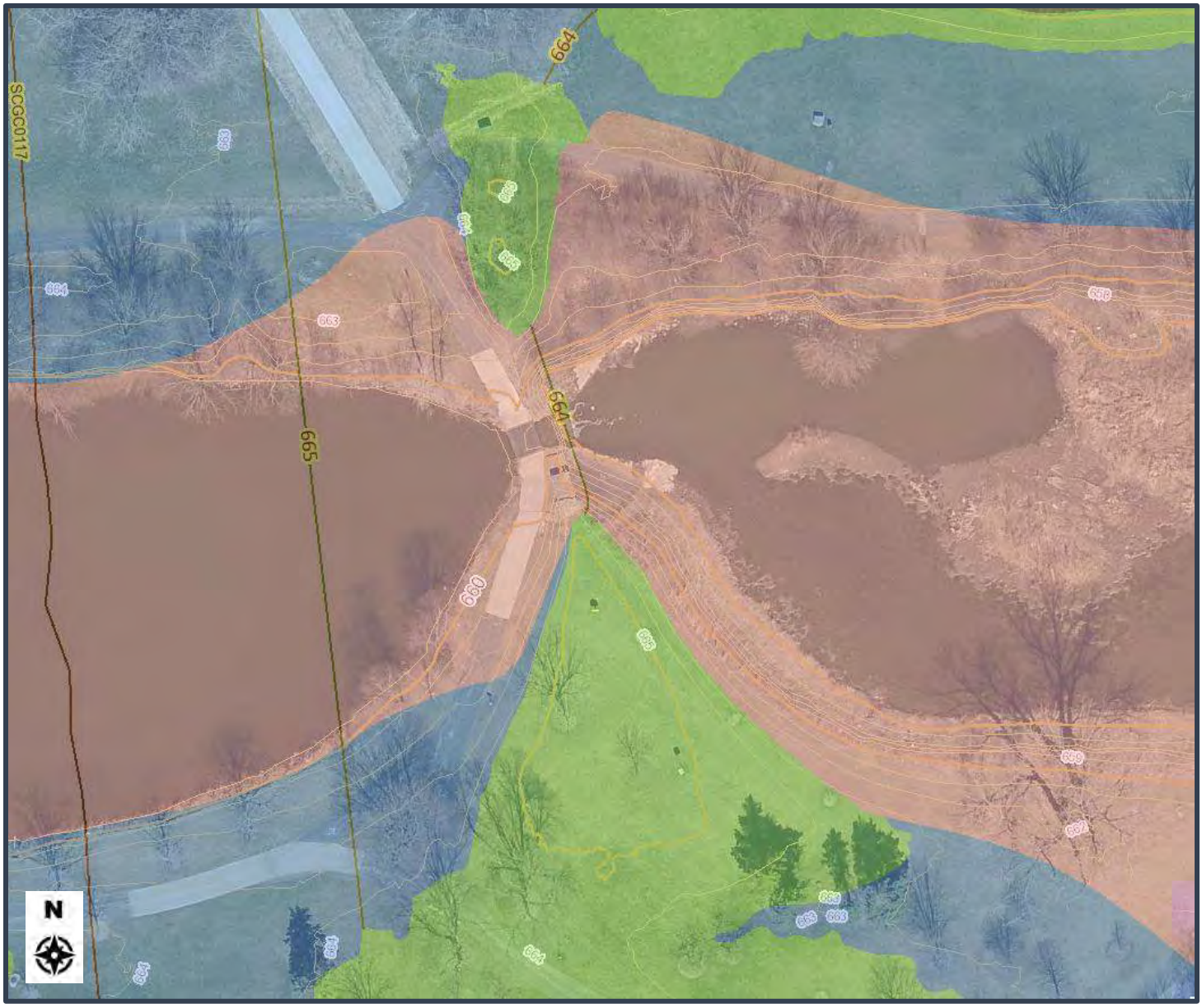
MAP REVISED
AUGUST 1, 2019

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

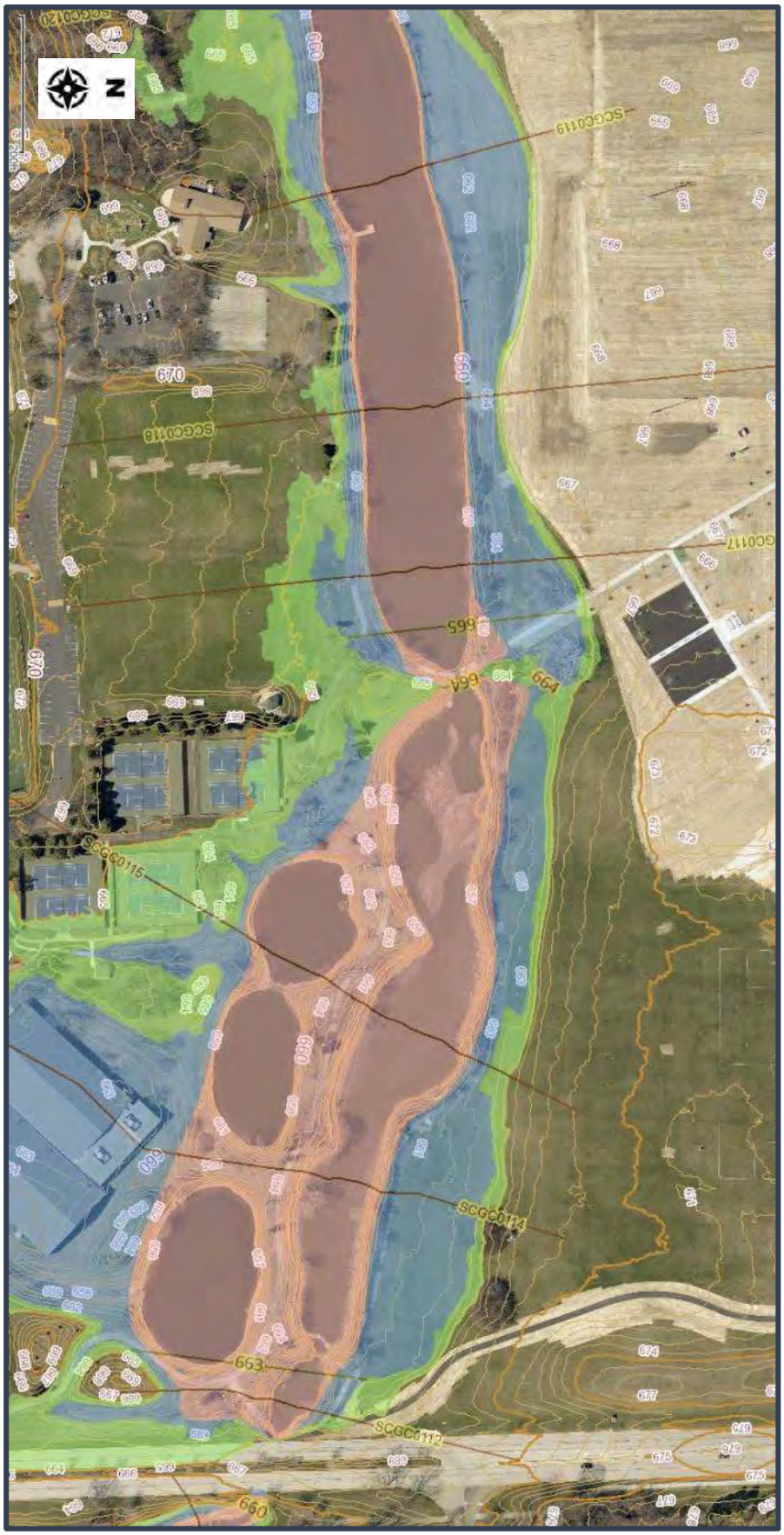
ENGINEERING RESOURCE ASSOCIATES

APPENDIX I:
FLOODPLAIN AT CENTRAL PARK



ENGINEERING RESOURCE ASSOCIATES

APPENDIX I: FLOODPLAIN AT CENTRAL PARK



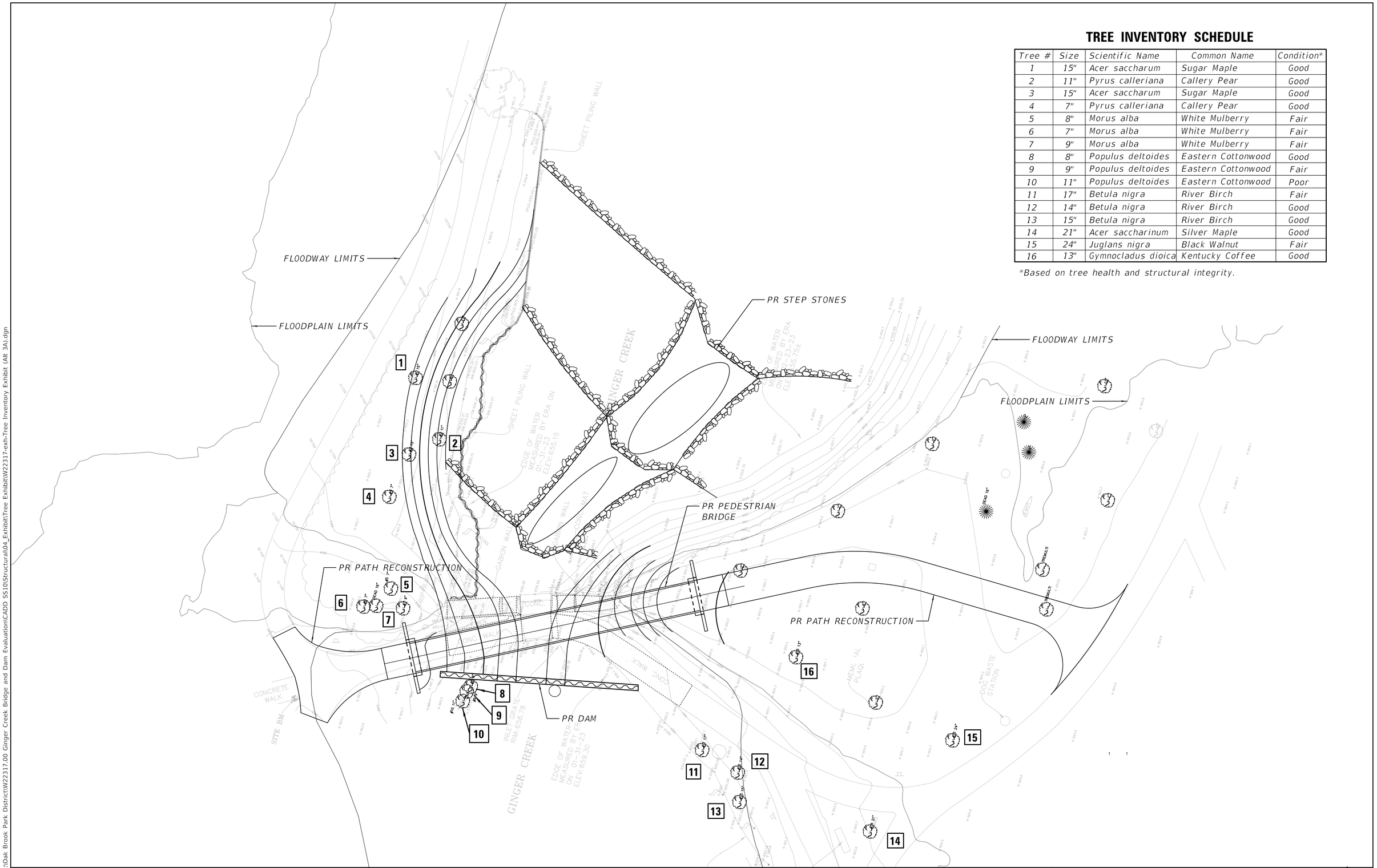
APPENDIX J

Tree Inventory Plan

TREE INVENTORY SCHEDULE

Tree #	Size	Scientific Name	Common Name	Condition*
1	15"	Acer saccharum	Sugar Maple	Good
2	11"	Pyrus calleriana	Callery Pear	Good
3	15"	Acer saccharum	Sugar Maple	Good
4	7"	Pyrus calleriana	Callery Pear	Good
5	8"	Morus alba	White Mulberry	Fair
6	7"	Morus alba	White Mulberry	Fair
7	9"	Morus alba	White Mulberry	Fair
8	8"	Populus deltoides	Eastern Cottonwood	Good
9	9"	Populus deltoides	Eastern Cottonwood	Fair
10	11"	Populus deltoides	Eastern Cottonwood	Poor
11	17"	Betula nigra	River Birch	Fair
12	14"	Betula nigra	River Birch	Good
13	15"	Betula nigra	River Birch	Good
14	21"	Acer saccharinum	Silver Maple	Good
15	24"	Juglans nigra	Black Walnut	Fair
16	13"	Gymnocladus dioica	Kentucky Coffee	Good

*Based on tree health and structural integrity.



ENGINEERING RESOURCE ASSOCIATES	USER NAME =	DESIGNED - K. KOLODZIEJCZYK	REVISED -	OAK BROOK PARK DISTRICT	TREE INVENTORY EXHIBIT - ALTERNATIVE #3A GINGER CREEK BRIDGE & DAM IMPROVEMENTS
		CHECKED - K. KOLODZIEJCZYK	REVISED -		
	PLOT SCALE =	DRAWN - K. KOLODZIEJCZYK	REVISED -		SHEET 1 OF 1 SHEETS
	PLOT DATE = 4/17/2023	CHECKED - M. LANGE	REVISED -		

TOTAL SHEETS	SHEET NO.
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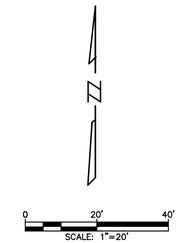
APPENDIX K

Hydrologic and Hydraulic Analysis



LEGEND

- = EX. PROPERTY LINE
- = EX. LOT LINE
- = EX. EASEMENT LINE
- = EX. BUILDING LINE
- = EX. CENTER LINE
- = EX. SANITARY LINE
- = EX. STORM LINE
- = EX. WATER LINE
- = EX. CONCRETE CURB & GUTTER
- = EX. TREE/BRUSH LINE
- 780 = EX. 1 FOOT CONTOURS
- = EX. CATCH BASIN
- = EX. SIGN
- +700.00 = EX. SPOT ELEVATION
- = EX. CONIFEROUS TREE
- = EX. DECIDUOUS TREE

ABBREVIATIONS

A	ARC LENGTH
B.S.L.	BUILDING SETBACK LINE
CH	CHORD
CONC.	CONCRETE
DOC.	DOCUMENT
E	EAST
FIP	FOUND IRON PIPE
FIR	FOUND IRON ROD
INV.	INVERT
N	NORTH
R	RADIUS
R.C.P	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT OF WAY
S	SOUTH
T/PIPE	TOP OF PIPE
W	WEST
(XXX.XX)	RECORD INFORMATION
XXX.XX	MEASURED INFORMATION

SITE BENCHMARK

CUT CROSS IN SOUTHWEST CORNER OF SIDEWALK LOCATED NORTH OF THE ASPHALT PATH NORTH OF GINGER CREEK.

ELEV: 663.09 (NAVD 88)

PROFESSIONAL DESIGN FIRM NUMBER: 184.001186
LICENSE EXPIRES APRIL 30, 2023

REVISIONS:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY: C.B./A.J.
CHECKED BY: K.A.
APPROVED BY: K.A.

ENGINEERING RESOURCE ASSOCIATES
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WARRENVILLE, ILLINOIS 60555
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FAX (630) 393-2152

10 S. RIVERSIDE PLAZA , SUITE 875
CHICAGO, ILLINOIS 60606
PHONE (312) 474-7841
FAX (312) 474-6099

2416 GALEN DRIVE
CHAMPAIGN, ILLINOIS 61821
PHONE (217) 351-6268
FAX (217) 355-1902

OAK BROOK PARK DISTRICT
OAK BROOK, ILLINOIS

TITLE:
H&H CROSS SECTION LOCATION EXHIBIT

SCALE: 1"=20'
DATE: APRIL, 2023
JOB NO: W22314
SHEET 1 OF 1

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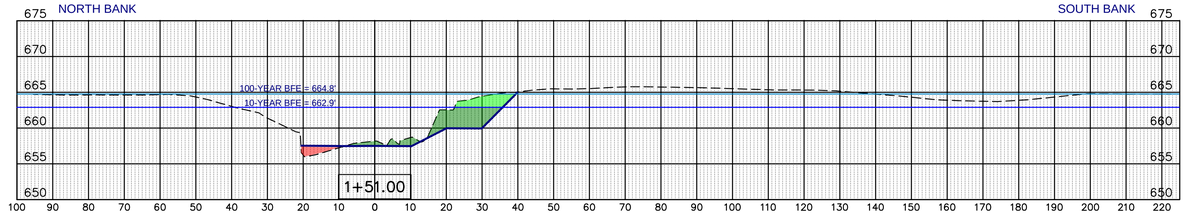

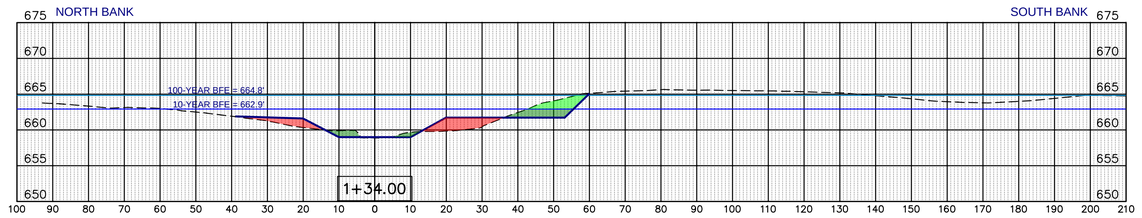

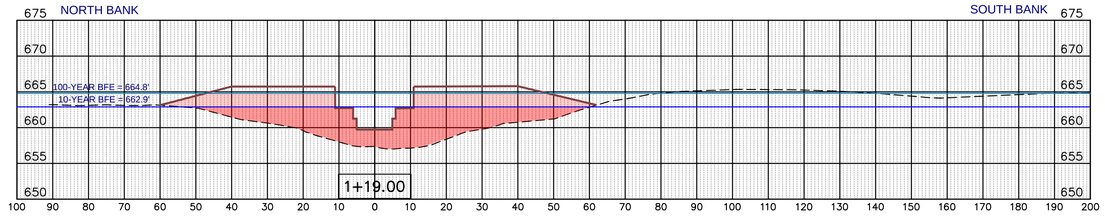

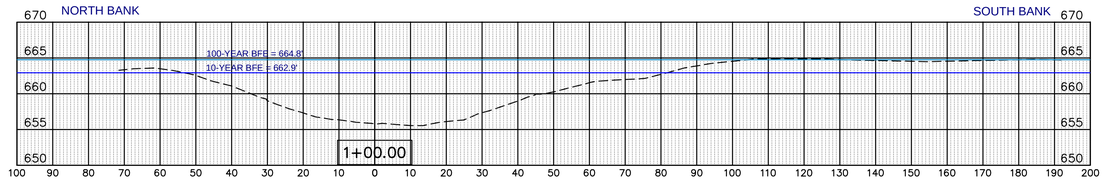

PROPOSED ELEVATIONS ARE BASED ON THE CONCEPT DESIGN DESCRIBED IN ALTERNATIVE 3A IN THE BRIDGE CONDITION & ALTERNATIVE ANALYSIS REPORT PREPARED BY ERA IN APRIL 2023.

ELEVATIONS WILL CHANGE IN DURING THE DESIGN OF THE BRIDGE ABUTMENTS, DAM LOCATION AND STREAM GRADING REQUIRED FOR LOW FLOWS AND FISH PASSAGE.

TO PROVIDE THE REQUIRED COMPENSATORY STORAGE FOR THE PROPOSED DAM AND BRIDGE IMPROVEMENTS, ADDITIONAL EXCAVATION ON THE SOUTH BANK THROUGH STATIONING 1+75 THROUGH 3+50 IS REQUIRED. THE CONCEPT FOR THIS DESIGN IS DEPICTED IN THE CROSS SECTIONS IN THIS EXHIBIT.

THIS EXHIBIT IS NOT FOR PERMITTING PURPOSES.

PROFESSIONAL DESIGN FIRM NUMBER: 184.001186
LICENSE EXPIRES APRIL 30, 2023

REVISIONS:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY: C.B./A.J.
CHECKED BY: K.A.
APPROVED BY: K.A.

ENGINEERING RESOURCE ASSOCIATES
3S701 WEST AVENUE, SUITE 150
WARRENVILLE, ILLINOIS 60555
PHONE (630) 393-3060
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2416 GALEN DRIVE
CHAMPAIGN, ILLINOIS 61821
PHONE (217) 351-6268
FAX (217) 355-1902

OAK BROOK PARK DISTRICT
OAK BROOK, ILLINOIS

TITLE:
CROSS-SECTIONS
PROFILE A

SCALE: 1"=20'H, 1"=10'V
DATE: APRIL, 2023
JOB NO: W22314
SHEET 1 OF 2

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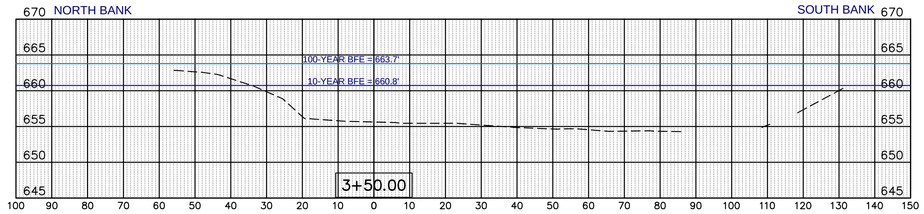

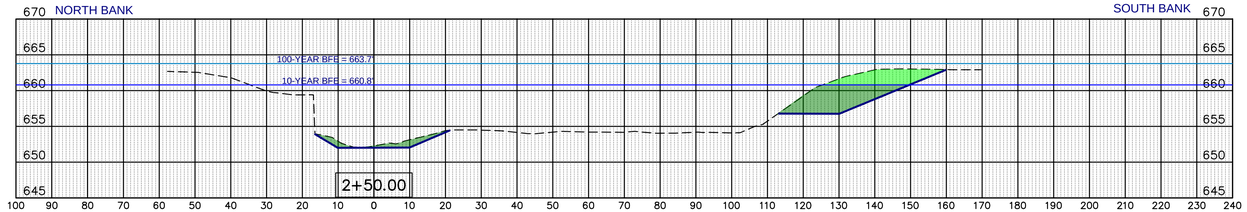

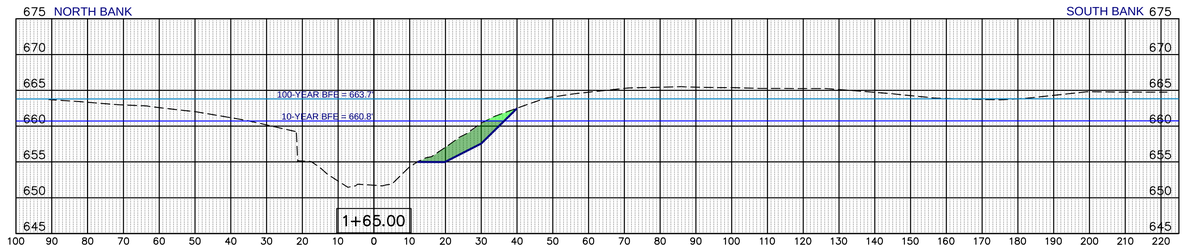

PROPOSED ELEVATIONS ARE BASED ON THE CONCEPT DESIGN DESCRIBED IN ALTERNATIVE 3A IN THE BRIDGE CONDITION & ALTERNATIVE ANALYSIS REPORT PREPARED BY ERA IN APRIL 2023.

ELEVATIONS WILL CHANGE IN DURING THE DESIGN OF THE BRIDGE ABUTMENTS, DAM LOCATION AND STREAM GRADING REQUIRED FOR LOW FLOWS AND FISH PASSAGE.

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LICENSE EXPIRES APRIL 30, 2023

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PHONE (217) 351-6268
FAX (217) 355-1902

OAK BROOK PARK DISTRICT
OAK BROOK, ILLINOIS

TITLE:
CROSS-SECTIONS
PROFILE A

SCALE: 1"=20'H, 1"=10'V
DATE: APRIL, 2023
JOB NO: W22314
SHEET 2 OF 2

H:\Oak Brook Park District\W22317.00 Ginger Creek Bridge and Dam Evaluation\CAD\W22314.00 Ginger Creek Bridge and Dam.dwg Updated by: ajohnson 4/17/2023

ENGINEERING RESOURCE ASSOCIATES

Project: Ginger Creek Bridge Condition & Alternative Analysis Report
Project Location: Central Park, Oak Brook, DuPage Co, IL
ERA Project #: W22317.00

Date: 4/20/2023
Prepared By: MG

Station		Floodplain FILL								Floodplain CUT							
		0-10 Yr (SF)	Average (SF)	Distance (Ft)	Volume (CF)	10 -100 Yr (SF)	Average (SF)	Distance (Ft)	Volume (CF)	0-10 Yr (SF)	Average (SF)	Distance (Ft)	Volume (CF)	10 -100 Yr (SF)	Average (SF)	Distance (Ft)	Volume (CF)
0.0	1+00	0.0				0.0				0.0				0.0			
			156.8	17.0	2664.8		82.5	17.0	1402.5		0.0	17.0	0.0		0.0	17.0	0.0
17.0	1+17	313.5				165.0				0.0				0.0			
			313.5	4.0	1254.0		165.0	4.0	660.0		0.0	4.0	0.0		0.0	4.0	0.0
21.0	1+21	313.5				165.0				0.0				0.0			
			178.0	13.0	2313.4		82.5	13.0	1072.5		13.6	13.0	176.2		8.3	13.0	107.9
34.0	1+34	42.4				0.0				27.1				16.6			
			25.3	17.0	429.3		0.0	17.0	0.0		44.0	17.0	748.0		19.3	17.0	327.3
51.0	1+51	8.1				0.0				60.9				21.9			
			4.1	14.0	56.7		0.0	14.0	0.0		51.3	14.0	717.5		13.5	14.0	189.0
65.0	1+65	0.0				0.0				41.6				5.1			
			0.0	43.0	0.0		0.0	43.0	0.0		60.8	43.0	2614.4		15.1	43.0	647.2
108.0	2+08	0.0				0.0				80.0				25.0			
			0.0	42.0	0.0		0.0	42.0	0.0		92.4	42.0	3880.8		37.5	42.0	1575.0
150.0	2+50	0.0				0.0				104.8				50.0			
			0.0	100.0	0.0		0.0	100.0	0.0		52.4	100.0	5240.0		25.0	42.0	1050.0
250.0	3+50	0.0				0.0				0.0				0.0			
		0-10 YR FILL Subtotal = 6718.1 CF 248.8 CY				10-100 YR FILL Subtotal = 3135.0 CF 116.1 CY				0-10 YR CUT Subtotal = 13376.9 CF 495.4 CY				10-100 YR CUT Subtotal = 3896.3 CF 144.3 CY			

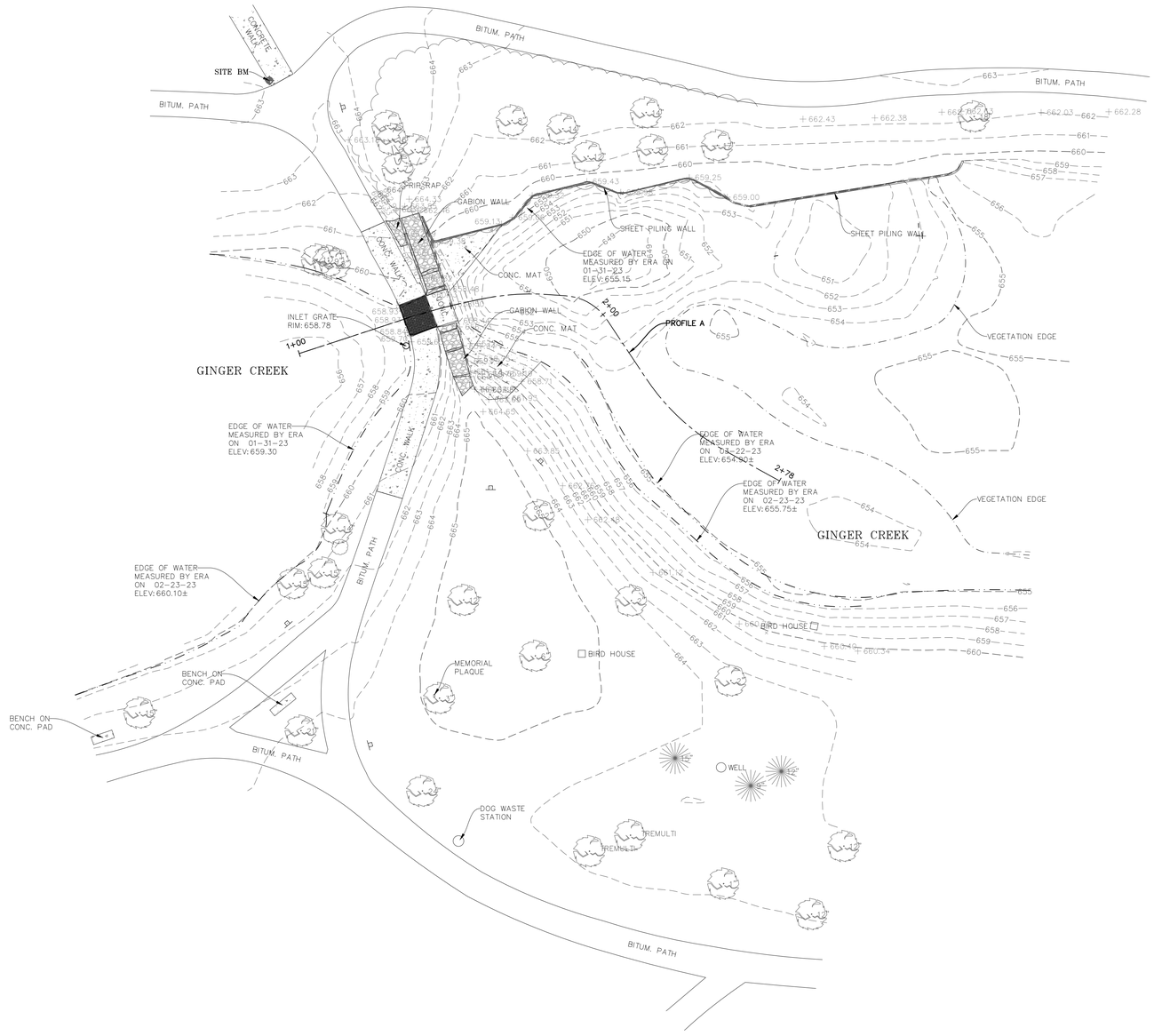
Table 1: Overall Summary of Floodplain Compensatory Storage*

Increment	Proposed Fill	Compensatory Storage Provided	Fill to Cut Ratio
0-10	249 CY	495 CY	1: 2.0
10-100	116 CY	144 CY	1: 1.2
Total	**365 CY**	**640 CY**	1: 1.8

*In addition to providing compensatory storage at an overall ratio of 1.5x the proposed fill in the floodplain, this design must provide compensatory storage at a ratio of 1x the proposed fill in the floodway. The required compensatory storage will be refined during the design phase of the project.

APPENDIX L

Streambank Profile Concept Design



N

0 20' 40'
SCALE: 1"=20'

LEGEND

- = EX. PROPERTY LINE
- = EX. LOT LINE
- = EX. EASEMENT LINE
- = EX. BUILDING LINE
- = EX. CENTER LINE
- = EX. SANITARY LINE
- = EX. STORM LINE
- = EX. WATER LINE
- = EX. CONCRETE CURB & GUTTER
- = EX. TREE/BRUSH LINE
- 780 = EX. 1 FOOT CONTOURS
- = EX. CATCH BASIN
- = EX. SIGN
- +700.00 = EX. SPOT ELEVATION
- = EX. CONIFEROUS TREE
- = EX. DECIDUOUS TREE

ABBREVIATIONS

A	ARC LENGTH
B.S.L.	BUILDING SETBACK LINE
CH	CHORD
CONC.	CONCRETE
DOC.	DOCUMENT
E	EAST
FIP	FOUND IRON PIPE
FIR	FOUND IRON ROD
INV.	INVERT
N	NORTH
R	RADIUS
R.C.P.	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT OF WAY
S	SOUTH
T/PIPE	TOP OF PIPE
W	WEST
(XXX.XX)	RECORD INFORMATION
XXX.XX	MEASURED INFORMATION

SITE BENCHMARK
CUT CROSS IN SOUTHWEST CORNER OF SIDEWALK LOCATED NORTH OF THE ASPHALT PATH NORTH OF GINGER CREEK.

ELEV: 663.09 (NAVD 88)

PROFESSIONAL DESIGN FIRM NUMBER: 184.001186
LICENSE EXPIRES APRIL 30, 2023

REVISIONS:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY: C.B./A.J.
CHECKED BY: K.A.
APPROVED BY: K.A.

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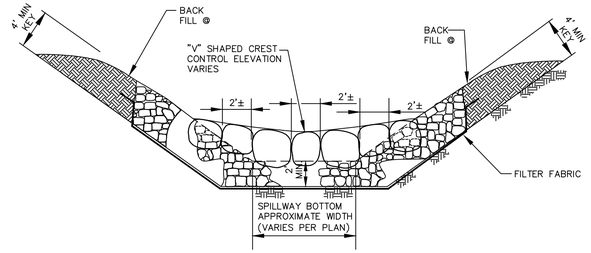
OAK BROOK PARK DISTRICT
OAK BROOK, ILLINOIS

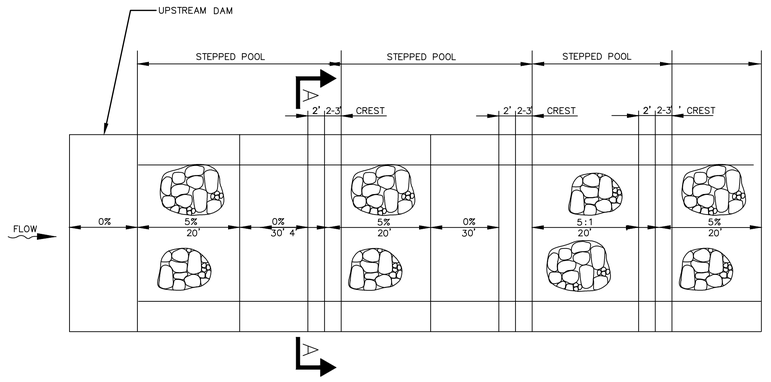
TITLE:
GINGER CREEK
EXISTING CONDITIONS PLAN

SCALE: 1"=20'
DATE: APRIL, 2023
JOB NO: W22314
SHEET 1 OF 1

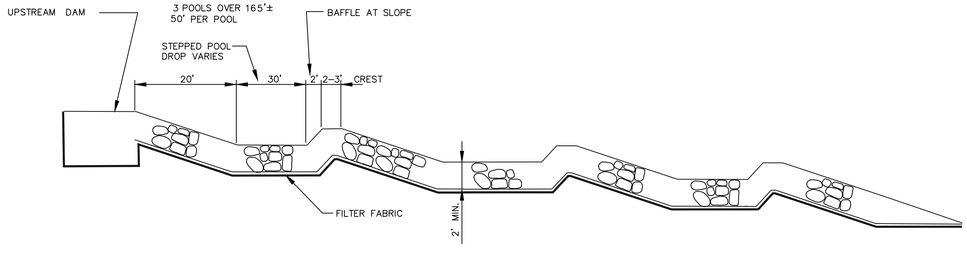
H:\Oak Brook Park District\W22317.00 Ginger Creek Bridge and Dam Evaluation\2-ADD\W22314.00 Ginger Creek Bridge and Dam.dwg Updated by: ajohnson 4/19/2023



SECTION A–A



PLAN



PROFILE

STEPPED POOL DETAIL

NOT TO SCALE

REVISIONS:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY: RT
CHECKED BY:
APPROVED BY:

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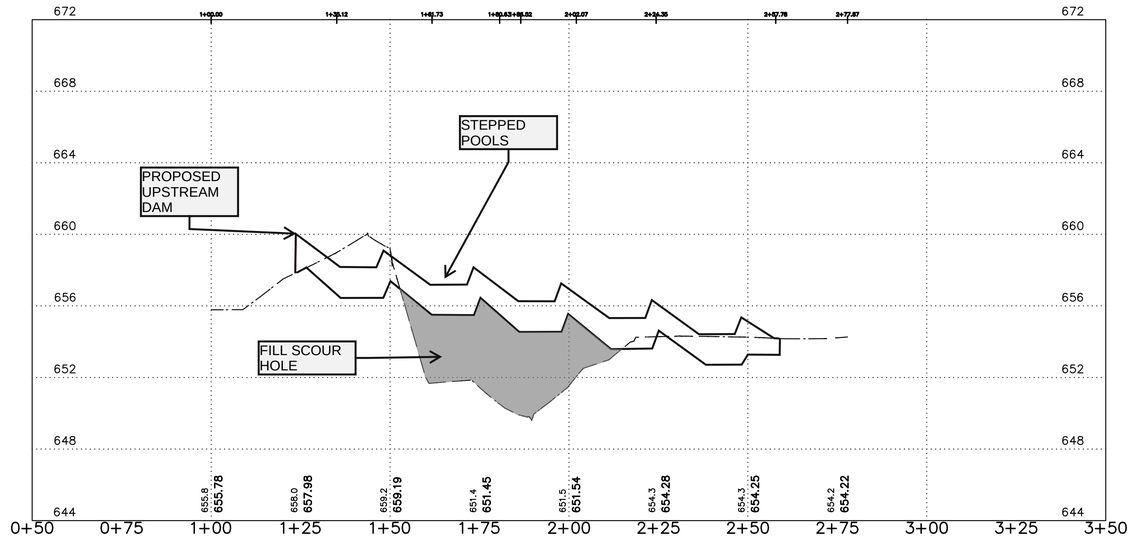
OAK BROOK PARK DISTRICT

TITLE: STEPPED POOL DETAIL

SCALE: N.T.S.
DATE: March 2022
JOB NO:
SHEET 1 OF 1



PROFESSIONAL DESIGN FIRM NUMBER: 184.001186
LICENSE EXPIRES APRIL 30, 2023

REVISIONS:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY: C.B./A.J.
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OAK BROOK PARK DISTRICT
OAK BROOK, ILLINOIS

TITLE:
PROFILE A

SCALE: 1"=20'H, 1"=4'V
DATE: APRIL, 2023
JOB NO: W22314
SHEET 1 OF 1

H:\Oak Brook Park District\W22314.00 Ginger Creek Bridge and Dam Evaluation\CAD\W22314.00 Ginger Creek Bridge and Dam.dwg Updated by: ajohnson 4/19/2023