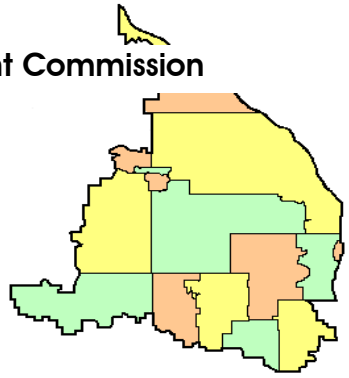
Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission



3235 Fernbrook Lane N • Plymouth, MN 55447
Tel: 763.553.1144 • Fax: 763.553.9326
Email: judie@jass.biz • Website: www.shinglecreek.org

April 1, 2021

Commissioners
Members of the TAC
Shingle Creek and West Mississippi
Watershed Management Commissions
Hennepin County, Minnesota

The agendas and meeting packets for both the TAC and regular meetings are available to all interested parties on the Commission's web site at http://www.shinglecreek.org/tac-meetings.html **and** http://www.shinglecreek.org/minutes--meeting-packets.html

Dear Commissioners and Members:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held **Thursday, April 8, 2021, at 12:45 p.m.** This will be a virtual meeting.

The Joint SCWM Technical Advisory Committee will meet at 11:30 a.m., prior to the regular meeting.

Until further notice, all meetings will be held online to reduce the spread of COVID-19. **To join a meeting,** click https://us02web.zoom.us/j/834887565?pwd=N3MvZThacmNRVDFrOWM3cU1KRU5qQT09, which takes you directly to the meeting.

OR, go to www.zoom.us **and click Join A Meeting. Please use the regular meeting ID and passcode for both meetings.** The meeting ID is **834-887-565.** The passcode for this meeting is **water.**

If your computer is not equipped with audio capability, you need to dial into one of these numbers:

+1 929 205 6099 US (New York)	+1 312 626 6799 US (Chicago)	+1 669 900 6833 US (San Jose)
+1 346 248 7799 US (Houston)	+1 253 215 8782 US	+1 301 715 8592 US

Meetings remain open to the public via the instructions above**.**

Please email me at judie@jass.biz to confirm whether you or your Alternate will be attending the regular and TAC meetings. Thank you.

Regards,

Judie A. Anderson
Administrator

cc:	Alternate Commissioners	Member Cites	Troy Gilchrist	TAC Members
	Wenck/Stantec	BWSR	MPCA	Met Council

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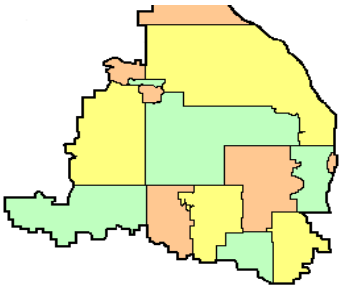

A meeting of the joint Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions is scheduled for **11:30 a.m., Thursday, April 8, 2021.** This will be a virtual meeting. **For this meeting we will use the regular meeting ID and passcode. The meeting ID is 834-887-565, the passcode is water. If your computer is not equipped with audio capability, dial into one of these numbers:**

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+1 669 900 6833 US (San Jose) | +1 346 248 7799 US (Houston) | +1 301 715 8592 US

A G E N D A

1. Call to Order.
   a. Roll Call.
   b. Approve Agenda.*
   c. Approve Minutes of Last Meeting.*
2. 2021 Project Schedule.*
3. Brooks Garden Partnership Cost Share.*
4. HUC 8 Update.
5. Other Business.
6. Next TAC meeting is scheduled for _____..
7. Adjournment.

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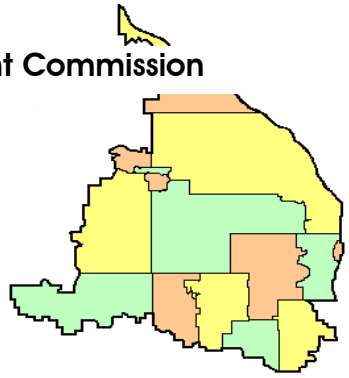


MINUTES
March 11, 2021

A virtual meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chairman Richard McCoy at 11:34 a.m., Thursday, March 11, 2021.

Present were: Andrew Hogg, Brooklyn Center; Mitch Robinson, Brooklyn Park; Todd Tuominen, Champlin; Mark Ray, Crystal; Derek Asche, Maple Grove; Megan Hedstrom, New Hope; Ben Scharenbroich and Amy Riegel, Plymouth; Richard McCoy, Robbinsdale; Ed Matthiesen, Diane Spector, and Erick Megow, Wenck/Stantec; and Judie Anderson and Amy Juntunen, JASS.

Not represented: Minneapolis and Osseo.

Also present: Burt Orred, Crystal, and Kris Guentzel, Hennepin County Environment and Energy.

I. Motion by Ray, second by Hogg to **approve the agenda.*** *Motion carried unanimously.*

II. Motion by Ray, second by Riegel to **approve the minutes***of the February 11, 2021 meeting. *Motion carried unanimously.*

III. 2021 Capital Improvement Program (CIP).*

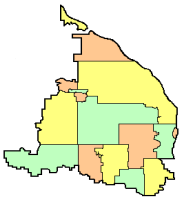
In preparation for the 2021 CIP process, one new project has been submitted for addition to the CIP in West Mississippi. In addition, one current project on the Shingle Creek CIP deserves further discussion as to whether it should be considered for 25% funding or 100% funding.

A. West Mississippi.

The City of Brooklyn Park has been working with Hennepin County to complete an inventory of bank conditions along the Mississippi River. Several private properties are experiencing moderate to severe erosion and bank loss. The TAC previously had some discussion with the City as to whether Cost Share funds could be used to help match grant funds. West Mississippi does not at this time have a Partnership Cost Share program such as Shingle Creek does. At that time, the TAC discussed how the city cost share could potentially be used, but did not resolve that question. The City submitted a Clean Water Fund grant application* to help fund about 715 linear feet of restoration along seven properties, but fell just short of being funded. In the feedback from the Board of Water and Soil Resources to the city, BWSR asked that the Commission provide more specifics and more clearly support the project.

The South Metro Mississippi Turbidity TMDL requires a 50% Load Allocation reduction to the Mississippi River. The LA is defined as "field, ravine, bluff, and stream bank erosion," so a case can reasonably be made that it would be consistent with other cost share projects to share in the cost of riverbank stabilization where we can estimate a specific annual load reduction. Stabilization on public property would be eligible under the levy or the city cost share program. West Mississippi would have to establish a Partnership Cost Share Program for privately-owned properties.

[Tuominen arrived 11:45 a.m.]



The City anticipates a revised project cost of $900,000 for phase one which includes 7 or 8 sites west of Banfill Island. Shared county/city/commission cost would be $40,000-$50,000 each. Robinson noted that access and mobilization costs will be high on this project.

In the guidelines for project eligibility, Staff could specifically call out riverbank stabilization to reduce TSS (Total Suspended Solids) LA to the Mississippi River as an eligible project. If this is something the TAC is willing to recommend to the Commission, Staff would work with BWSR to come up with wording meeting its requirement for specificity. Adding a Partnership Cost Share to the West Mississippi CIP would require a minor plan amendment.

Following discussion, motion by Tuominen, second by Asche to recommend to the West Mississippi Commission the addition of a private property cost share program and, upon its application for cost-share funding, add this project to the West Mississippi CIP. *Motion carried unanimously.*

[Scharenbroich arrived 11:54 a.m.]

B. Shingle Creek.

The City of Plymouth previously submitted the **Palmer Lake Estates Bass Creek Restoration project** to the CIP, and it was added in 2017 for implementation in 2021/2022 for 25% cost share. Since that time, the Commission has revised its policy for CIP projects to allow for 100% funding of projects that would consider to be "load allocation" or "internal load" projects such as in-lake treatments or stream restorations to repair erosion, improve water quality, and enhance habitat. It is not clear that this project falls under the 100% cost participation policy and revising the cost share to 100% would require a minor plan amendment.

On one hand, this reach of Bass Creek, just upstream of Bass Lake, is clearly experiencing erosion and mass wasting, and is clearly exporting sediment and nutrient loading to the lake. On the other hand, the reach is not an Impaired Water for either water quality or biotic integrity and, since it is an intermittent stream, it would be difficult to create habitat that could sustain and enhance aquatic life, although it is clear some habitat improvement could be made. Scharenbroich noted that undertaking and maintaining BMPs will be challenging. Updated estimates set the project cost at $600,000.

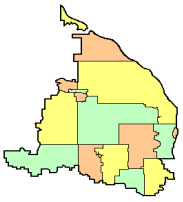
Following discussion, motion by Ray, second by Asche to recommend to the Shingle Creek Commission moving this project forward and proceeding with a Minor Plan Amendment. *Motion carried unanimously.*

IV. NPDES General Permit Application.

City staff within the SCWMC (and other area watersheds) are currently working to determine the changes to the MS4 rules and the implications they have to individual cities and the Commissions. A group of city staff members are working together to determine the best approach to meeting the rules in the most cost-effective way possible. This includes, but is not limited to, working with the West Metro Water Alliance (WMWA) on educational efforts. Scharenbroich and Hogg have been representing the Shingle Creek and West Mississippi Commissions, respectively. *Please refer to the minutes of the SCWM March 11, 2021 regular meeting, Section IX.D. Education and Public Outreach, for more details*.

V. HUC 8 Model Status.

Megow presented an overview of the Shingle Creek model. Hydraulic and hydrologic modeling was completed in EPA-SWMM, allowing for easier updating and more detailed modeling. They were calibrated using two storm events:



Storm 1: This June 14-18, 2014 event consisted of a 4.33" rainfall event, approximately a 5-year (4.51") event.

Storm 2: This September 17-21, 2018 event consisted of a 6.03" rainfall event, between a 10-year (5.23") and 25-year (6.37") Atlas 14 storm event. Storm 2 was used for the hydraulic calibration as it represented the record USGS (Queen Avenue) discharge

Included in the presentation were the hydraulic results for Shingle Creek, 13 lakes (the Twin Lakes counted as one lake), three ponds and one wetland.

Staff will submit the preliminary floodplain areas and profiles to the Minnesota Department of Natural Resources (MnDNR) for processing and review on March 15-16. The DNR will publish the Preliminary Floodplain Maps for the Federal Emergency Management Agency (FEMA) Review Meeting, April 1. City staffs will work with the Commission and DNR to review and discuss where large rises occur before the Floodplain Areas and Profiles are published and mapped by FEMA.

VI. Wild Wings Western Wetland.

Riegel presented this flood mitigation and drainage improvement project. The project consisted of recreation of a wetland channel and installation of an emergency overflow structure to protect against flooding on a 0.89 acre site located at 5220 Yorktown Lane. The project excavated a depth of about 4 feet of sediment along 2,068 linear feet of the 18-foot-wide channel; 3,100 cubic yards of material were excavated. Permits/approvals were obtained from the US Army Corps of Engineers (USACE), the DNR, the Shingle Creek Commission, and the Wetland Conservation Act (WCA). The project took seven days to complete, including five days of excavation.

VII. Partitioned TMDL Wasteload Allocations.*

The new NPDES permit reapplication requires each MS4 to report their individual wasteload allocations even if approved TMDLs were written using categorical wasteload allocations. Staff's December 17, 2013 memo provides estimated individual wasteload allocations for the approved TMDLs in the Shingle Creek watershed by MS4 along with the dates of TMDL and Implementation Plan approvals. The Shingle Creek Chloride, Twin and Ryan Lakes, Crystal Lake, Pomerleau-Bass-Schmidt Lakes, Meadow Lake, Cedar Island-Pike-Eagle Lakes, Lake Magda, Shingle and Bass Creeks Biotic Integrity and Dissolved Oxygen, and Bass Creek Chloride TMDL partitionings are described in detail in the memo. Spector reported that she has located the SHAPE files associated with this task.

VIII. Other Business.

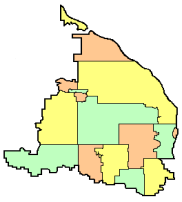
A. Matthiesen provided an update on four projects:

1. Grant funding has been received, awaiting execution for the Shingle Creek channel stabilization project upstream of Brooklyn Boulevard. Expect design to begin after water recedes from spring snowmelt and contracts are signed.

2. Grant execution is also under way for Bass Creek in Plymouth and design will proceed at the same schedule as the Shingle Creek channel project.

3. The grant execution has been completed for the media installation for the Wetland 639W overflow. An internal design kick-off is scheduled for the last week in March.

4. The Meadow Lake project will occur this fall. Funding was received from the Clean Water Fund. Dewatering will occur in 2022.



B. Robbinsdale Project. McCoy shared the most recent photo of the Water Treatment Plant construction site.

C. Next meeting – 11:30 a.m., Thursday, April 8, 2021, prior to the regular meeting. This will be a virtual meeting.

There being no further business, the meeting was adjourned at 12:46 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
JAA:tim

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WENCK now part of Stantec

To: Shingle Creek/West Mississippi WMO TAC

From: Ed Matthiesen, P.E. Erik Megow, P.E.
Diane Spector Katie Kemmitt

Date: April 6, 2021

Subject: Project Schedule

Recommended TAC Action	For discussion.

Project	**Upcoming Actions**	**Schedule**
Bass/Pomerleau Alum	Curly-leaf delineation, SAV treatment as necessary, final monitoring, final report	Final report due by December 31; will retain levy funds for years 4 and 5 CLP treatment if necessary
HUC 8 Model	Final Q's about storage areas, cities have 30 days to review draft maps, Final DNR tweaking with cities	DNR addressing comments over the summer
Ryan Lake Subw Assessment	Developing model	On track to complete by June 31
SRP Filter	Grant approved by County Board, waiting on contract, will need coop agreement with Crystal, need sign-off by MAC	Grant agreement expected by mid-April; will bring coop agreement to Commission in May; waiting for followup meeting with MAC staff before starting design
Crystal Lake Mgmt Plan	Alum quotes rcvd, getting carp mgmt. quotes from WSB & Carp Solutions, alum treatment, routine monitoring	Quotes and coop agreement going to City Council 4/6; coop agreement to Commission 4/8; alum treatment late April-early May; carp removal this summer
Meadow Lake Mgmt Plan	Need new coop agreement, CAMP WQ monitoring, finalize and submit water appropriation permit and turtle mgmt. plan	Grant agreement to Comm 4/8, Coop agreement in June-July, apply for permit by August, drawdown in Novemberish
Connections II	Coop agreement with B Center & B Park, design and bid for fall/winter construction	Grant agreement to Comm 4/8, coop agreement May, design soon after with plans by September
Bass Creek Restoration	Coop agreement with B Park, design and bid for fall/winter construction	Coop agreement May, design soon after with plans by September

WENCK now part of Stantec

To: Shingle Creek/West Mississippi WMO TAC and Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: April 2, 2021

Subject: Brooks Garden Partnership Cost Share

Recommended TAC/ Commission Action	Consider the application for $30,000 in Partnership Cost Share funding.

At the April 8, 2021 Technical Advisory Committee meeting the TAC will hear a request from the City of Brooklyn Park and Metro Blooms on behalf of Boisclair Corp., for improvements at Brooks Garden, and affordable housing community in Brooklyn Park. Eighty-three percent of the residents in the complex identify as African American or African immigrants. Similar to other multifamily residential facilities that Metro Blooms, the City, and Boisclair have collaborated on, the partners are working with residents in the community and various funding agencies to incorporate sustainable designs and grounds upgrades on their property.

This site is located on 69th Avenue in Brooklyn Park, at the border with the City of Brooklyn Center. Private channels, likely the remnants of an old agricultural ditch, run along the north and east side of the property, crosses under Unity Avenue, and meanders through the Mallard Creek townhome development in Brooklyn Center before discharging into Shingle Creek in the reach that will be restored this year through the Connections II project.

The partnership is requesting $30,000 in Partnership Cost Share funding to help install a series of rain gardens to capture and infiltrate or treat runoff from impervious surface on site, including roofs, pavement, and a new play area.

The Partnership Cost Share program account at the end of 2020 had an Encumbered balance of about $35,400, with an additional $50,000 levy to be received this year, for an estimated total $91,400 available.

Representatives from Metro Blooms will be available April 8 to present the proposed project and answer questions. The TAC should then make a recommendation to the Commission regarding the grant request.

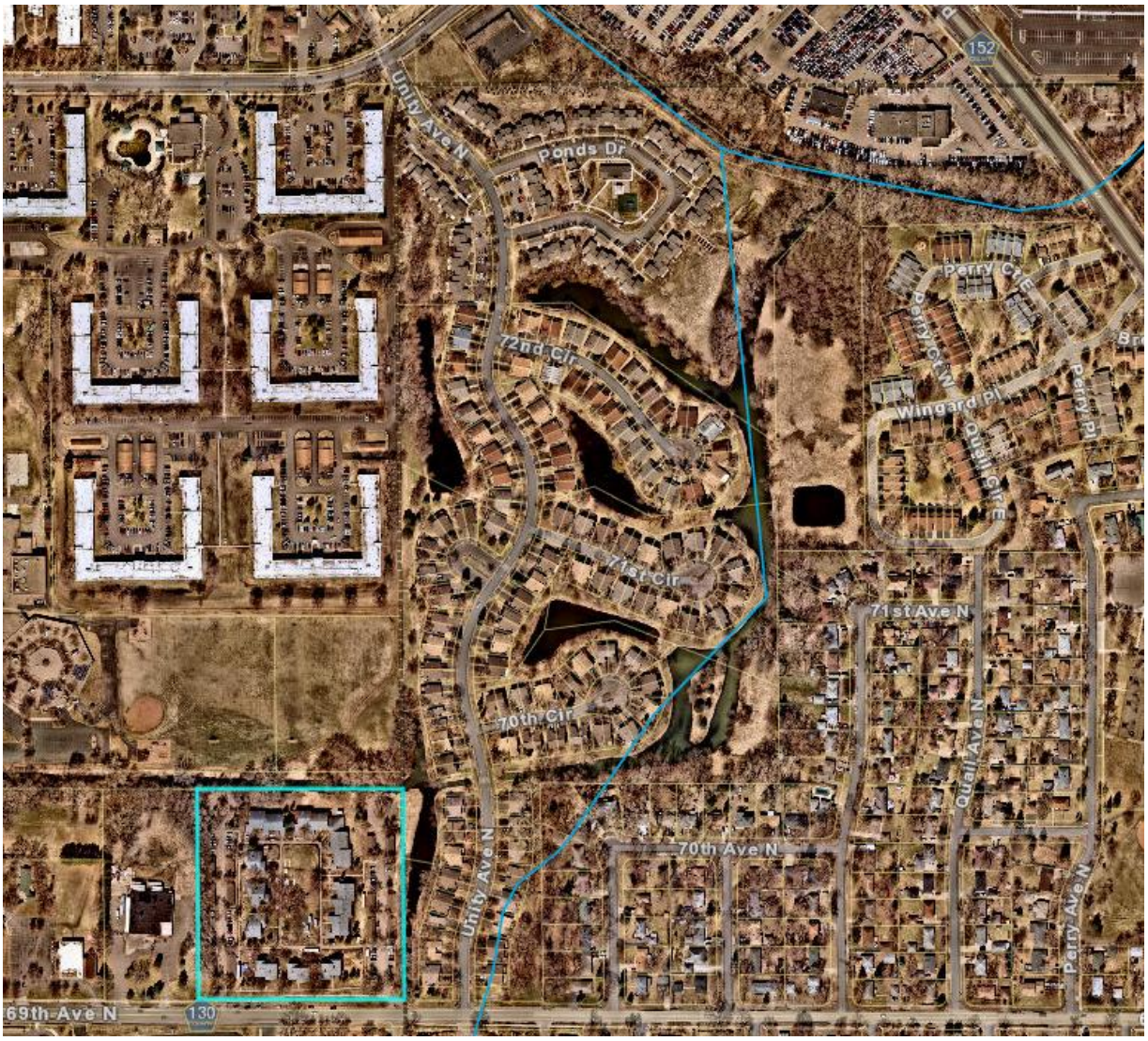

Figure 1: Brooks Garden location.

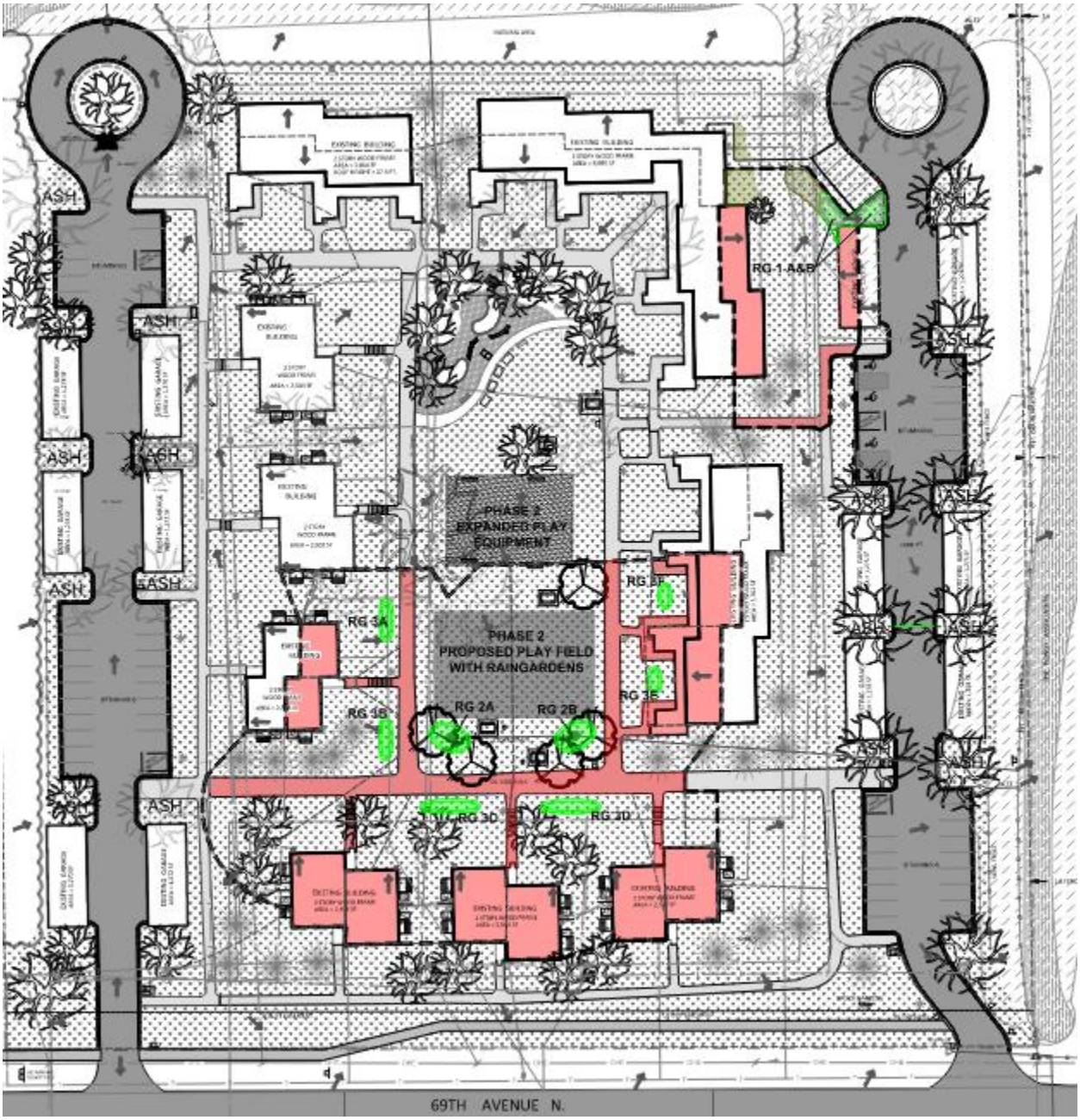

Figure 2. Proposed project. Impervious to be treated shown in pink; light green shows the proposed new rain gardens.

Shingle Creek Watershed Management Commission

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Shingle Creek
Watershed Management Commissions
Partnership Cost-Share Program Guidelines

The Shingle Creek Watershed Management Commission will from time to time make funds available to its member cities to help fund the cost of Best Management Practices (BMPs) partnership projects with private landowners. The following are the guidelines for the award of cost-share grants from this program:

1. Projects on private property must be for water quality improvement, and must be for improvement above and beyond what would be required to meet Commission rules. Only the incremental cost of "upsizing" a BMP above and beyond is eligible.
2. Priority is given to projects in a priority area identified in a sub-watershed assessment or TMDL.
3. Commission funds may reimburse up to 100% of the cost of the qualifying BMP.
4. The minimum cost-share per project is $10,000 and the maximum is $50,000.
5. Projects must be reviewed by the Technical Advisory Committee (TAC) and recommended to the Commissions for funding.
6. Cost-share is on a reimbursable basis following completion of project.
7. The TAC has discretion on a case-by-case basis to consider and recommend to the Commissions projects that do not meet the letter of these guidelines.
8. Unallocated funds will carry over from year to year and be maintained in a designated fund account. Any balance in said account in excess of $100,000 will be transferred to the City Cost Share Program Account.
9. The property owner must dedicate a public easement or equivalent sufficient to install and maintain the BMP.
10. The Member City must obtain a recordable maintenance agreement from the property owner that specifies maintenance requirements and schedule; authorizes the City to inspect the BMP and order maintenance and improvement; and authorizes the City to undertake ordered maintenance and improvement not completed by the property owner, and assess the cost that work to the property.
11. The standard Commission/Member Cooperative Agreement will be executed prior to project construction.

Adopted November 2015
Revised February 9, 2017

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Shingle Creek Watershed Management Commissions
Partnership Cost-Share Program Application

City:	Brooklyn Park
Contact Name:	Maria Riewer (Boisclair) Yordanose Solomone (Metro Blooms)
Contact Phone:	612-306-3513 (Maria Riewer), 612-558-0865 (Yordanose Solomone)
Contact Email:	mriewer@boisclaircorporation.com, yordanose@metroblooms.org
Project Name:	Brooks Gardens Apartments
Total Project Cost:	See attached budget
Amount Requested:	$30,000
Project Location:	5550 69th Avenue North, Brooklyn Park, MN 55429
Owner:	Amorce I GP, LLC
Address:	610 Ottawa Avenue North
City, State, Zip:	Golden Valley, MN 55422
Phone:	952.922.3881
Email:	info@boisclaircorporation.com

1. Describe the BMP(s) proposed in your project. Describe the current condition and how the BMP(s) will reduce pollutant loading and/or runoff volume. Note the estimated annual load and volume reduction by parameter, if known, and how they were calculated. Attach figures showing project location and BMP details including drainage area to the BMP(s).

Boisclair Corporation, on behalf of property owner Amorce I Limited Partnership, is working with residents, Metro Blooms, the City of Brooklyn Park, Hennepin County, and African Career Education and Resource Inc (ACER) to design, install, and care for sustainable landscape practices that improve livability for our residents at Brook Gardens. Brook Gardens was built in 1979 as an affordable housing community. The site is 8.14 acres, 38% impervious, with

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numerous townhomes and apartment buildings within the complex. Most of the remainder is turf grass (50%). Immediately adjacent to Shingle Creek, a small portion of the site is natural/unmanaged (12%) and lies within the floodplain with many areas experiencing localized flooding due to poor runoff management. Prior to 2020, there were few shade trees, and over a third (25) of those present were ash. While the site faces many challenges, there is a great opportunity to revitalize the landscape through raingardens, sustainable tree canopy, and native plantings. In addition to improving environmental function, creating outdoor play spaces for the many children at Brook Gardens to interact with nature and providing economic opportunities for residents through engagement, installation and long term care are top priorities.

This journey began in 2019, when engagement with residents started to design a landscape that works for and benefits them. With 160 residents, Brook Gardens is a diverse community with many families and young children. Eight-three percent of residents identify as African American or African immigrants and 16% as caucasian. Household income for every unit is below 60% of area median income. Though the community is made up of renters, many are long-term residents that have raised their families at Brook Gardens. This community is invested in their home. We are working with 3 dedicated project stewards to develop leadership and stewardship capacity within the community. They are leading engagement, guided by the following project goals and principles: 1) center the voice and ideas of those most impacted by the project, 2) build resident leadership capacity and community connection 3) improve mental and physical health and quality of life through our landscape, 4) improve environmental sustainability through clean water and habitat projects, 5) create outdoor play spaces where kids can interact with nature and 6) be and encourage others to be responsible stewards of the landscape at our home. Guided by these principles and a series of engagement and feedback events in 2019 and 2020, Metro Blooms developed a phased retrofit plan for the site, prioritized based on water quality impact, parking lot reconstruction, and resident input.

In 2020, project partners and residents celebrated the completion of Phase 1 of this plan. This initial phase leveraged investment from Boisclair Corporation, Hennepin County, the City of Brooklyn Park's new Community Engagement Sustainability grant program, BWSR's Lawns to Legumes program, and the Center for Prevention at Blue Cross Blue Shield. Specific improvements included:

- Two raingardens (2,882 sq ft) in the interior courtyard to capture runoff before it enters existing catch basins in northeast and northwest corners of the courtyard
- 8 new shade trees within the raingardens and courtyard; hydroseeding and grading repairs in courtyard
- Accessible pathway through the courtyard along raingarden edge; benches and picnic tables

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- Removal of one ash tree, replacement with new shade tree and installation of one raingarden (1400 sq ft) at the end of the west drive lane to capture runoff from that entire drive area
- Nature play including trellises, tree tents, logs, sand boxes, stepping stones, grass mounds, and bridge incorporated into courtyard raingardens

Runoff from these areas was previously piped to the creek from the interior courtyard or flowed directly to the creek through a curb cut in the northwest roundabout. Water quality improvements from Phase 1 included annual capture of:

- 4.634 lbs Total Phosphorus,
- 2,050 lbs of solids, and
- 1,199,419 gallons of runoff annually.

Building on this success, this request for funding of Phase 2 was refined in 2020 to capture untreated runoff from the southern half and northeast corner of the property and remove and replace 10 ash trees on site to improve safety and long term sustainability (see tree plans attached, tree in roundabout of western drive lane replaced in 2020). We are also applying for grants to install a new and larger playground in response to resident input. While our original goal was to capture runoff from the entirety of the eastern drive lane with a raingarden in the roundabout in 2021, this is not feasible due to high groundwater levels. This portion of the property lies within the Shingle Creek floodplain, and while the raingarden would ultimately increase storage capacity in the floodplain, during infiltration testing Metro Blooms discovered the groundwater level was 2.5 feet below surface. This depth would not allow for the standard 3 feet separation between the bottom of the raingarden basin and the water table to ensure a safe and effective stormwater management system. The new proposed location of the raingarden outside of the office entrance in the northeast corner of the property is 1.5 feet higher in elevation, providing enough room for infiltration above the water level through a shallow raingarden (3” deep). In light of infiltration testing, ash tree removal, opportunities for capture, and resident input, Phase 2 projects include the following (see plan attached):

- A raingarden (474 sq ft) and native plantings (754 sq ft) in the northeast corner of the property
- Two raingardens (616 sq ft) in the southern half of the courtyard prior to runoff interception at the catch basins (limited size to leave ample room for free play in this grass field per resident request)
- Six raingardens adjacent to townhomes to capture roof and sidewalk runoff and create a sense of ownership among residents in the townhomes (998 sq ft total)

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- Removal and replacement of 10 ash trees and planting of 5 additional trees (funding approved by Hennepin County Healthy Tree Grant)
- New/expanded playground in central courtyard (pending additional funding)

Without the installation of proposed projects, runoff in these capture areas drains either directly to Shingle Creek via overland flow through a curb cut in the eastern roundabout (northeast corner of property) or into 2 catch basins on the south end of the courtyard that pipe runoff into Shingle Creek. A Hennepin County Opportunity Grant request for Phase 2 has been leveraged, and in the process of final approval from the board of commissions. We anticipate full approval within the month. This funding request to Shingle Creek leverages the Hennepin County funding and a match from Boisclair Corporation and would allow us to complete the Phase 2 final design and installation.

Project partners are committed to authentic engagement throughout project life, ensuring the project is centered by resident voices. In 2020, we adapted to COVID through phone surveys with residents, flyers, and socially distanced planting and outdoor celebration. We hope for in person events in 2021, but are able to adapt as needed. We have a regular check in with our residents invested in this project to keep them in communication including public funds leveraged, and other project updates. We integrate equitable engagement principles throughout this project, and strive to ensure the clean water investment provided by Shingle Creek Watershed Management Commission not only benefits the community socially and environmentally, but economically as well. *We do this in a number of ways:*

- Prioritizing local contractors and contractors owned/managed by people of color or employing diverse crews through the bid process
- Training resident caretakers to maintain projects long term, ensuring this knowledge lives within the community
- Hiring residents for paid work to work alongside installation crews as possible to assist with installation and planting. This was piloted in 2020 with overwhelming success. We were able to hire 9 residents to plant alongside Metro Blooms' job training crew.

Phase 2 will treat runoff from half an acre of impervious surface, 1.5 acre total surface area, making a significant impact on runoff volume and quality in Shingle Creek and downstream Mississippi River. We address the chloride impairment in Shingle Creek through ongoing smart salting training led by Metro Blooms' staff Yordanose Solomone who is Level 1 certified in Smart Salting by the MPCA. Training audience includes Brook Gardens management, resident caretakers and stewards to provide them with the technical knowledge and power to implement and advocate for proper maintenance practices.

Shingle Creek Watershed Management Commission

3235 Fernbrook Lane N • Plymouth, MN 55447
Phone (763) 553-1144 • Fax (763) 553-9326

HYPERLINK "http://www.shinglecreek.org"
www.shinglecreek.org

Staff and resident caretakers will care for the proposed stormwater management practices long term. Metro Blooms provides training through their sustainable landcare program, with at least one training in the spring, summer and fall of 2021. Caretakers have been exceptionally committed to the projects installed in 2020 this fall. We anticipate long term success of these projects and Phase 2 projects with this dedicated staff. Project stewards contribute to this by encouraging and demonstrating a culture of landscape stewardship at Brook Gardens.

Phase 2 Impact: Brook Gardens is immediately adjacent to Shingle Creek, with a small portion of the property in the floodplain. The property flows directly into the creek via overland flow and through 4 catch basins in the central courtyard. Shingle Creek, from its headwaters in Brooklyn Park at the junction of Bass Creek and Eagle Creek to its confluence with the Mississippi River in Minneapolis, is impaired for aquatic life due to excessive levels of chloride and aquatic recreation, due to bacteria.

Shingle Creek was the first stream in Minnesota to be designated an Impaired Water for excess chloride (1998). The 2007 Shingle Creek Chloride TMDL study required a 71% reduction in chloride. A review completed in 2014 revealed there had been no improvement in stream water quality, even though reductions in road salt use had occurred. In addition to a reduction in road salt by public agencies, as the majority land owner, private property partnerships are integral to reducing chloride. The proposed project addresses this impairment through runoff volume reduction and smart salting education. In addition to chloride reduction, the proposed stormwater best management practices for Phase 2 capture:

- 4.544 lbs Total Phosphorus,
- 1,670 lbs of solids, and
- 796,607 gallons of runoff annually

Projects were modeled in WINSLAMM, based on soil infiltration testing, using the MPD infiltrometer from Upstream Technologies, in the northern half of the courtyard and northeast corner of the property, which averaged 7.64 in/hr. All the raingardens were modeled with an infiltration rate of 2.5in/hr with the exception of RG A by the office which was modeled with an infiltration rate of .1in/hr. Preliminary site investigation in the areas around the office indicated heavily compacted soils with much slower infiltration rates. To address this, the raingarden by the office will only be 3” deep. Additionally, we investigated soils in the roundabout at the end of the eastern drive lane which resulted in infiltration over 8 in/hr. Unfortunately a soil auger test to a depth of 4’ indicated the water table was 2.5’ from the bottom of a proposed 6” deep raingarden in this area. Due to the high groundwater levels, we are unable to capture runoff from the eastern drive lane in a cost effective manner.

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Additionally, as the Emerald Ash Borer moves through Brooklyn Park, reforesting Brook Gardens with a sustainable tree canopy is an integral part of ecological site design. As part of this project, we'll be working with a Brooklyn Park ISA-certified arborist, Arbortech, to remove 10 ash trees on site. These will be replaced with a diversity of pollinator-friendly shade tree species as part of the work in 2021. We place a special emphasis on tree species that are habitat for the endangered Rusty Patched Bumblebee, Minnesota's native, and declining, state bee. Following Phase 2, Brook Gardens will provide more than 7,124 square feet of native pollinator habitat to support the Rusty Patched and other wildlife.

Project partner Metro Blooms utilizes WINSLAMM modeling software to quantify environmental impact of the project. Chloride reduction is not quantified in WINSLAMM. This is quantified anecdotally with reporting from property management about reduction in salt use due to Smart Salting training. In addition to environmental benefits, this project is focused on equity and engagement. These benefits are evaluated through story gathering by Metro Blooms from the residents, management, and partners as well as an ongoing evaluation of who is benefitting from the project and how the clean water investment dollars are supporting the community. Measures of success:

- WINSLAMM modeling includes runoff, sediment, and total phosphorus reduction
- Number of staff and residents trained in maintenance and proper salt application (goal: 100% of staff, caretaker, and project stewards trained)
- Number of attendees at educational and engagement events (goal: 10 adults and 20-30 youth/event)
- Number of project stewards engaged (goal: 5)
- Storytelling (Goal: residents report increase in environmental literacy, are knowledgeable about actions they can take to improve water quality, and feel empowered to continue leading stewardship of the outdoor spaces at Brook Gardens. Goal: project partners show an increase in knowledge about stormwater management and how it improves quality of life.)

2. If this request is for cost share in "upsizing" a BMP, explain how the upsize cost and benefit were computed.

Not Applicable

3. Show total project cost and the amount of cost share requested.

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See attached budget

4. What is the project schedule, when will work on the BMP(s) commence and when will work be complete?

Phase 2 Timeline:

- January - March 2021: Design/plan development; resident engagement through flyers and phone surveys or potential in person meeting (COVID dependent)
- March - April 2021: Send project to bid, select contractor; resident update through stewards; ash tree removals
- May - September 2021: Installation, hire residents to plant/install gardens and trees
- February - June 2021: New playground design/installation (pending Kaboom grant)
- Summer/Fall 2021: Maintenance trainings, operation + maintenance plan, as builts; Phase 2 celebration
- Fall 2021: Smart Salting training

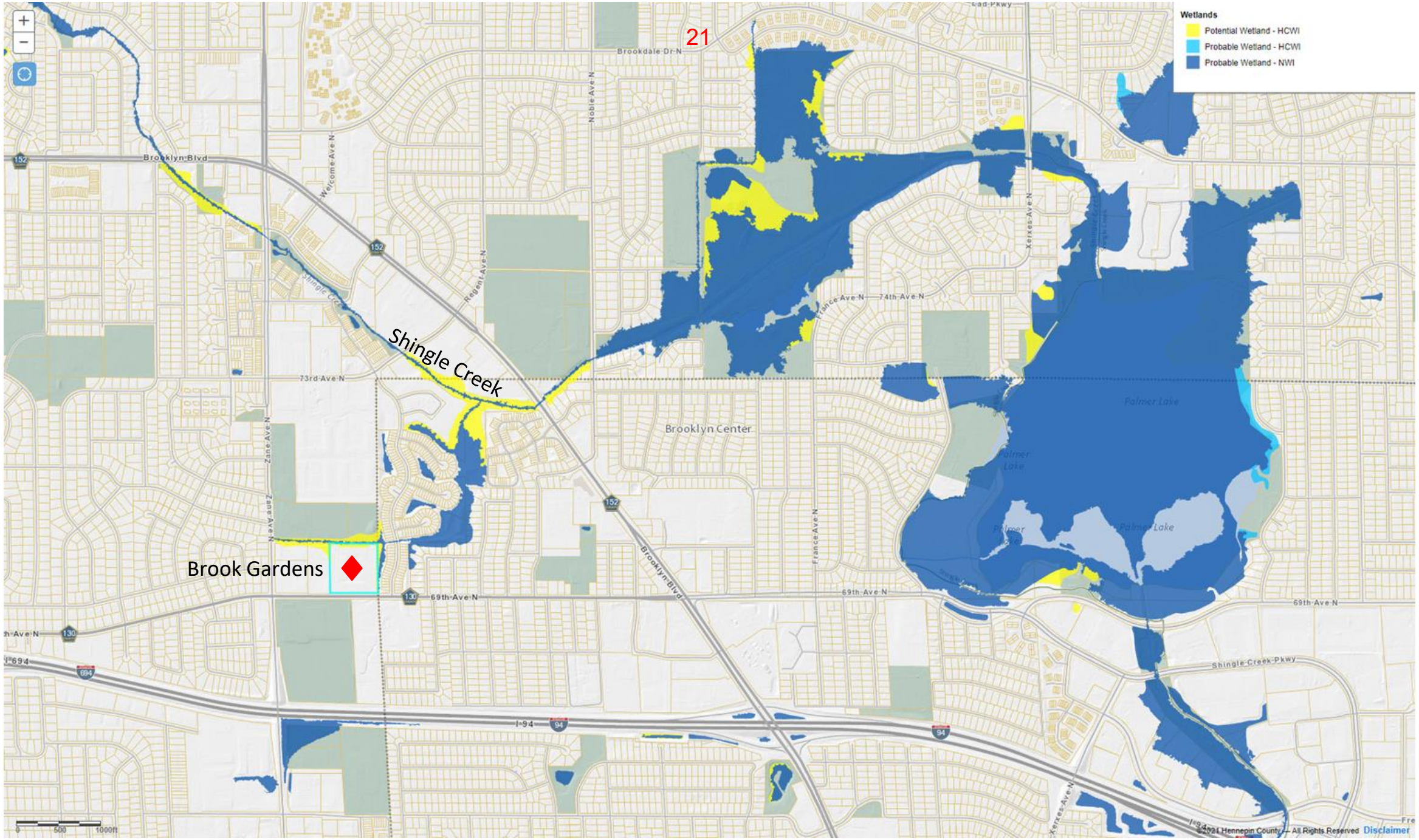
The member City must verify that a public easement (or equivalent) is dedicated and that an Operations and Maintenance Agreement has been executed and recorded prior to release of any funds.

Brooks Gardens: Habitat, Clean Water, + Livability

April 8, 2021
Shingle Creek Watershed Management Commission

Boisclair

CORPORATION


21
Wetlands
Potential Wetland - HCWI
Probable Wetland - HCWI
Probable Wetland - NWI
Brookdale Dr N
Noble Ave N
Brooklyn Blvd
Welcome Ave N
Regent Ave N
Shingle Creek
73rd Ave N
Zane Ave N
Brooklyn Center
France Ave N
74th Ave N
Xerxes Ave N
Palmer Lake
Brook Gardens
69th Ave N
Brooklyn Blvd
Shingle Creek Pkwy
I-94
694
152
130
94
0
500
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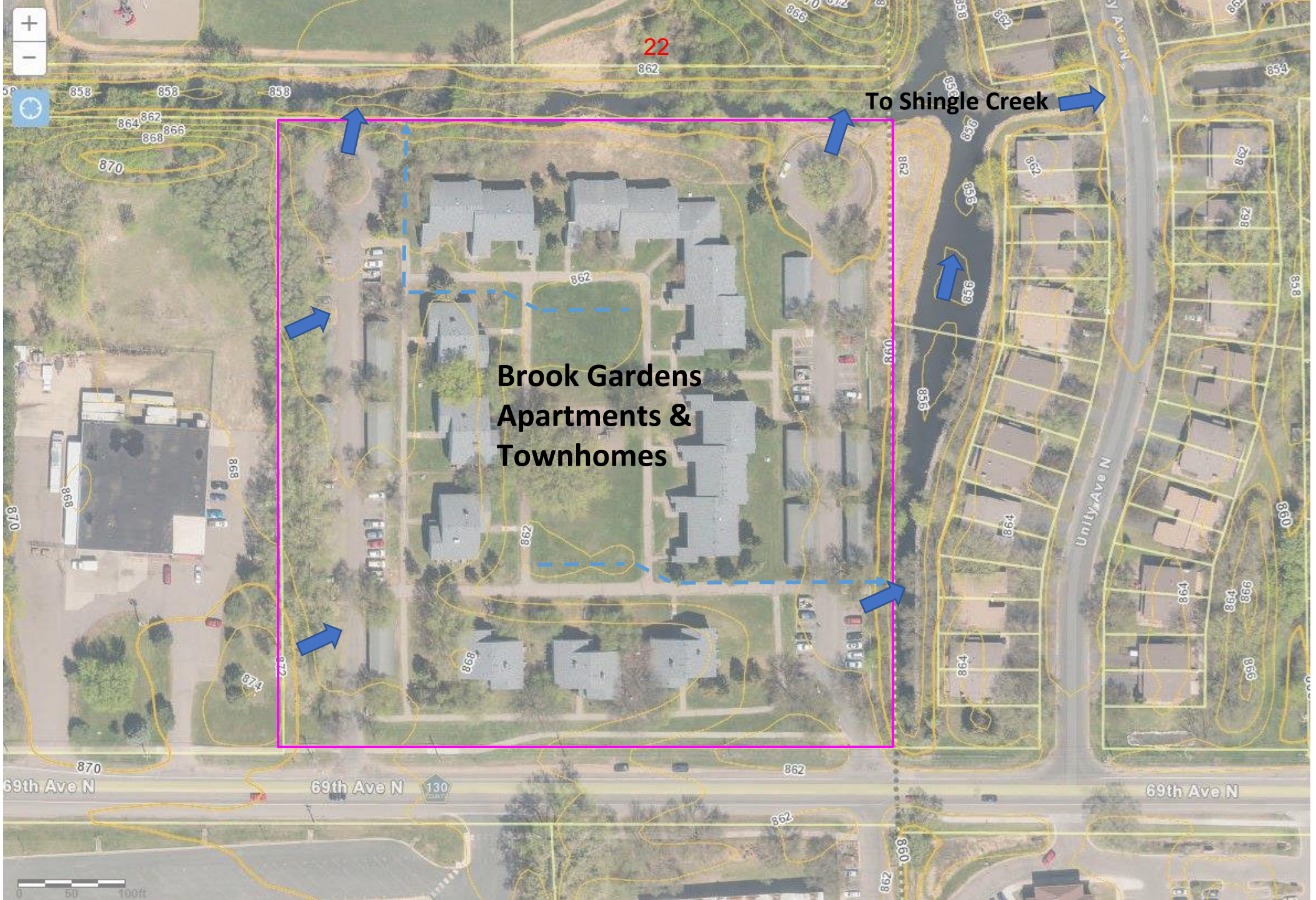

22
To Shingle Creek
Brook Gardens
Apartments &
Townhomes
69th Ave N
69th Ave N
69th Ave N
Unity Ave N

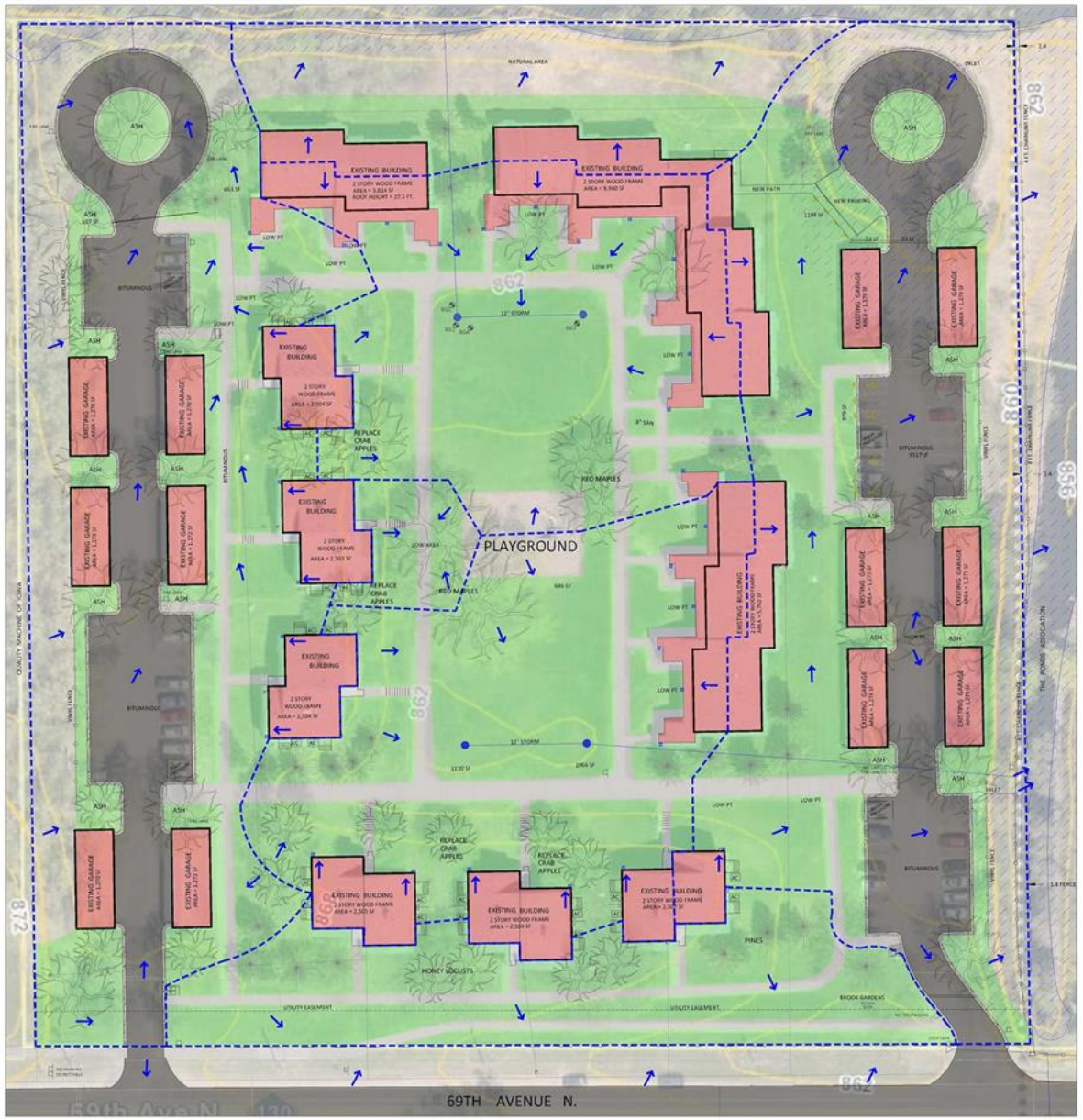
BROOK GARDENS APARTMENTS AND TOWNHOMES

- Affordable housing community
  (Section 8 & 42)

- 8.14 acres,
  3.06 acres impervious
  4.00 acres lawn
  1.00 acre wooded floodplain area

- 60 apartment units & 24 townhomes

- Direct stormwater flow from North and East floodplain to Shingle Creek



EXISTING SITE INFO

TOTAL AREA:	354,671 sq ft (8.14 acres)
PERVIOUS:	221,009 sq ft (5.07 acres)
LAWN	174,474 sq ft (4.00 acres)
NATURAL	44,240 sq ft (1.01 acres)
IMPERVIOUS:	133,662 sq ft (3.06 acres)
TREES:	Approx 80 (25 ash - 31%)
PARKING:	62 spaces + garages

POTENTIAL STORMWATER RUNOFF:
1.1"/24 hour rain event
12,219 cubic feet (91,404 gallons)

30.7" Annual Average Rainfall
377,468 cubic feet (2,823,661 gallons)

4.25 Olympic Swimming pools

LEGEND

- Lawn
- Building
- Parking/Fire Lane
- Walkways/Patios
- Flood zone
- Direction of Runoff
- Downspouts
- Property Line
- Utilities
- Existing Fence
- Sub-catchment areas
- Soil Infiltration Test
- Existing Tree

SOIL INFILTRATION TESTS
BG1: 8.64 IN/HR
BG2: 15.64 IN/HR
BG3: 0.92 IN/HR
BG4: 5.53 IN/HR

PARKING

PATHS

PLAYGROUND

GREEN SPACE

Guiding Principles + Project Stewards

Resident Engagement

Design Co-Creation

Community Improvements

Mapping Walking Patterns, Site Uses & Wants

Desirable Site Amenities

RESIDENT FEEDBACK SUMMARY

- MORE PLANTINGS FOR COLOR
- RESIDENT GARDEN PLOTS
- MORE SEATING / BENCHES UNDER SHADE
- MORE PLAY SPACES FOR KIDS
- GATHERING SPACES
- AREA FOR SPORTS LIKE SOCCER
- ACCESSIBLE SIDEWALKS (NW SIDE)
- MORE WALKING PATHS
- BETTER LIGHTING FOR SAFETY
- MORE SIGNAGE
- VISITOR PARKING
- BUS SHELTER WAITING AREA

Phase 1: 2020

BEFORE

Phase 1: 2020 CONCEPT PLAN

NATURE PLAY

NEW PATHS

BROOK GARDENS APARTMENTS AND TOWNHOMES

CONCEPT PLAN PHASE 1

LEGEND

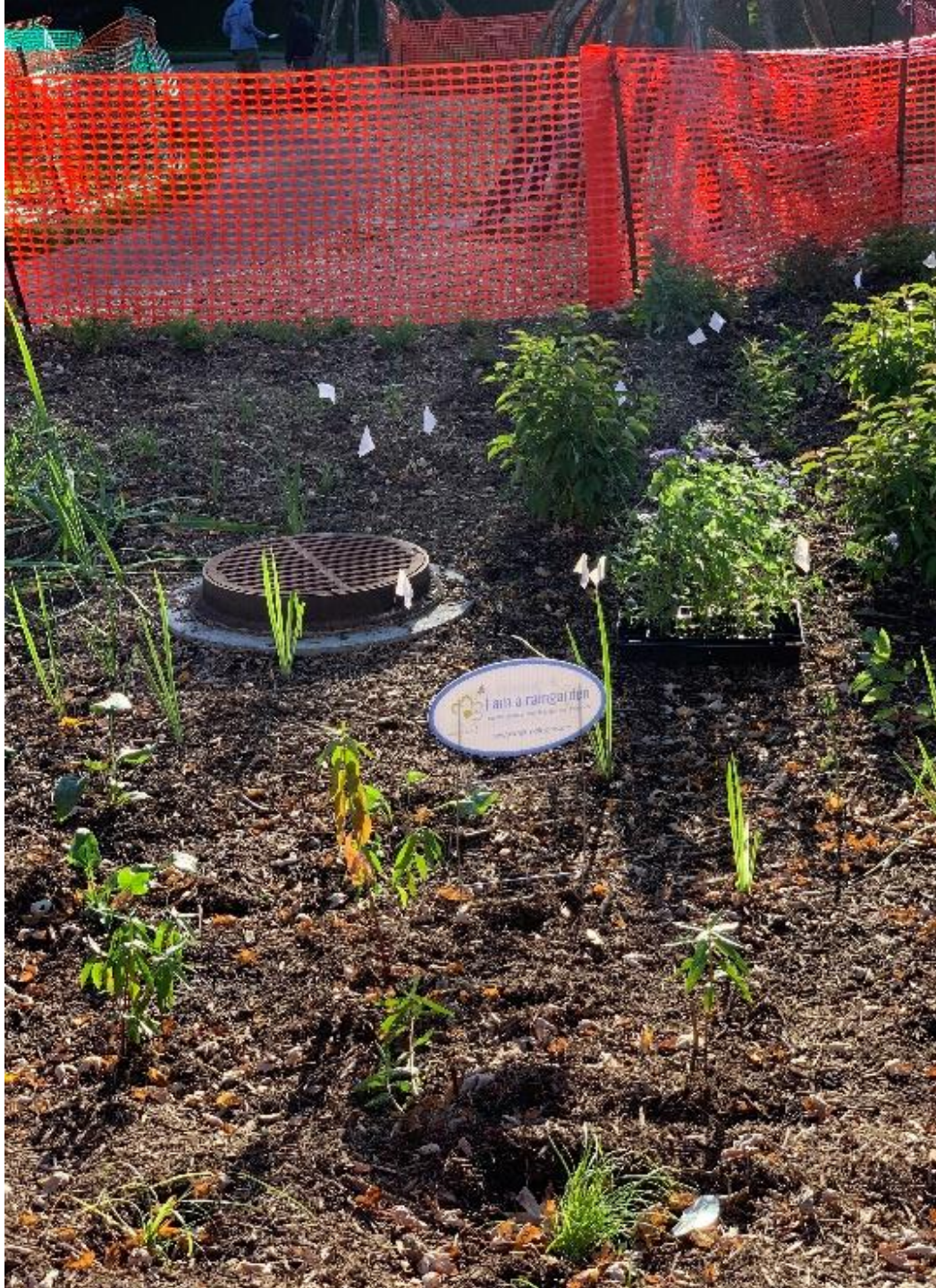
- Phase 1
- Drainage Area
- Impervious
- Walkways/Patios
- Flood zone
- Direction of Runoff
- Property Line
- Utilities
- Existing Fence
- Sub-catchment areas
- Existing Tree
- Proposed Trees

RESIDENT INTERESTS SUMMARY

- Plantings for color
- Resident garden/vegetable beds
- More seating/benches under shade
- More play spaces for children
- Soccer, basketball courts
- Gathering spaces
- ADA sidewalk access (NW side)
- Circuit walking path or more paths
- More signage
- Visitor Parking
- Better lighting (safety concerns)
- Bus shelters/waiting areas

PHASE 1 CAPTURE AREA

RG 1A & 1B - 45688 sf
RG 1C - 27324 sf



4,282 sq ft new habitat

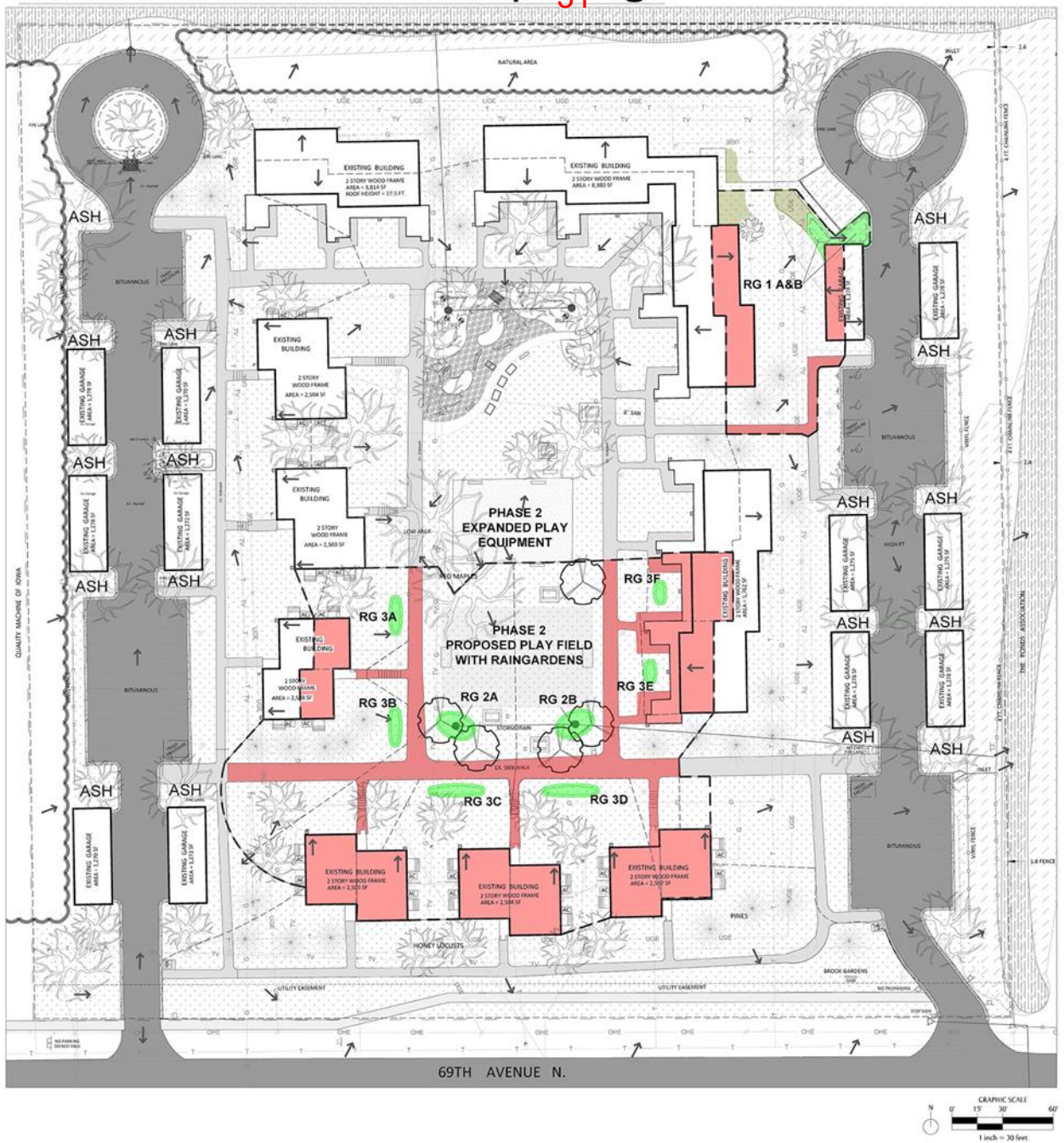
Annual Capture

- 1.17 million gallons runoff
- 2,000 lbs solids
- 4.5 lbs total phosphorus

Somewhere to Play

Phase 2: 2021

Brook Gardens Phase 2 Concept Design



LEGEND

- Proposed Planted Areas
- Proposed Raingardens
- Impervious Area Treated in Raingardens
- Lawn
- Building
- Parking/Fire Lane
- Walkways/Patios
- Flood zone
- Creek
- Direction of Runoff
- Downspouts
- Drainage area to proposed raingarden
- Property Line
- Utilities
- Existing Fence
- Sub-catchment Treament Limits
- Soil Infiltration Test
- Storm Sewer Catch Basin
- Sanitary Sewer Man Hole
- Lights
- Existing Tree
- Proposed Tree
- Proposed Table & Grill

PHASE 2 DESIGN INTENT

Building on progress from phase 1, phase 2 is continues the two primary collective goals of the Brook Gardens community:

The first goal is to build community gathering and play space, this time for older children and adults. Consistent resident feedback requests a place for ball sports, a sturdier playgound and the creation of planted areas with seating in shade.

The second vital goal captures stormwater runoff near the office prior to the direct inlet to the creek, as well as significant lawn runoff from the south central commons field area which currently flows into a stormdrain straight into the creek. These specific focus areas would intercept the remaining half of stormwater flow not addressed in Phase 1.

In support of the creation of tree canopy, ten of the approximate 24 existing ash trees will be removed and replaced through the Hennepin County tree grant in 2021, installing a diverse addition of hardy urban tree species.

EXISTING OFFICE ENTRY

EXISTING SOUTH COMMON AREA

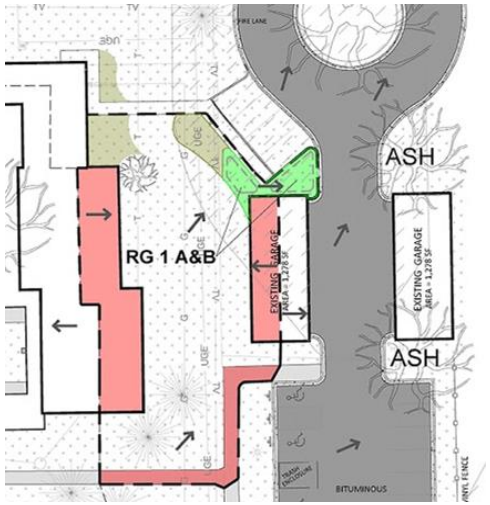
Proximity to Creek:

Right of East Garages

Behind Office & North Apartments

Phase 2 Capture

SITE KEY



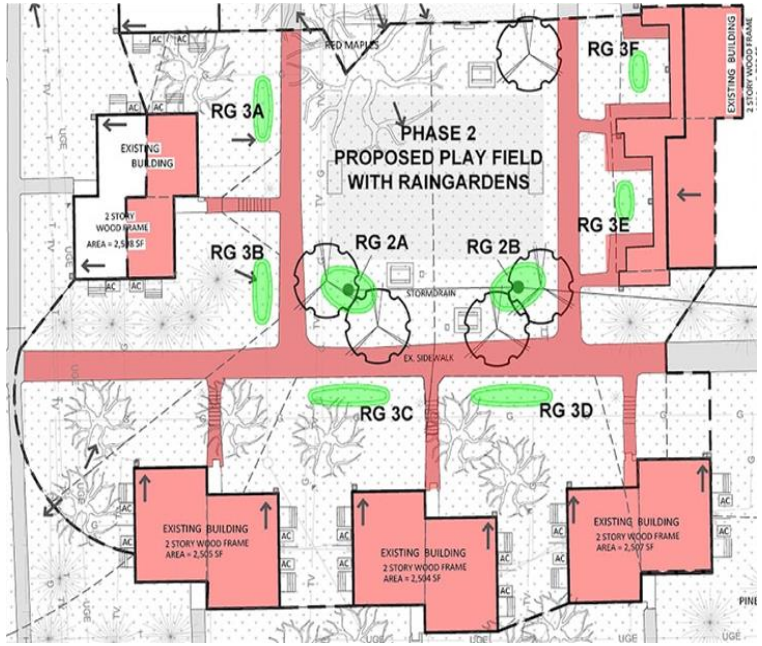
1 OFFICE CAPTURE

Impervious area treated:	2894 sq ft
Lawn area treated:	6153 sq ft
Total Raingarden Area:	474 sq ft @ 3” deep

Runoff Captured Annually:

- 7006 cu ft (52,408.52 gallons) (32.26%)
- 0.304 pounds Total Phosphorus reduction (31.44%)
- 110 pounds Total Suspended Solids reduction (31.56%)

Modeled with WinSLAMM using .1”/24 hr infiltration rate



2 SOUTH COURTYARD CAPTURE

Impervious area treated:	18,618 sq ft
Lawn area treated:	34,274 sq ft
Total Raingarden Area:	1,612 sq ft @ 6” deep

Runoff Captured Annually:

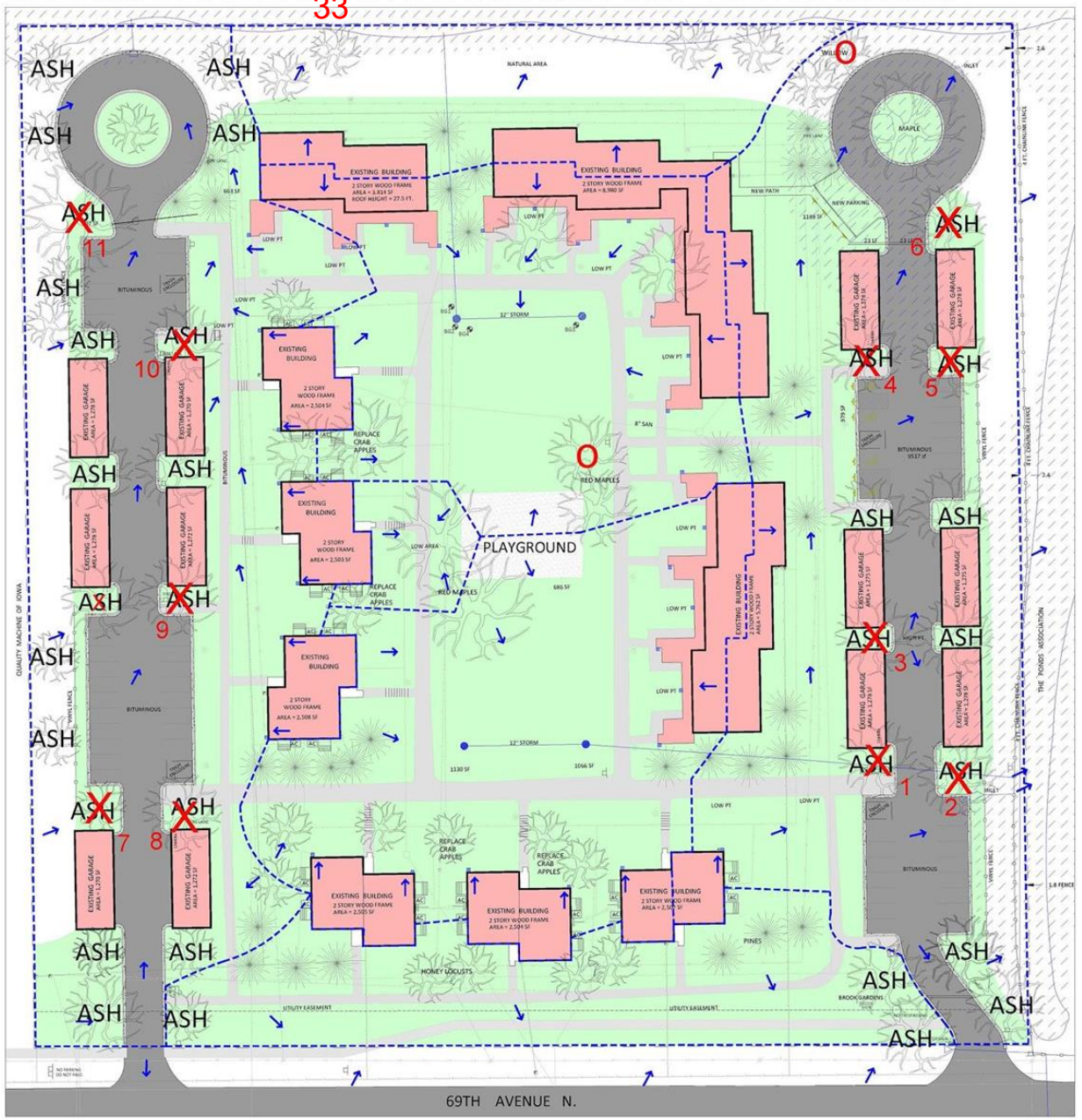
- 99,485 cu ft (744,199 gallons) (82.02% avg)
- 4.240 pounds Total Phosphorus reduction (81.65% avg)
- 1,560.38 pounds Total Suspended Solids reduction (81.72% avg)

Modeled with WinSLAMM using 2.5”/24 hr infiltration rate

Sustainable Tree Canopy

DRIVE LANE TREES

BROOK GARDENS APARTMENTS AND TOWNHOMES



5550 - 69th Avenue North, Brooklyn Park, MN 55429

GRAPHIC SCALE
0' 15' 30' 60'
1 inch = 30 feet

EXISTING SITE INFO

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LEGEND

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- Building
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- Walkways/Patios
- Flood zone
- Direction of Runoff
- Downspouts
- Property Line
- Utilities
- Existing Fence
- Sub-catchment areas
- Soil Infiltration Test
- Existing Tree
- ASH Ash Trees to remove

SOIL INFILTRATION TESTS

BG1: 8.64 IN/HR
BG2: 15.64 IN/HR
BG3: 0.92 IN/HR
BG4: 5.53 IN/HR

Funding Request: $30,000

Committed Match:

- Hennepin County Opportunity Grant: $40,257
- Boisclair Corporation: $2,850
- Hennepin County Tree Canopy Grant: $13,000

Total Project Cost Estimate: $86,107

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Artwork: Maggie Wiebe