

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2022-068

**Considered at Board of Managers Meeting:** April 12, 2023

**Application Received complete:** February 16, 2023

**Applicant:** Craig Schmidt

**Consultant:** Loucks Inc.

**Project:** KIWATCHI home development– The applicant proposes the demolition of an existing single-family home and the construction of four residential single-family homes and associated stormwater infiltration basin

**Location:** The northeast corner of Duck Lake Road and Claycross Way in Eden Prairie, MN

**Reviewer:** Katherine Tomaska, EIT, and Scott Sobiech, PE, Barr Engineering

### Proposed Board Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the April 12, 2023 meeting of the managers:

Resolved that the application for Permit 2022-068 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2022-068 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, \_\_\_\_\_ [VOTE TALLY].

**Applicable Rule Conformance Summary**

Rule	Issue	Conforms to RPBCWD Rules?		Comments
C	Erosion Control Plan	See Comment		See rule-specific permit condition C1 related to name of individual responsible for on-site erosion control.
D	Wetland and Creek Buffers	See Comment		See rule-specific permit condition D1 related to recordation of buffer maintenance declaration.
J	Stormwater Management	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See comment.	See rule-specific permit condition J1 related to recordation of stormwater facility maintenance declaration.
		Chloride Management	Yes	
		Wetland Protection	Yes	
L	Permit Fee Deposit	Yes		\$3000 received September 15 2022. As of March 31, 2023 the amount due is \$7,826.
M	Financial Assurances	See Comment		The financial assurance is calculated at \$66,897.

**Project Description**

The applicant proposes the subdivision of an existing single family home parcel into a four-lot single-family residential development with associated sewer and utilities, and the construction of an infiltration basin for stormwater management. The project also includes the removal of an existing gravel drive and demolition of an existing home and driveway. No street or other impervious common-area construction is included in the plans. The 1.93-acre project site is located at the northeast corner of Duck Lake Trail and Claycross Way in Eden Prairie, MN.

The water resources within the project site or downgradient of the proposed activities are summarized in the following table. The table also provides a brief explanation of how each resource is implicated in the permit application review process.

**Water resource impacted by proposed project**

Water Resource	Projected resource impacts
Wetland 1	A Wetland Conservation Act-protected wetland onsite and downgradient from proposed land-disturbing activities.
27-820-W	An off-site Public Water Wetland downgradient receiving direct runoff from the site for events greater than the 1-year rainfall

The project site information is summarized below:

Project Site Information	Area (acres)
Total Site Area	<b>1.93</b>
Existing Site Impervious	0.21
Proposed Site Impervious Area	0.42
Change in Site Impervious Area	0.21 (100% increase)
Disturbed Impervious Area	<b>0.21 (100% disturbed)</b>
Exempt Impervious Area (boulevard sidewalks)	0.03
Regulated Impervious Surface	0.39
Total Disturbed Area	1.6

Exhibits:

1. Permit Application received August 22, 2022 (The applicant was notified on September 12, 2022 that the submittal was incomplete; materials completing the application were received on February 16, 2023)
2. Stormwater Management Plan dated August 22, 2022 (revised January 17, 2023, February 16, 2023, and March 17, 2023)
3. Preliminary Project Plan Set dated August 22, 2022 (revised January 17, 2023, February 16, 2023, and March 17, 2023)
4. HydroCAD model received August 22, 2022 (revised February 16, 2023, and March 17, 2023)
5. MnRAM Wetland Assessment Data Form & Score Sheet dated January 09, 2022
6. Wetland Delineation report dated January 12, 2022
7. Preliminary Plat dated August 22, 2022
8. Boundary and Topographic Survey dated January 12, 2022
9. Report of Geotechnical Exploration dated January 25, 2022
10. Double Ring Infiltrometer Test Results dated July 07, 2022
11. Cost Estimate date February 15, 2023
12. Copy of City Correspondence dated October 11, 2022
13. P8 model received February 16, 2023
14. MIDs model received Mach 17, 2023

## **Rule Specific Permit Conditions**

### **Rule C: Erosion and Sediment Control**

Because the project will alter 1.6 acres of land-surface area, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control plan prepared by Loucks Inc. includes installation of silt fence perimeter control, rock construction entrance, inlet protection, weekly inspection, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to the RPBCWD Rule C requirements the following revisions are needed:

- C1. The Applicant must provide the name and contact information of the individual responsible for erosion control at the site. RPBCWD must be notified if the responsible individual changes during the permit term.

### **Rule D: Wetland and Creek Buffers**

Because the proposed work triggers a permit under RPBCWD Rule J and the onsite wetland is downgradient from the proposed construction activities, Rule D, Subsections 2.1a and 3.1 require buffer along the edge of the wetland downgradient of the activities. No land disturbing activities are proposed within the onsite wetland. Because wetland 27-820-W (a public water wetland rated as medium value) is at least 40 feet from the site boundary, Rule D does not result in requiring wetland buffers for this wetland on the project site.

The MnRAM analyses indicate that Wetland 1 (Eden Prairie wetland 05-21-B) is considered a medium value wetland. Rule D, Subsection 3.2.a.iii requires wetland buffer with an average of 40 feet from the delineated edge of the wetland, minimum 20 feet for medium value wetlands. The buffer widths are summarized in the table below.

Wetland ID	RPBCWD Wetland Value	Required Minimum Width (ft)	Required Average Width (ft)	Required Area (sq ft)	Provided Area (sq ft)	Provided Minimum Width (ft)	Provided Average Width (ft)
Wetland 1 (05-21-B)	Medium	20	40	9,880	10,962	37	44.4

The plans require revegetating disturbed areas within the proposed buffer with native vegetation, thus conforming to Rule D, Subsection 3.3. The engineer's review of plan sheets shows that buffer markers will be placed per District criteria (Subsection 3.4).

A note is included on the plan sheet indicating the project will be constructed so as to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible conforming to Rule D, Subsection 3.6.

To conform to the RPBCWD Rule D the following revisions are needed:

D1. Before any work subject to District permit requirements commences, buffer areas and maintenance requirements must be documented in a declaration recorded after review and approval by RPBCWD in accordance with Rule D, Subsection 3.5.

**Rule J: Stormwater Management**

Because the project will disturb 1.6 acres of land-surface area, the project must meet the criteria of RPBCWD’s Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire project site and all impervious area because the project will disturb 100% of the existing impervious surface and will increase the imperviousness of the entire site by 100% percent (i.e., more than 50 percent; Rule J, Subsection 2.3). The applicant proposes one infiltration pond to provide volume control, water quality, and rate control.

**Rate Control**

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The Applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
Wetland 1 (onsite)	0.9	0.2	2.7	0.8	8.3	5.4	1.0	1
Duck Lake Rd	1.2	0.2	2.1	0.6	4.3	2.2	0.3	0
Claycross Way	0.4	0	0.3	0	0.9	0	<0.1	0

The proposed stormwater management plan will provide rate control in compliance with the RPBCWD requirements for the 2-, 10-, and 100-year events. Thus, the proposed project meets the rate control requirements in Rule J, Subsection 3.1a.

**Volume Abstraction**

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from all regulated impervious surface within the parcel. An abstraction volume of 1,549 cubic feet is required from the 0.39 acres (16,898 square feet) of regulated impervious area within the project site. The City requires that driveways drain towards the street. The applicant proposes modifying an existing catch basin to send the runoff routed to Duck Lake Road into the on-site infiltration basin. The modification will route flows up until the 1-year event into the infiltration basin. In addition, the applicant proposes installing a catch basin on

Claycross way to send runoff from the street to the proposed infiltration basin. Plans indicate pretreatment for runoff entering the infiltration basin is provided by vegetated yards and sump manholes, thus the proposed project conforms with RPBCWD Rule J, Subsection 3.1b.1.

Three soil borings in the Preliminary Geotechnical Exploration and Review Report conducted by American Engineering Testing, Inc. on January 11, 2022, indicate the site is predominately clayey sand soils. Soil boring B-4 was within the footprint of the proposed infiltration basin. Groundwater was not encountered at the bottom of the boring. The subsurface investigation information summarized in the table below shows that groundwater is at least 3 feet below the bottom of the proposed infiltration basin (Rule J, Subsection 3.1.b.2.a).

Boring ID	Boring is within footprint?	Groundwater Elevation (feet)	BMP Bottom Elevation (feet)	Separation (feet)
B-4	Yes	No groundwater observed at bottom of boring (890.2)	895.75	5.55

Based on the infiltrometer testing conducted by American Engineering Testing, Inc. on September 23, 2022, the infiltration rate within the basin area is 0.39 in/hr. The applicant used a design infiltration rate of 0.2 in/hr to size the infiltration basin. The engineer concurs with the applicant’s design infiltration rate, which is lower than the measured rate to provide a factor of safety. The engineer concurs that the infiltration basin will draw down within 48 hours (Rule J, subsection 3.1b.3).

The engineer concurs with the submitted information and finds that the proposed project will conform with Rule J, Subsection 3.1.b. The table below summarizes the volume abstraction for the site.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	1,549	1.1	1,549

**Water Quality Management**

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The applicant has demonstrated and the engineer concurs that the volume abstraction is provided in accordance with 3.1b.

**Low floor Elevation**

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b.

The low floor elevation of the proposed houses and the 100-year high water elevation of the infiltration basin are summarized below. Because the low floor elevations of the proposed structures are more than two feet above the 100-year high water elevation of the stormwater facility, the proposed project is in conformance with Rule J, Subsection 3.6.

Lot Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Infiltration Pond (feet)	Freeboard provided (feet)
Lot 1	902	897.84	4.16
Lot 2	901.5	897.84	3.66
Lot 3	901	897.84	3.16
Lot 4	900	897.84	2.16

**Maintenance**

Subsection 3.7 of Rule J requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed.

- J1. Permit applicant must provide a maintenance and inspection declaration. A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcwd.org/permits/>). A draft declaration must be provided for District review prior to recording.

**Chloride Management**

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. The RPBCWD chloride-management plan requirement applies to the streets and common areas of the project site, but not the individual single-family homes. Because there are no street or common areas, Rule J, subsection 3.8 does not impose requirements on this project.

**Wetland Protection**

Because the proposed activities discharge to on-site Wetland 1 and off-site wetland 27-820-W , and alter the discharge the wetlands receive from the site, the project must conform to RPBCWD wetland protection criteria (Rule J, subsection 3.10).

Wetlands 1 and 27-820-W have been assessed as medium value wetlands. The following tables summarize the allowable change in bounce and inundation duration from Table J1 of RPBCWD Rule J as well as the applicant’s analysis for wetland protection and the potential impacts on the wetlands. The Engineer concurs that the proposed project conforms to the wetland bounce and inundation requirements.

**Summary of allowable impacts on onsite wetland from Rule J, Table J1**

Wetland Value/ Waterbody	Permitted Bounce for, 10-Year Event	Inundation Period for 1- and 2-Year Event	Inundation Period for 10-Year Event	Runout Control Elevation
Medium	Existing +/- 1.0 feet	Existing+2 days	Existing +14 days	0 to 1.0 ft above existing runout

**Impacts of Project on Wetlands**

Wetland	RPBCWD Wetland Value	Change in Bounce for, 10-Year Event (feet)	1-year change in Inundation Period (days)	2-year change in Inundation Period (days)	10-year change in Inundation Period (days)	Runout Control Elevation
Wetland 1 (05-21-B)	Medium	0.03	0.8	1.3	1.5	No change
27-820-W	Medium	0.03	0	0	0	No change

Rule J, Subsection 3.10b requires that any discharge to medium value wetland be treated to the water quality treatment criteria in Rule J, subsection 3.1c.

Rule J, Subsection 3.10b requires that treatment of runoff to medium value wetland meet the water quality treatment criteria in Rule J, subsection 3.1c. Because runoff from the project site is routed to the proposed infiltration basin and the basin provides the water quality treatment required in accordance with 3.1c.i, the engineer finds that the proposed project is in conformance with Rule J, Subsection 3.10b.

**Rule L: Permit Fee Deposit:**

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit \$3,000 to be held in escrow and applied to cover the \$10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,000 was received on September 15, 2022. . The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of March 27, 2023 the amount due is \$7,826.



**Rule M: Financial Assurance:**

	Unit	Unit Cost	# of Units	Total
<b>Rule C: Erosion Control</b>				
Silt Fence	LF	\$2.50	1,586	\$3,965
Inlet Protection	EA	\$100	6	\$600
Rock Entrance	EA	\$250	1	\$250
Restoration of disturbance	Ac	\$2,500	1.6	\$4,000
<b>Rule D: Wetland Buffer</b>	LS	\$5,000	1	\$5,000
<b>Rule J: Stormwater Management</b> Infiltration basin: 125% of engineer's opinion of cost (\$37,600)	EA	125% OPC	1	\$47,000
Contingency (10%)		10%		\$6,082
<b>Total Financial Assurance</b>				<b>\$66,897</b>

**Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
5. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
6. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.

7. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

### **Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rule C,D, and J if the Rule Specific Permit Conditions listed above are met.

### **Recommendation:**

Approval of the permit contingent upon:

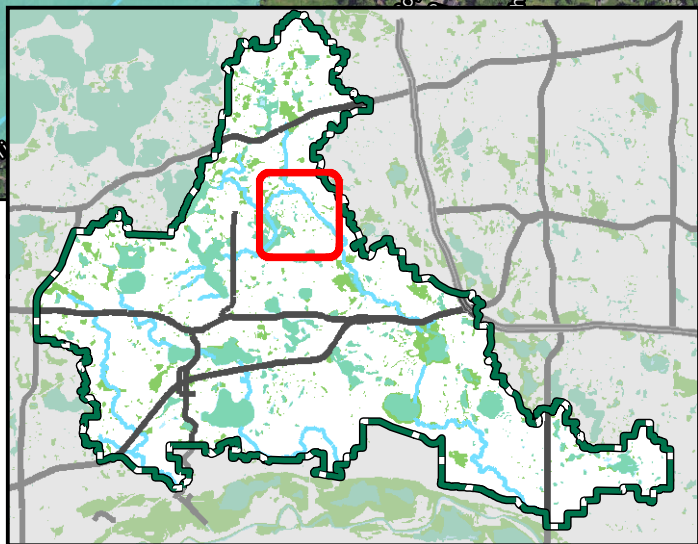
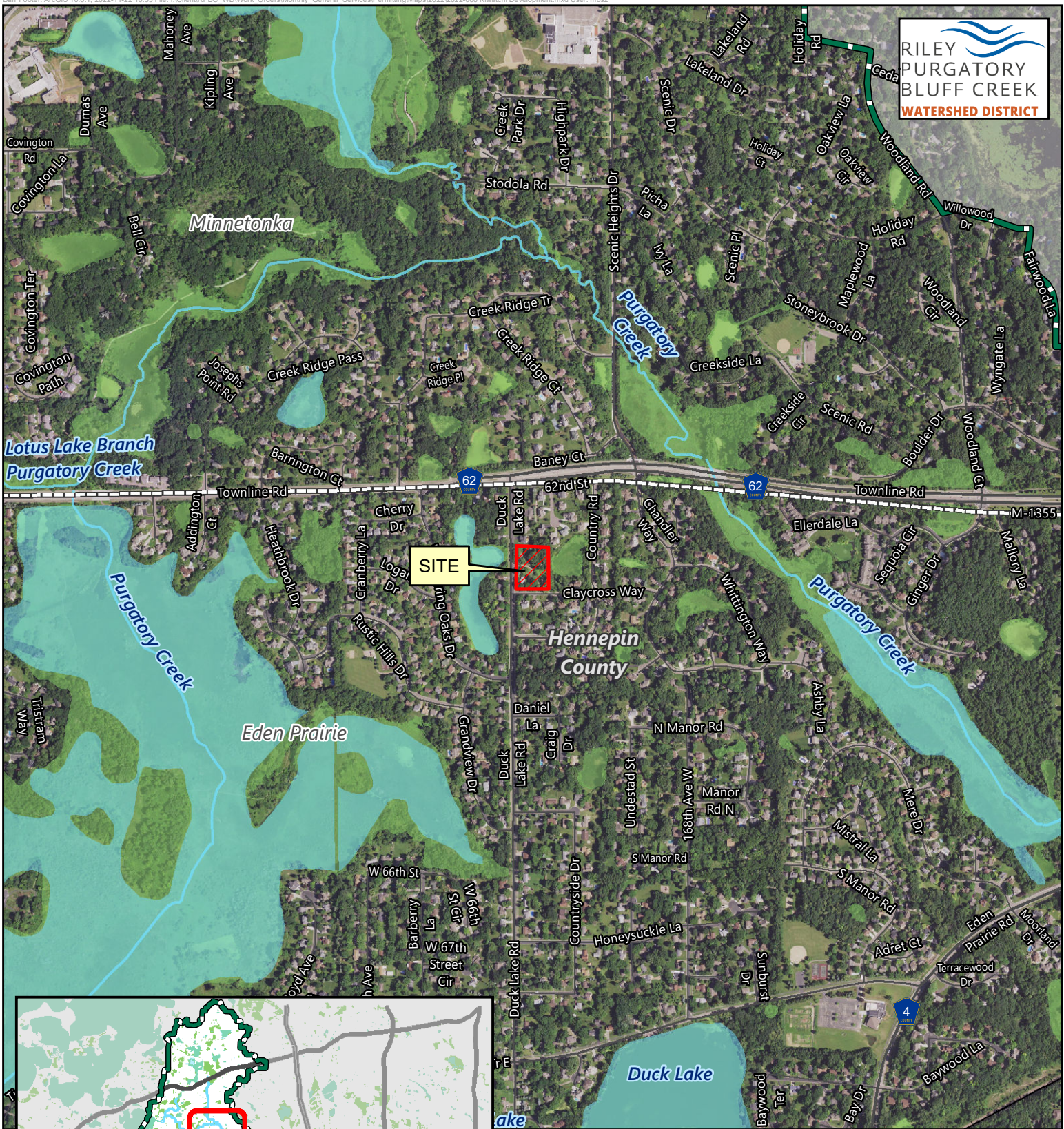
1. Financial Assurance in the amount of \$66,897.
2. Applicant providing the name and contact information of the individual responsible for erosion and sediment control at the site during construction.
3. Receipt in recordation a maintenance declaration for the operation and maintenance the wetland buffer areas and stormwater management facility. Drafts of all documents to be recorded must be reviewed and approved by the District prior to recordation and proof of recordation must be provided to RPBCWD.
4. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of March 27, 2023 the amount due is \$7,826.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Continued compliance with General Requirements
2. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, all the stormwater facility conform to design specifications and function as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:
  - a. the surveyed bottom elevations, water levels, and general topography of all facilities;
  - b. the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
  - c. the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
3. Providing the following additional close-out materials:
  - a. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria
4. The work on the Kiwatchi development under the terms of permit 2022-068, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to

be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.

5. Replenish the permit fee deposit to the original amount or such lesser amount as the RPBCWD administrator determines sufficient within 45 days of receiving notice that such deposit is due in order to cover continued actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules.



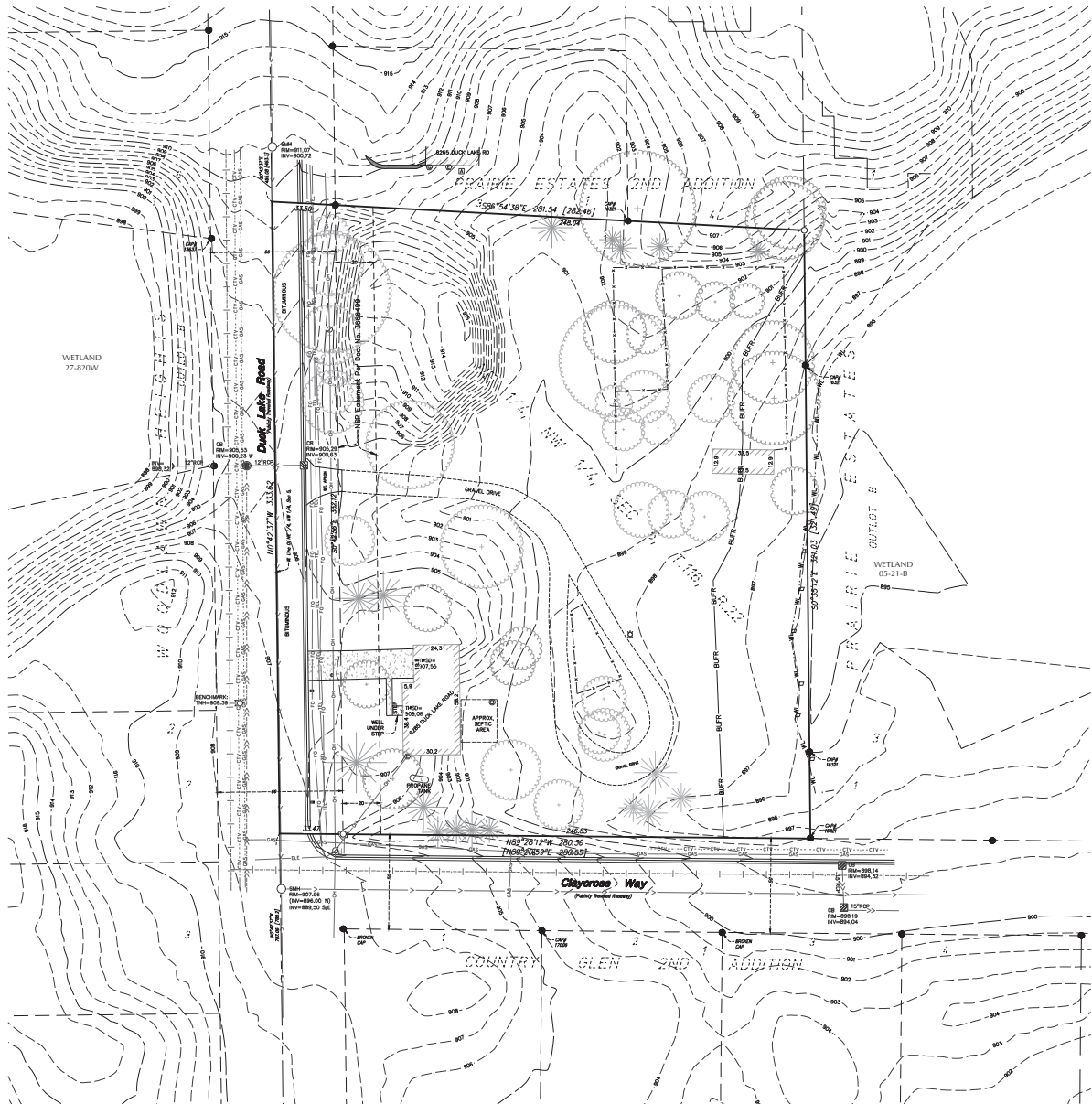
Feet



Permit Location Map

KIWATCHI DEVELOPMENT  
**Permit 2022-068**  
Riley Purgatory Bluff Creek  
Watershed District





**KIWATCHI ADDITION**  
 6285 DUCK LAKE ROAD  
 EDEN PRAIRIE, MN

6285 DUCK LAKE, LLC

17516 RUSTIC HILLS DRIVE  
 EDEN PRAIRIE, MN 55344

**LOUCKS**  
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7200 Hemlock Lane, Suite 300  
 Maple Grove, MN 55369  
 763.424.5505  
 www.loucksinc.com

SURVEY LEGEND		
AS	ASH	☉ CATCH BASIN
AP	APPLE	☉ STORM MANHOLE
BA	BASSWOOD	☉ SANITARY MANHOLE
BI	BIRCH	☉ WATER MANHOLE
BD	BOWLDER	☉ HYDRANT
BU	BUCKETE	☉ GATE VALVE
BS	BUSH	☉ POWER POLE
CA	CATALPA	☉ LIGHT POLE
CE	CEDAR	☉ YARD LIGHT
CD	COTTONWOOD	☉ GUY WIRE
DE	DEAD TREE	☉ SIGN
EL	ELM	☉72.5 SPOT ELEVATION
FR	MISC FRUIT	☉ A/C UNIT
FI	FIR	☉ CABLE TV FEDESTAL
HA	HACBERRY	☉ ELECTRIC FEDESTAL
HI	HICKORY	☉ TELEPHONE FEDESTAL
IR	IRONWOOD	☉ UTILITY FEDESTAL
LI	LINDEN	☉ ELECTRIC MANHOLE
LO	LOCUST	☉ GAS VALVE
MA	MARLE	☉ TELEPHONE MANHOLE
OA	OAK	☉ UTILITY MANHOLE
PA	PALM	☉ ELECTRIC METER
PI	PINE	☉ GAS METER
PO	POPLAR	☉ HAND HOLE
SP	SPRUCE	☉ ROOF DRAIN
TR	TREE (GEN)	☉ ELECTRIC OUTLET
WA	WALNUT	☉ FIRE CONNECTION
WI	WILLOW	☉ MAILBOX
TC	TOP OF CURB	☉ FLAG POLE
TW	TOP OF WALL	☉ GUARDPOST
THSD	ELEV @ THRESHOLD	☉ MONITORING WELL
		☉ POST INDICATOR VALVE
		☉ SOL. BORING
		☉ STORM SEWER
		☉ SANITARY SEWER
		☉ WATERMAIN
		☉ SANITARY SEWER SERVICE
		☉ WATER SERVICE
		☉ CULVERT
		☉ UNDERGROUND CABLE TV
		☉ UNDERGROUND ELECTRIC
		☉ UNDERGROUND FIBER OPTIC
		☉ UNDERGROUND GAS
		☉ UNDERGROUND TELEPHONE
		☉ OVERHEAD UTILITY
		☉ UNDERGROUND TRAFFIC
		☉ DRAIN TILE
		☉ FORCE MAIN
		☉ CHAIN LINK FENCE
		☉ POST FENCE
		☉ WOOD FENCE
		☉ GUARDRAIL
		☉ RETAINING WALL
		☉ TRAFFIC SIGNAL
		☉ CONCRETE CURB
		☉ CONCRETE
		☉ BITUMINOUS
		☉ PAVERS
		☉ CONTOUR
		☉ RAILROAD TRACKS
		☉ CONFEROUS TREE
		☉ DECIDUOUS TREE
		☉ WETLAND DEMONSTRATION

**CADD QUALIFICATION**

CADD files prepared by the Consultant shall be the responsibility of the Consultant. The Consultant shall be responsible for the accuracy of the CADD files and shall be responsible for the accuracy of the CADD files and shall be responsible for the accuracy of the CADD files.

**SUBMITTAL/REVISIONS**

Date	Description
08/22/22	CITY SUBMITTAL
09/15/22	SCH. BORINGS
07/17/23	WATERSHED COMMENTS
08/16/23	WATERSHED COMMENTS
03/17/23	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.

**PRELIMINARY**

License No. 203583

**QUALITY CONTROL**

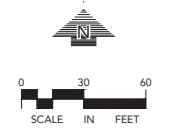
Project No.	Lead
21680	TWM
Drawn By	HW
Checked By	HW
Review Date	08/22/22

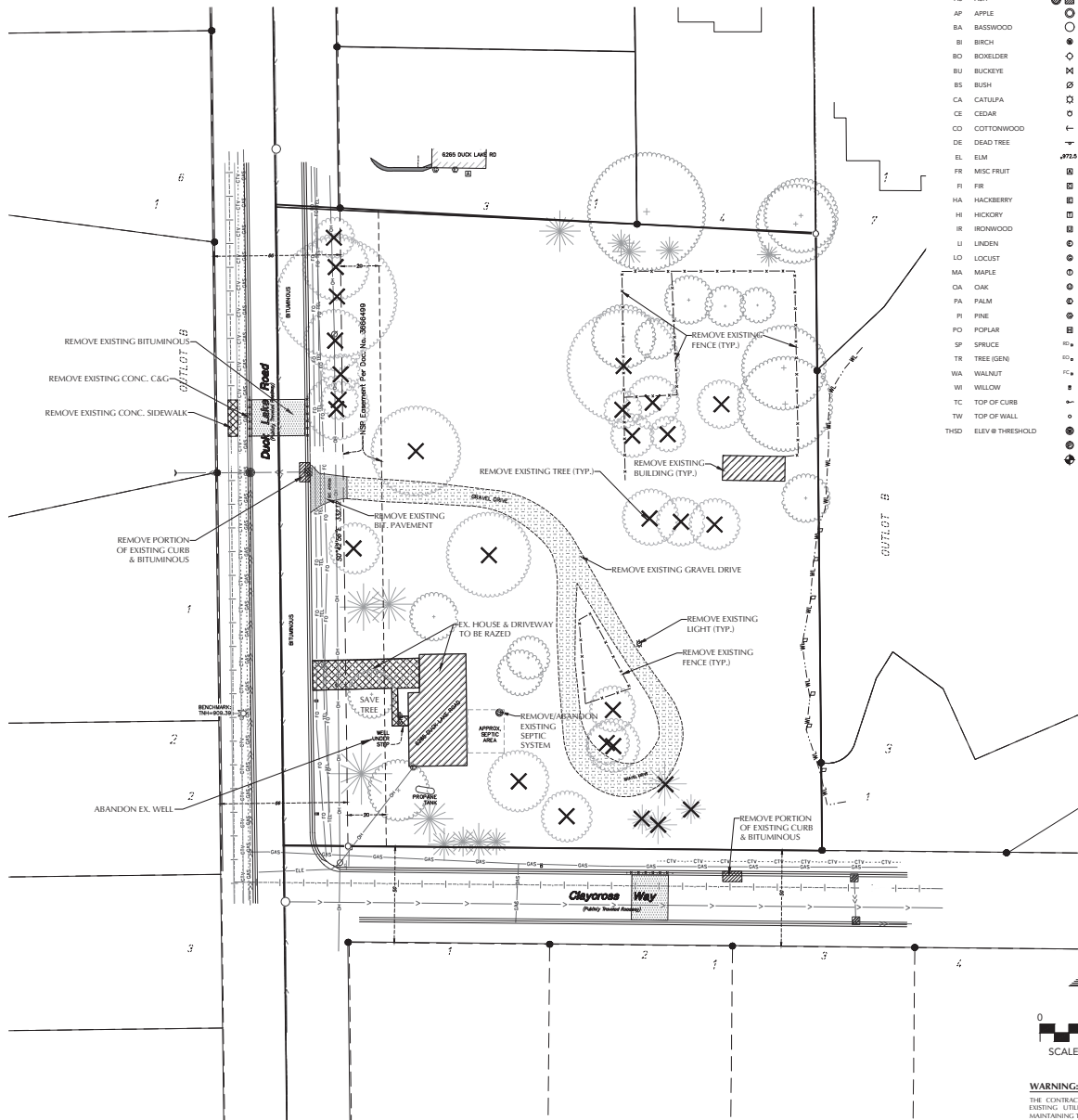
**SHEET INDEX**

Sheet No.	Description
CD-1	COVER SHEET
CD-2	EXISTING CONDITIONS
CD-3	DEMOLITION PLAN
CD-4	PRELIMINARY PLAN
CD-5	SWEEP PLAN
CD-6	SWEEP PLAN
CD-7	SWEEP PLAN
CD-8	UTILITY PLAN
CD-9	CIVIL DETAILS
CD-10	TREE PRESERVATION
CD-11	TREE INVENTORY
CD-12	LANDSCAPE PLAN
CD-13	LANDSCAPE DETAILS

**EXISTING CONDITIONS**

**C1-1**





**SURVEY LEGEND**

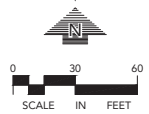
AS ASH	● CATCH BASIN	— STORM SEWER
AP APPLE	● STORM MANHOLE	— SANITARY SEWER
BA BASSWOOD	○ WATER MANHOLE	— WATERMAIN
BI BIRCH	○ WATER MANHOLE	— SANITARY SEWER SERVICE
BO BOKELDER	○ HYDRANT	— WATER SERVICE
BU BUCKEYE	⊕ GATE VALVE	— CULVERT
BS BUSH	⊕ POWER POLE	— CTV UNDERGROUND CABLE TV
CA CATALPA	⊕ LIGHT POLE	— ELE UNDERGROUND ELECTRIC
CE CEDAR	⊕ YARD LIGHT	— FO UNDERGROUND FIBER OPTIC
CD COTTONWOOD	— GUY WIRE	— GAS UNDERGROUND GAS
DE DEAD TREE	— SIGN	— TEL UNDERGROUND TELEPHONE
EL ELM	▲ SPOT ELEVATION	— UTL UNDERGROUND UTILITY
FR MISC FRUIT	⊕ A/C UNIT	— OH OVERHEAD UTILITY
FI FR	⊕ CABLE TV PEDESTAL	— TRFD UNDERGROUND TRAFFIC
HA HACKBERRY	⊕ ELECTRIC TRANSFORMER	— DT DRAIN TILE
HI HICKORY	⊕ TELEPHONE PEDESTAL	— FM FORCE MAIN
IR IRONWOOD	⊕ UTILITY PEDESTAL	— X CHAIN LINK FENCE
LI LINDEN	● ELECTRIC MANHOLE	— WOOD FENCE
LD LOCUST	● GAS VALVE	— GUARDRAIL
MA MAPLE	● TELEPHONE MANHOLE	— RETAINING WALL
QA QAC	● UTILITY MANHOLE	— TRAFFIC SIGNAL
PA PALM	● ELECTRIC METER	— CONCRETE CURB
PI PINE	● GAS METER	— CONCRETE
PO POPLAR	● HAND HOLE	— BITUMINOUS
SP SPRUCE	⊕ ROOF DRAIN	— PAVERS
TR TREE (GEN)	⊕ ELECTRIC OUTLET	— BITUMINOUS
WA WALNUT	⊕ FIRE CONNECTION	— CONTOUR
WI WILLOW	● MAILBOX	— RAILROAD TRACKS
TC TOP OF CURB	— FLAG POLE	— CONIFEROUS TREE
TW TOP OF WALL	— GUARDPOST	— DECEIDUOUS TREE
THSD ELEV & THRESHOLD	● MONITORING WELL	
	● POST INDICATOR VALVE	
	● SOIL BORING	

**DEMOLITION LEGEND:**

	REMOVE EXISTING BUILDING
	REMOVE EXISTING BITUMINOUS PAVING
	REMOVE EXISTING CONCRETE PAVING, SIDEWALKS, ETC.
	REMOVE EXISTING GRAVEL PAVEMENT
	REMOVE EXISTING CURB & GUTTER, RETAINING WALLS, FENCE, ETC.
	REMOVE EXISTING UTILITIES
	REMOVE EXISTING MANHOLES, POWER POLES, LIGHT POLES, BOLLARDS, PARKING METERS, SIGNS, ETC.
	REMOVE EXISTING TREES

**SITE DEMOLITION NOTES**

- CONTRACTOR SHALL REMOVE AND/OR RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES.
- CONTRACTOR SHALL PROTECT SURFACE AND SUBSURFACE FEATURES NOT NOTED FOR REMOVAL.
- CONTRACTOR TO CLEAR AND GRUB EXISTING VEGETATION WITHIN CONSTRUCTION LIMITS, STEP TOP SOIL, AND STOCKPILE ON-SITE. REFER TO GRADING PLAN AND SWPPP FOR SEDIMENT AND EROSION CONTROL REQUIREMENTS.
- CLEAR AND GRUB AND REMOVE ALL TREES, VEGETATION AND SITE DEBRIS PRIOR TO GRADING. ALL REMOVED MATERIAL SHALL BE HALLED FROM THE SITE DAILY. ALL CLEARING AND GRUBBING AND REMOVALS SHALL BE PERFORMED PER THE CONTRACT SPECIFICATIONS. EROSION CONTROL MEASURES SHALL BE IMMEDIATELY ESTABLISHED UPON REMOVAL. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
- CONTRACTOR SHALL REMOVE ALL SITE SURFACE FEATURES WITHIN REMOVAL LIMITS UNLESS OTHERWISE NOTED.



**WARNING:**  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.  
THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONCRETE PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.



CALL BEFORE YOU DIG  
**Gopher State One Call**  
TWIN CITY AREA: 651-454-0002  
TOLL FREE: 1-800-251-1166

**KIWATCHI ADDITION**  
6285 DUCK LAKE ROAD  
EDEN PRAIRIE, MN

6285 DUCK LAKE, LLC  
17516 RUSTIC HILLS DRIVE  
EDEN PRAIRIE, MN 55334

**LOUCKS**  
PLANNING  
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LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL  
7200 Hemlock Lane, Suite 300  
Maple Grove, MN 55369  
763.424.5505  
www.loucksinc.com

**CADD QUALIFICATION**

The CADD files prepared by the Consultant shall be the responsibility of the Consultant. The Consultant shall be responsible for the accuracy of the CADD files prepared by the Consultant. The Consultant shall be responsible for the accuracy of the CADD files prepared by the Consultant. The Consultant shall be responsible for the accuracy of the CADD files prepared by the Consultant.

**SUBMITTAL/REVISIONS**

08/22/22	CITY SUBMITTAL
09/15/22	SOIL BORINGS
09/17/22	WATERSHED COMMENTS
09/18/22	WATERSHED COMMENTS
09/17/22	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.

**PRELIMINARY**

License No. 20383

**QUALITY CONTROL**

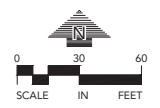
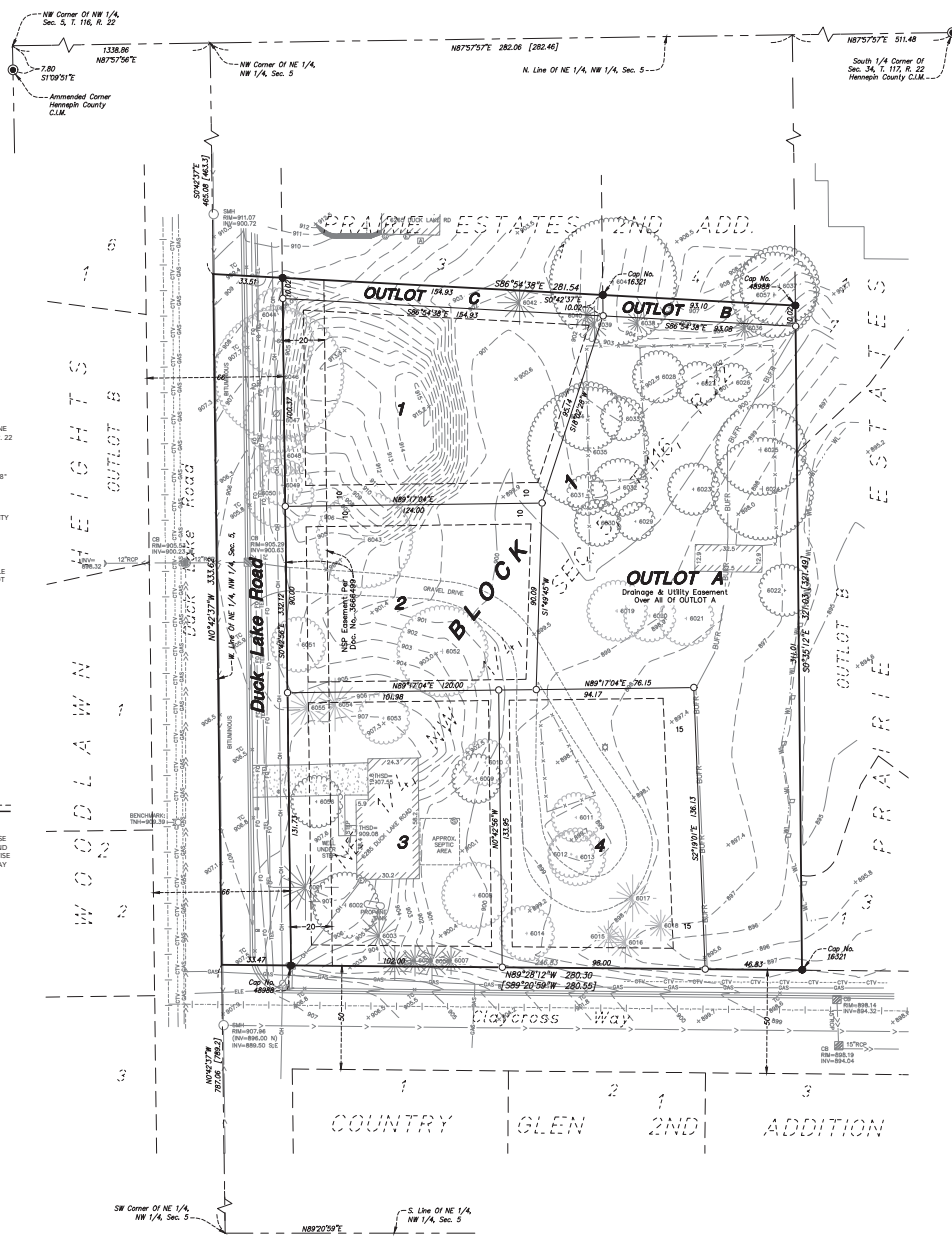
Locks Project No. 21680  
Project Lead TWM  
Drawn By HW  
Checked By HW  
Review Date 08/22/22

**SHEET INDEX**

CO-1	COVER SHEET
CO-2	DEMOLITION PLAN
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CO-45	DEMOLITION PLAN
CO-46	DEMOLITION PLAN
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CO-48	DEMOLITION PLAN
CO-49	DEMOLITION PLAN
CO-50	DEMOLITION PLAN

**DEMOLITION PLAN**  
**C1-2**

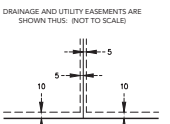
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BEARINGS ARE BASED ON THE WEST LINE OF THE NE 1/4, NW 1/4, SEC. 5, T. 116, R. 22 HAVING A BEARING OF N04°23'17\"/>

- DENOTES 1/2 INCH X 14 INCH IRON MONUMENT SET, MARKED "LS 4898"
- DENOTES FOUND 1/2 INCH IRON MONUMENT
- ⊙ DENOTES FOUND HENNEPIN COUNTY CAST IRON MONUMENT
- (DST) DENOTES DATA PER RECORD DOCUMENT

LOT CORNERS THAT FALL IN THE MIDDLE OF TRAVELED RIGHT-OF-WAYS WILL NOT BE SET, UNSAFE DUE TO TRAFFIC.



BEING 5 FEET IN WIDTH, UNLESS OTHERWISE INDICATED AND ADJOINING LOT LINES, AND BEING 10 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, AND ADJOINING RIGHT-OF-WAY LINES, AS SHOWN ON THE PLAT.

**LEGAL DESCRIPTION**

That part of the Northeast Quarter of the Northwest Quarter of Section 5, Township 116, Range 22, described as beginning at a point on the West line of said Northeast Quarter of the Northwest Quarter of 463.3 feet South of the Northwest corner thereof; thence South along said West line to a point 789.2 feet North of the Southwest corner of said Northeast Quarter of the Northwest Quarter; thence East parallel with the South line of said Northeast Quarter of the Northwest Quarter, a distance of 280.55 feet; thence North 321.49 feet along a line which extended would intersect the North line of said Northeast Quarter of the Northwest Quarter at a point 282.46 feet East of the Northwest corner of said Northeast Quarter of the Northwest Quarter; thence West to the point of beginning.

Hennepin County, Minnesota  
Torrens Property

**GENERAL NOTES**

1. Proposed Preliminary Plat of KIWATCHI ADDITION.
2. Prepared August 22, 2022.
3. The address, if disclosed in documents provided to or obtained by the surveyor, or observed while conducting the fieldwork is 6285 Duck Lake Road, Eden Prairie, MN.
4. The bearings for this survey are based on the Hennepin County Coordinate System NAD 83 (1984 Adjust).
5. Benchmark: MnDOT "TOWN" (Concrete Monument Marker W/Bar Magnet) in Eden Prairie; 2.15 miles north along TH 101 from junction of TH 101 and TH 5; in boulevard between TH 101, Townline Road & Sunny Road; 27.0 feet northwest of the back of curb of TH 101; 40.0 feet northeast of the back of curb of Townline Road; 17.6 feet south of a witness post.  
Elevation = 945.90 (NAVD83)  
Site Benchmark: Top nut of hydrant located on Duck Lake Road approximately 100 feet north of Claycross Way, shown hereon.  
Elevation = 909.39 (NAVD83)
6. This property is contained in Zone X (areas determined to be outside the 0.2% annual chance floodplain) per Flood Insurance Rate Map No. 27053C0338F, Community Panel No. 270159 0338 F, effective date of November 4, 2016.
7. The field work was completed on December 23, 2021.

**ZONING INFORMATION**

Current Zoning: Rural  
Proposed Zoning: R1-9.5 Residential District  
Any zoning classification, setback requirements, height and floor space area restrictions, and parking requirements, shown hereon, was researched to the best of our ability and is open to interpretation. Per the City of Eden Prairie Zoning Map and City Code, on June 1, 2022, information for the subject property is as follows:

- Proposed Setbacks:**  
 Front 30 feet  
 Side 5/15 feet  
 Rear 20 feet  
 Height 40 feet  
 Min. Lot Size 9,500 sq. ft.  
 Min. Lot Width 70 feet  
 Min. Lot Width Corner 100 feet  
 Min. Lot Depth 100 feet

**SITE DATA**

**Areas:**  
 Right of Way Dedication Area = 11,133 +/- square feet or 0.26 +/- acres  
 Net Property Area = 80,710 +/- square feet or 1.85 +/- acres  
 Total Property Area = 91,843 +/- square feet or 2.11 +/- acres  
 Current Wetland Area = 670 +/- square feet or 0.02 +/- acres  
 Wetland Impact = 0

Block	Lot	Area (Sq.Ft.)	Front Setback	Front Setback	Rear Setback	Side Setback	Side Street Setback	Pad Width	Pad Depth
1	1	13,343	98	30	30	10/15	N/A	60	50
	2	10,980	90	30	30	10/15	N/A	60	50
	3 Existing House	13,547	132	30	30	10/15	30	60	50
	4	12,970	97	30	30	10/15	N/A	60	50
Outlot A		27,390							
Outlot B		931							
Outlot C		1,549							

**KIWATCHI ADDITION**

6285 DUCK LAKE ROAD  
EDEN PRAIRIE, MN

CRAIG SCHMIDT

17516 RUSTIC HILLS DRIVE  
EDEN PRAIRIE, MN 55344

**LOCKS**

PLANNING  
CIVIL ENGINEERING  
LAND SURVEYING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL  
7200 Hemlock Lane, Suite 300  
Maple Grove, MN 55359  
763.424.5505  
www.locksinc.com

**CADD QUALIFICATION**

CADD file prepared by the Consultant professional services for use solely with respect to the project. These CADD files shall not be used on other projects, for additions to this project or for completion of this project by others, without written approval by the Consultant. With the Consultant's written approval, the Consultant may be permitted to obtain copies of the CADD drawing files for reproduction and distribution to other parties. The Consultant shall make a full list of the party shall hold harmless and indemnify the Consultant from all liability, responsibility, claims, and damages.

**SUBMITTAL/REVISIONS**

Date	Description
08/22/22	CITY SUBMITTAL
01/17/23	WATERSHED COMMENTS
07/18/23	WATERSHED COMMENTS
07/18/23	WATERSHED COMMENTS
07/18/23	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

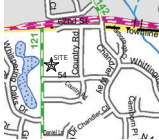
I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.  
*Craig Schmidt*

License No. 49988  
Date 08/22/22

**QUALITY CONTROL**

Locks Project No. 21680  
Project Lead MLS  
Drawn By SFM  
Checked By MLS  
Field Crew SKS

**VICINITY MAP**



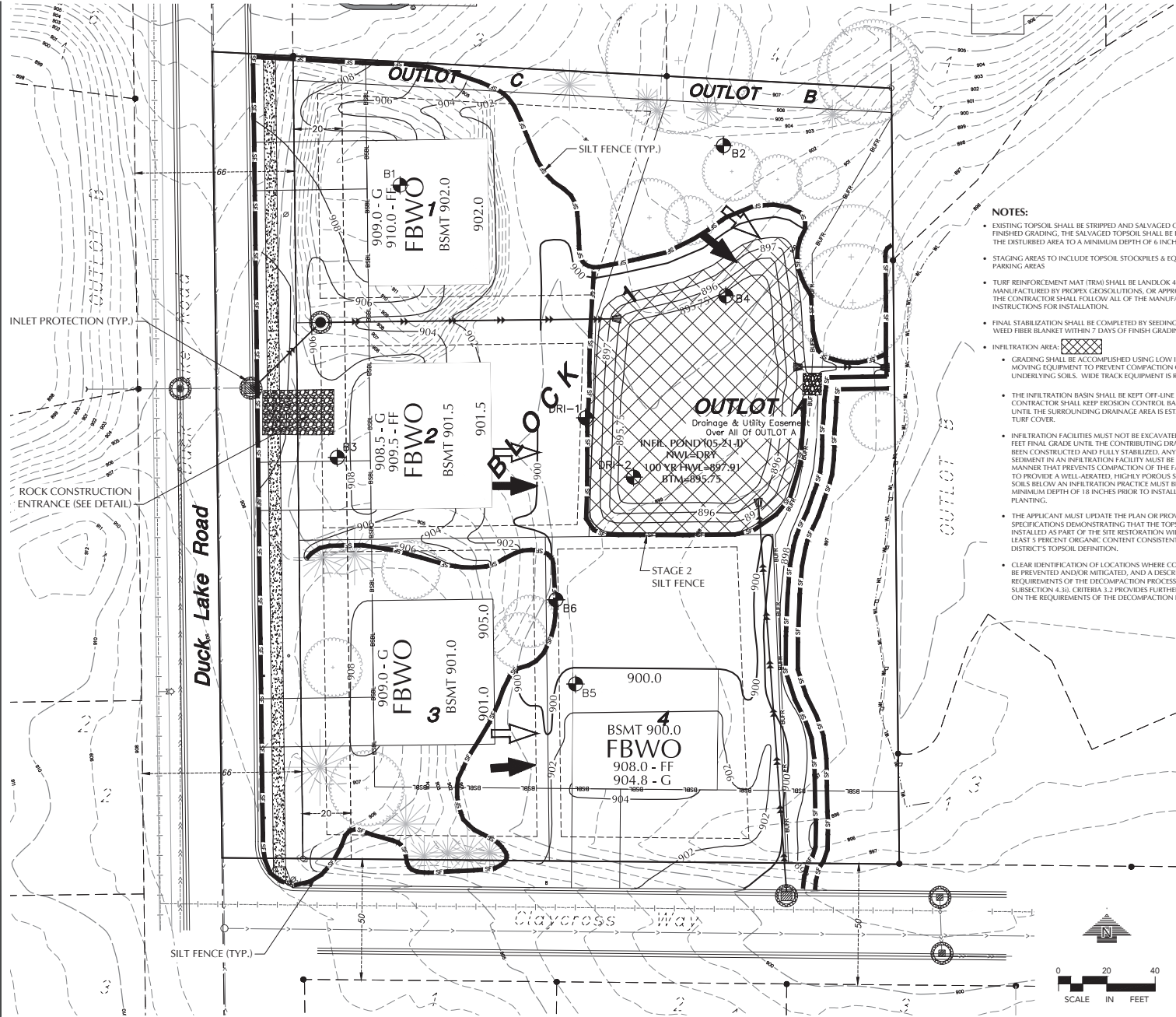
**PRELIMINARY PLAT**

**1 OF 1**





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**KIWATCHI ADDITION**  
6285 DUCK LAKE ROAD  
EDEN PRAIRIE, MN

6285 DUCK LAKE, LLC  
17516 RUSTIC HILLS DRIVE  
EDEN PRAIRIE, MN 55344

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**CADD QUALIFICATION**  
The person(s) who prepared this CADD file shall be a duly licensed professional engineer or land surveyor in the State of Minnesota. The CADD file shall be prepared by the person(s) who prepared the design or who supervised the design. The CADD file shall be prepared in accordance with the requirements of the Minnesota State Board of Professional Engineers and Land Surveyors. The CADD file shall be prepared in accordance with the requirements of the Minnesota State Board of Professional Engineers and Land Surveyors. The CADD file shall be prepared in accordance with the requirements of the Minnesota State Board of Professional Engineers and Land Surveyors.

**SUBMITTAL/REVISIONS**

08/22/22	CITY SUBMITTAL
07/15/22	SCH. BORINGS
07/15/22	WATERSHED COMMENTS
06/16/22	WATERSHED COMMENTS
03/17/23	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**  
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer or Land Surveyor in the State of Minnesota.  
**PRELIMINARY**

**QUALITY CONTROL**

Loecks Project No.	21680
Project Lead	TWM
Drawn By	HW
Checked By	HW
Review Date	08/22/22

**SHEET INDEX**

CO-1	COVER SHEET
CO-2	PROPOSED DRAINAGE PLAN
CO-3	PROPOSED DRAINAGE PLAN
CO-4	PROPOSED DRAINAGE PLAN
CO-5	PROPOSED DRAINAGE PLAN
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CO-18	PROPOSED DRAINAGE PLAN
CO-19	PROPOSED DRAINAGE PLAN
CO-20	PROPOSED DRAINAGE PLAN

**SWPPP PLAN**  
**C3-2**

**NOTES:**

- EXISTING TOPSOIL SHALL BE STRIPPED AND SALVAGED ONSITE. UPON FINISHED GRADING, THE SALVAGED TOPSOIL SHALL BE REAPPLIED ON THE DISTURBED AREA TO A MINIMUM DEPTH OF 6 INCHES.
- STAGING AREAS TO INCLUDE TOPSOIL STOCKPILES & EQUIPMENT PARKING AREAS
- TURF REINFORCEMENT MAT (TRM) SHALL BE LANDLOCK 450, AS MANUFACTURED BY PROPEX GEOSOLUTIONS, OR APPROVED EQUAL. THE CONTRACTOR SHALL FOLLOW ALL OF THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
- FINAL STABILIZATION SHALL BE COMPLETED BY SEEDING, MULCHING OR WEED FIBER BLANKET WITHIN 7 DAYS OF FINISH GRADING.
- INFILTRATION AREA:
  - GRADING SHALL BE ACCOMPLISHED USING LOW IMPACT EARTH MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. WIDE TRACK EQUIPMENT IS RECOMMENDED.
  - THE INFILTRATION BASIN SHALL BE KEPT OFF-LINE AND THE CONTRACTOR SHALL KEEP EROSION CONTROL BARRIERS IN-PLACE UNTIL THE SURROUNDING DRAINAGE AREA IS ESTABLISHED WITH TURF COVER.
  - INFILTRATION FACILITIES MUST NOT BE EXCAVATED TO WITHIN 3 FEET FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED. ANY ACCUMULATED SEDIMENT IN AN INFILTRATION FACILITY MUST BE REMOVED IN MANNER THAT PREVENTS COMPACTION OF THE FACILITY BOTTOM. TO PROVIDE A WELL-AERATED, HIGHLY POROUS SURFACE, THE SOILS BELOW AN INFILTRATION PRACTICE MUST BE LOOSENEED TO A MINIMUM DEPTH OF 18 INCHES PRIOR TO INSTALLATION OR PLANTING.
  - THE APPLICANT MUST UPDATE THE PLAN OR PROVIDE THE PROJECT SPECIFICATIONS DEMONSTRATING THAT THE TOPSOIL TO BE INSTALLED AS PART OF THE SITE RESTORATION WILL CONTAIN AT LEAST 5 PERCENT ORGANIC CONTENT CONSISTENT WITH THE DISTRICT'S TOPSOIL DEFINITION.
  - CLEAR IDENTIFICATION OF LOCATIONS WHERE COMPACTION IS TO BE PREVENTED AND/OR MITIGATED, AND A DESCRIPTION OF THE REQUIREMENTS OF THE DECOMPACTION PROCESS (PER RULE C, SUBSECTION 4.31, CRITERIA 3.2 PROVIDES FURTHER INFORMATION ON THE REQUIREMENTS OF THE DECOMPACTION PROCESS.

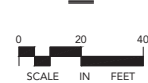
EXISTING	CIVIL LEGEND	PROPOSED
○	SANITARY MANHOLE	●
○	STORM MANHOLE	●
○	CATCH BASIN	●
○	CELEST	●
○	HYDRANT	●
○	GATEVALVE	●
○	POST INDICATOR VALVE	●
○	LIGHT POLE	●
○	POWER POLE	●
○	SOIL	●
○	BENCHMARK	●
○	SOL BORING	●
○	WATER MANHOLE	●
○	TELEPHONE MANHOLE	●
○	UTILITY MANHOLE	●
○	ELECTRIC MANHOLE	●
○	WATER SERVICE	●
○	SANITARY SERVICE	●
○	HANDICAP PARKING	●
○	DIRECTION OF FLOW	●
○	SPOT ELEVATION	●
○	CONTOUR	●
○	SANITARY SEWER	●
○	STORM SEWER	●
○	WATERMAIN	●
○	FOUR-BANK	●
○	GRANITE	●
○	SILT FENCE	●
○	CURB & GUTTER	●
○	REPAIRING WALL	●
○	TERRACE	●
○	EASEMENT LINE	●
○	SETBACK LINE	●
○	TRUCK LINE	●
○	UNDERGROUND TILE	●
○	UNDERGROUND GAS	●
○	OVERHEAD UTILITY	●

**SITE PLAN LEGEND**

○	SILT FENCE
○	INLET PROTECTION
○	EXISTING DRAINAGE PATTERN
○	PROPOSED DRAINAGE PATTERN
○	ROCK CONSTRUCTION ENTRANCE

**CALL BEFORE YOU DIG:**  
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TWIN CITY AREA 651-454-0002  
TOLL FREE: 1-800-251-1166

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**SWPPP NOTES**

- PROJECT DESCRIPTION**  
THE NATURE OF THE PROJECT WILL CONSIST OF CONSTRUCTING SINGLE FAMILY RESIDENTIAL LOTS AND HOMES. NO NEW STREETS OR ROADS.
- SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES ARE AS FOLLOWS:**
  - INSTALL VEHICLE TRACKING BMP
  - INSTALL SILT FENCE AROUND SITE
  - INSTALL PROTECTIVE FENCE AROUND INfiltrATION AREAS
  - CLEAR AND GRUB SITE
  - STAKE AND LOCATE TOPSOIL
  - REMOVE PAVEDMENTS AND UTILITIES
  - CONSTRUCT STORMWATER MANAGEMENT BASINS
  - INSTALL SILT FENCE AROUND BASINS
  - CONSTRUCT GRADE SITE
  - IMPORT CLEAN FILL FOR REPLACEMENT AND BALANCE
  - INSTALL UTILITY FOUNDATIONS
  - INSTALL WALKS
  - INSTALL UTILITIES (GAS, PHONE, ELECTRIC, CABLE, ETC.)
  - FINAL GRADE SITE
  - REMOVE UNNEEDED SEDIMENT FROM BASINS
  - CONSTRUCT INFILTRATION BASIN
  - REAP AND MOW
- WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.**
  - SEED DATA**
    - AREA OF DISTURBANCE: ±1.50 AC
    - PRE-CONSTRUCTION IMPROVED AREA: ±0.24 AC
    - POST-CONSTRUCTION IMPROVED AREA: ±0.43 AC
  - GENERAL SOIL TYPE: SEE GEOTECHNICAL REPORT
- THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE IDENTIFIED WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC. BEFORE CONSTRUCTION BEGINS.**
- ALL DISTURBED AREAS LEFT INACTIVE FOR SEVEN (7) OR MORE DAYS SHALL BE STABILIZED BY SEEDING OR SOODING (WHICH IS AVAILABLE FROM SEPTEMBER 15) OR BY MULCHING, OR COVERING OR OTHER EQUIVALENT CONTROL MEASURE. (IN CASE OF 1.5 TIMES STANDARD SEEDING, FINAL STABILIZATION TO BE DONE PER LANDSCAPE PLAN, SEE SHEET 1-1.)**
- ON SLOPES 3:1 OR GREATER, MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES. SLOPE LENGTHS CAN NOT BE GREATER THAN 75 FEET.**
  - 3:1 SLOPES TO BE STABILIZED WITH EROSION CONTROL BLANKET
- ALL STORM DRAINAGE AND INLETS MUST BE PROTECTED UNTIL ALL SOURCES OF POTENTIAL DISCHARGE ARE STABILIZED.**
- TEMPORARY SOIL STOCKPILES MUST HAVE EFFECTIVE SEDIMENT CONTROL AND CAN NOT BE PLACED IN SURFACE WATERS OR STORM WATER COLLECTION SYSTEMS. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT AMOUNT OF SILT, CLAY, OR ORGANIC COMPOUNDS ARE EXEMPT EX-CLEAN AGGREGATE STOCK PILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES.**
- SEDIMENT LADEN WATER MUST BE DISCHARGED TO A SEDIMENTATION BASIN WHENEVER POSSIBLE. IF NOT POSSIBLE, IT MUST BE TREATED WITH THE APPROPRIATE BMPs.**
- SOLID WASTE MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.**
- THE WATERSHED DISTRICT OR THE CITY MAY HAVE REQUIREMENTS FOR INSPECTIONS OR AS-BUILT DRAWINGS VERIFYING PROPER CONSTRUCTION OF THE BMPs.**
- THE OWNER WHO SIGNS THE NPDES PERMIT APPLICATION IS A PERMITTEE AND IS RESPONSIBLE FOR COMPLIANCE WITH ALL TERMS AND CONDITIONS OF THE PERMIT. THE OPERATOR/CONTRACTOR WHO SIGNS THE NPDES PERMIT APPLICATION IS A PERMITTEE AND IS RESPONSIBLE FOR CONSTRUCTION ACTIVITY REQUIREMENTS FOR NPDES IN SECTIONS 1.4.6-2.4 OF THE NPDES PERMIT AND IS JOINTLY RESPONSIBLE WITH THE OWNER FOR COMPLIANCE WITH THOSE PORTIONS OF THE PERMIT.**
- TERMINATION OF COVERAGE PERMITTEDS (WHICH) TO TERMINATE COVERAGE MUST SUBMIT A NOTICE OF TERMINATION PERMIT TO THE MPCA. ALL PERMITTEES MUST SUBMIT ANNOTED WITHIN 30 DAYS AFTER ONE OR MORE OF THE FOLLOWING CONDITIONS HAVE BEEN MET:**
  - FINAL STABILIZATION, PER NPDES PERMIT SECTION 1.3 HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE.
  - TRANSFER OF OWNERSHIP AS DESCRIBED IN THE PERMIT.
- INSPECTIONS**
  - INITIAL INSPECTION FOLLOWING SILT FENCE INSTALLATION IS REQUIRED.
  - EXPOSED SOIL AREAS: ONCE EVERY 7 DAYS AND WITHIN 24 HOURS FOLLOWING A RAINFALL EVENT GREATER THAN OR EQUAL TO 0.5 INCH IN 24 HOURS.
  - STABILIZED AREAS: ONCE EVERY 30 DAYS
  - EROSION GROUNDS: AS SOON AS RAINFALL OCCURS OR RETURN TO REMAINING CONSTRUCTION.
- INSPECTION AND MAINTENANCE RECORDS MUST BE RETAINED FOR 1 YEAR AFTER FILING OF THE NOTICE OF TERMINATION AND MUST INCLUDE: DATE AND TIME OF ACTION, NAME OF PERSONS CONDUCTING WORK, FINDING OF INSPECTIONS AND RECOMMENDATIONS FOR CORRECTIVE ACTION, DATE AND AMOUNT OF RAINFALL EVENTS GREATER THAN 0.5 INCH IN A 24 HOUR PERIOD.**
- MINIMUM MAINTENANCE**
  - SILT FENCE TO BE REPAIRED, REPLACED, SUPPLEMENTED WHEN NONFUNCTIONAL, OR 1/3 FULL WITHIN 24 HOURS
  - SEDIMENT BASINS (DRAINED) AND SEDIMENT REMOVED WHEN REACHES 1/2 STORAGE VOLUME. REMOVAL MUST BE COMPLETE WITHIN 72 HOURS OF DISCOVERY.
  - SEDIMENT REMOVED FROM SURFACE WATERS WITHIN 72 HOURS
  - CONSTRUCTION SITE EXITS INSPECTED, TRACKED SEDIMENT REMOVED WITH 24 HOURS.
  - PROVIDE COPIES OF EROSION INSPECTION RESULTS TO CITY ENGINEER FOR ALL RAIN EVENTS GREATER THAN 0.5" OVER 24 HOURS
- THE SWPPP INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE LEFT AT THE DURING CONSTRUCTION ACTIVITY BY THE PERMITTEES WHO HAVE OPERATIONAL CONTROL OF THE SITE.**
- OWNER MUST KEEP RECORDS OF ALL PERMITS REQUIRED FOR THE PROJECT. THE SWPPP, ALL INSPECTIONS AND MAINTENANCE, PERMIT OPERATIONS AND MAINTENANCE AGREEMENTS, AND REQUIRED CALCULATIONS FOR TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS. THESE RECORDS MUST BE RETAINED FOR THREE YEARS AFTER FILING NPDES NOTICE OF TERMINATION.**
- SWPPP MUST BE AMENDED WHEN:**
  - THERE IS A CHANGE IN DESIGN, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON DISCHARGE
  - INSPECTIONS INDICATE THAT THE SWPPP IS NOT EFFECTIVE AND DISCHARGE IS EXCEEDING WATER QUALITY STANDARDS
  - THE BMPs IN THE SWPPP ARE NOT CONTROLLING POLLUTANTS IN DISCHARGES OR IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE PERMIT.
- CONCRETE WASHOUT AREA**
  - CONTRACTOR TO PROVIDE PREFABRICATED CONCRETE WASH-OUT CONTAINER WITH RAIN PROTECTION PER PLAN.
  - CONCRETE WASH-OUT TO BE IDENTIFIED WITH SIGNAGE STATING "CONCRETE WASHOUT AREA DO NOT OVERFILL"
  - CONCRETE WASHOUT WATER NEEDS TO BE PUMPED WITHIN 24 HOURS OF STANDING WATER IN WASHOUT AREA.
- IN THE EVENT OF ENCOUNTERING A WELL OR SPRING DURING CONSTRUCTION CONTRACTOR TO CEASE CONSTRUCTION ACTIVITY AND NOTIFY ENGINEER.**
- PRE-CULTIVATED SILT BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.**
- TEMPORARY AND PERMANENT SOIL STABILIZATION**
  - TEMPORARY SOIL STABILIZATION MEASURES SHALL CONSIST OF SEEDING.
  - PERMANENT SOIL STABILIZATION SHALL CONSIST OF HYDRO MULCH OR STRAW MULCH.
  - DAY STABILIZATION THAT IS REQUIRED FOR ALL EXPOSED SOILS THAT ARE DORMANT OR NOT BEING WORKED WITHIN THE 7 DAY WINDOW.
- FINAL STABILIZATION**
  - FINAL STABILIZATION REQUIREMENTS THAT ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND THAT DISTURBED AREAS ARE STABILIZED BY A UNIFORM PERMANENT VEGETATIVE COVER WITH 70% OF THE EXPECTED FINAL DENSITY, AND THAT ALL PERMANENT PERIMETER BARRIERS HAVE BEEN INSTALLED. ALL TEMPORARY BMPs SHALL BE REMOVED, EITHER STABILIZED, AND SEDIMENT SHALL BE REMOVED FROM PERMANENT CONVEYANCES AND SEDIMENTATION BASINS IN ORDER TO RETURN THE POND TO DESIGN CAPACITY.

- TEMPORARY SEDIMENTATION BASINS**  
THE TEMPORARY SEDIMENTATION BASINS SHALL BE CONSTRUCTED AND MADE OPERATIONAL PRIOR TO DISTURBANCE OF 10 OR MORE ACRES DRAINING TO A COMMON LOCATION. TEMPORARY SEDIMENTATION BASINS ARE REQUIRED PRIOR TO RUNOFF LEAVING THE CONSTRUCTION SITE OR ENTERING SURFACE WATERS WHEN 5 OR MORE ACRES OF DISTURBED SOILS DRAIN TO A COMMON LOCATION. ONCE THE SITE IS WITHIN ONE MILE OF IMPAIRED WATER BODY, THE BASIN MUST PROVIDE 24 HOUR CLEAR FREET STORAGE BELOW THE OUTLET PER ACRE DRAINED. IF HYDRAULIC CALCULATIONS ARE AVAILABLE, THE TEMPORARY SEDIMENTATION BASIN MUST PROVIDE A 24 HOUR CLEAR FREET STORAGE BELOW THE OUTLET PER ACRE DRAINED. THE TEMPORARY SEDIMENTATION BASIN MUST BE CONSTRUCTED TO HOLD 100 CUBIC FEET PER ACRE DRAINED. THE TEMPORARY SEDIMENTATION BASIN MUST BE CONSTRUCTED TO HOLD 100 CUBIC FEET PER ACRE DRAINED WITH THE START OF SOIL DISTURBANCE UP GRADIENT OF THE POND. THE TEMPORARY SEDIMENTATION BASIN SHALL BE DESIGNED TO PREVENT EROSION OF THE POND. THE OUTFALL SHALL BE DESIGNED TO REMOVE FLOCCULABLE DEBRIS, ALLOW FOR COMPLETE DRAWDOWN OF THE POND FOR MAINTENANCE ACTIVITIES, AND HOLD DEBRIS UNTIL THE EMERGENCY SPILLWAY SHALL BE STABILIZED.
- TEMPORARY SEDIMENTATION BASINS SHALL BE SITUATED OUTSIDE OF SURFACE WATERS AND ANY REQUIRED BUFFER ZONE, AND MUST BE DESIGNED TO AVOID DRAINING WETLANDS, UNLESS THE IMPACT IN COMPLIANCE WITH THE REQUIREMENTS OF THIS PERMIT.**
- EXCESSIVE SEDIMENT-LADEN WATER THAT IS NOT PROPERLY FILTERED WILL NOT BE PERMITTED TO DISCHARGE FROM SITE.**

- DEWATERING AND BASIN DRAINING**
  - TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING OR BASIN DRAINING SHALL BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. THE TEMPORARY OR PERMANENT BASIN MAY DISCHARGE TO SURFACE WATERS IF THE BASIN WATER HAS BEEN VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED IN THE BASIN AND THAT THE NUISANCE CONDITIONS WILL NOT BE TRANSMITTED TO THE RECEPTOR. INSPECTION POINTS SHALL BE ADEQUATELY PROTECTED FROM EROSION AND PROPERLY SITED TO PREVENT EROSION.
  - ALL WATER FROM DEWATERING OR BASIN DRAINING ACTIVITIES MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN THE RECEIVING CHANNELS OR ON DOWN SLOPE PROPERTIES, OR POLLUTION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACTS TO THE WETLAND.
  - IF FILTERS WITH BACKWASH WATERS ARE USED, THE BACKWASH WATER SHALL BE HALLED AWAY FOR DISPOSAL, RETURNED TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATED INTO SITE IN A MANNER THAT DOES NOT CAUSE EROSION. BACKWASH WATER MAY BE DISCHARGED TO SANITARY SEWER IF PERMSSION IS GRANTED BY THE SANITARY SEWER AUTHORITY.
- POLLUTION PREVENTION**
  - BUILDING PRODUCTS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS MUST BE UNDER COVER TO PREVENT DISCHARGE OR PROTECTED BY AN EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.
  - HAZARDOUS MATERIALS AND TOXIC WASTE CONTAINERS MUST BE PROTECTED FROM EROSION AND PROPERLY SITED TO PREVENT EROSION.
  - HAZARDOUS MATERIALS AND TOXIC WASTE CONTAINER MUST BE PROTECTED FROM VANDALISM.
  - SOLID WASTE MUST BE STORED, COLLECTED AND DISPOSED OF IN COMPLIANCE WITH MINN. R. CH 7035.
  - PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER.
  - PORTABLE TOILETS MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R. CH 7035.
  - DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED SHALL BE PREVENTED USING DROPPANES OR ABSORBENTS. SUPPLIES SHALL BE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD MUST BE AVAILABLE FOR RECOVERED SPILLED MATERIALS.

- PERCOLATION CALCULATIONS**  
TEMPORARY AND PERMANENT STORMWATER TREATMENT ARE DESIGNED TO MEET MPCA GENERAL A SPECIAL WATER REQUIREMENTS. CALCULATIONS ARE PART OF THE HYDROLOGY REPORT, WHICH TO BE CONSIDERED PART OF THE SWPPP DOCUMENT. SEE HYDROLOGY REPORT FOR ADDITIONAL INFORMATION.
- GENERAL STORMWATER DISCHARGE REQUIREMENTS**  
ALL REQUIREMENTS LISTED IN SECTIONS 5.7, 14.16, 19, 21, 24 OF THE PERMIT FOR DESIGN OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM AND DISCHARGE HAVE BEEN INCLUDED IN THE PREPARATION OF THIS SWPPP. THESE INCLUDE BUT ARE NOT LIMITED TO:
  - THE EXPECTED AMPLITUDE, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION.
  - THE NATURE OF STORMWATER RUNOFF AND RUNON AT THE SITE.
  - PEAK FLOW RATES AND STORMWATER VOLUMES TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNEL AND STREAM BANK EROSION.
  - THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT ON THE SITE.

- CONSTRUCTION OF INFILTRATION BASINS**  
NO HAND TRAIL OR CONSTRUCTION AREAS. CONSTRUCTION TO BE DONE WITH MINIMAL COMPACTION TO INFILTRATION AREAS. IF COMPACTION IS ENCOUNTERED, BASIN SOILS MUST BE REMOVED & A REPAIR. INFILTRATION SYSTEMS MUST NOT BE EXPOSED TO FINAL GRADE UNTIL THE INFILTRATION DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED UNLESS ROBUST EROSION PREVENTION AND SEDIMENT CONTROLS ARE PROVIDED PER SECTION 1.6.4.
- WHEN AN INFILTRATION SYSTEM IS EXCAVATED TO FINAL GRADE (OR WITHIN THREE (3) FEET OF FINAL GRADE), THE PERMITTEES MUST EXPOSED TO FINAL GRADE UNTIL THE INFILTRATION AREA IS FULLY STABILIZED AND SEDIMENT CONTROLS TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREA. THE AREA MUST BE STAKED OFF AND MARKED TO PREVENT CONSTRUCTION VEHICLES OR EQUIPMENT FROM COMING IN CONTACT WITH THE EXPOSED INFILTRATION AREA.**
- TO PREVENT CLOGGING OF THE INFILTRATION OR INFILTRATION SYSTEM, THE PERMITTEES MUST USE A PRE-TREATMENT DEVICE SUCH AS A VEGETATED FILTER STRIP, SMALL SEDIMENTATION BASIN, OR WATER QUALITY INLET TEST CELL CHAMBER TO SETTLE PARTICULATES BEFORE THE STORMWATER DISCHARGES INTO THE INFILTRATION OR INFILTRATION SYSTEM.**

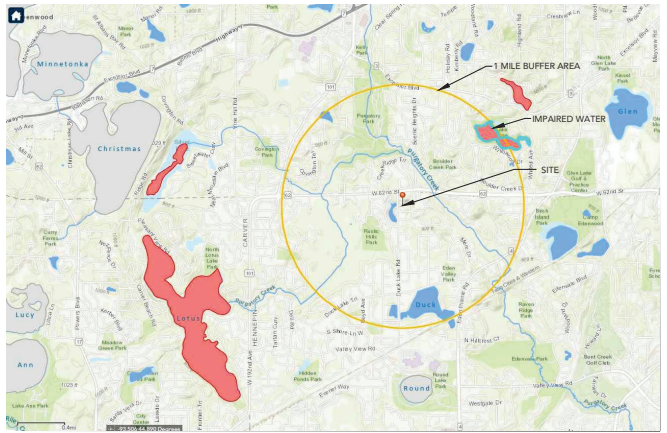
- POST CONSTRUCTION**  
THE WATER QUALITY VOLUME THAT MUST BE RETAINED ON SITE BY THE PERMITTEE'S PERMANENT STORMWATER MANAGEMENT SYSTEM DESCRIBED IN SECTION 15 SHALL BE ONE (1) INCH OF RUNOFF FROM THE NEW IMPROVED SURFACE AREAS CREATED BY THE PROJECT. SEE SECTION 15 FOR MORE INFORMATION ON INFILTRATION DESIGN, PROHIBITIONS AND APPROVED SITE SPECIFICATIONS.
- RESPONSIBILITIES**
  - THE OWNER MUST IDENTIFY A CONTRACTOR WHO WILL OVERSEE THE SWPPP IMPLEMENTATION AND THE PERSON RESPONSIBLE FOR INSPECTION AND MAINTENANCE.
  - THE OWNER MUST IDENTIFY THE PERSON WHO WILL BE RESPONSIBLE FOR LONG TERM OPERATIONS AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM.
  - UPON ACCEPTANCE BY THE CITY, ALL STORMWATER FACILITIES WILL BE PUBLIC AND MAINTAINED BY THE CITY.
- TRAINING REQUIREMENTS**  
THE PERMITTEE SHALL ENSURE THE FOLLOWING INDIVIDUALS IDENTIFIED IN THIS PLAN HAVE BEEN TRAINED IN ACCORDANCE WITH THIS PERMIT'S TRAINING REQUIREMENTS.
  - WHO MUST BE TRAINED:
    - INDIVIDUALS PREPARING THE SWPPP FOR THE PROJECT
    - INDIVIDUALS OVERSEEING IMPLEMENTATION OF, REVISION, AND/OR AMENDING THE SWPPP AND INDIVIDUALS PERFORMING INSPECTIONS FOR THE PROJECT. ONE OF THESE INDIVIDUALS MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE MPCA.
    - INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPs. AT LEAST ONE INDIVIDUAL ON A PROJECT MUST BE TRAINED IN THESE JOB DUTIES.
  - TRAINING CONTENT:
    - THE CONTENT AND EXTENT OF TRAINING MUST BE COMMENSURATE WITH THE INDIVIDUALS JOB DUTIES AND RESPONSIBILITIES WITH REGARD TO ACTIVITIES COVERED UNDER THE PERMIT FOR THE PROJECT. AT LEAST ONE INDIVIDUAL PRESENT ON THE PERMITTED PROJECT SITE OR AVAILABLE TO THE PROJECT SITE 72 HOURS MUST BE TRAINED IN THE JOB DUTIES DESCRIBED IN SECTION 21.28 AND SECTION 21.30.
    - THE PERMITTEES SHALL ENSURE THAT THE INDIVIDUALS ARE TRAINED BY LOCAL, STATE, FEDERAL, AGENCIES, PROFESSIONAL OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PERMANENT STORMWATER MANAGEMENT AND THE MINNESOTA NPDES/CONSTRUCTION STORMWATER PERMIT. AN UPDATE CERTIFICATE OF TRAINING MUST BE ATTENDED EVERY THREE (3) YEARS STARTING THREE (3) YEARS FROM THE ISSUANCE DATE OF THIS PERMIT.

**LIST OF CONTACTS**

TITLE	CONTACT	COMPANY	PHONE NUMBER
OWNER	CRAIG SCHMIDT	6285 DUCK LAKE, LLC	612-369-7750
PROJECT MANAGER	TODD MCLOUTH	LOUCKS	763-496-6742
SWPPP DESIGNER	ZACH WEBBER	LOUCKS	763-496-6753
CONTRACTOR	TBD		
SITE MANAGER	TBD		

\* MPCA 24HR. HAZARDOUS SPILL HOTLINE: 612-649-5457 OF 8042078

**SPECIAL AND IMPAIRED WATERS MAP**



**ESTIMATED QUANTITIES**

DESCRIPTION	UNIT	QUANTITY
TEMPORARY ROCK CONSTRUCTION ENTRANCE	EA	1
SILT FENCE (STANDARD)	LF	1,586
STAGE 2 SILT FENCE (STANDARD)	LF	221
INLET PROTECTION	EA	6
WOODFIBER BLANKET	SY	NA
CONCRETE WASHOUT	EA	NA
BIOROLL	LF	NA

**PERMANENT STORMWATER MANAGEMENT**

X	INFILTRATION
	STORMWATER HARVEST AND REUSE
	FILTRATION
	WET SEDIMENTATION BASIN
	REGIONAL PONDING

**RECEIVING WATERS**

NAME OF WATER BODY	TYPE OF WATER BODY	SPECIAL WATER	IMPAIRED WATER	TYPE OF SPECIAL WATER
WETLAND	WETLAND	N/A	N/A	

\* 7 DAY STABILIZATION TIME FRAME REQUIRED

**EROSION CONTROL NOTES**

- ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES.
- A STABILIZED CONSTRUCTION ENTRANCE WILL BE PLACED AT ALL ENTRANCES THAT LEAD TO THE PROJECT SITE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE APPROVED DETAILS.
- SEDIMENT CONTROLS MUST BE IN PLACE AND MAINTAINED BY THE ENGINEER BEFORE ANY PHASE OF CONSTRUCTION CAN BEGIN.
- INLET PROTECTION WILL BE INSTALLED AT ALL CATCH BASINS WITHIN THE PROJECT AREA PER STANDARD DETAILS UNTIL THE SITE IS STABILIZED.
- PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO SURFACE WATER.
- STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
- IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPs MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME. RAPID STABILIZATION METHOD 4 SHALL BE EMPLOYED WITHIN 200 FEET OF THE NORMAL WETTED PERIMETER OF ALL DISCHARGE POINTS WITHIN 24 HOURS.
- ALL STOCKPILES MUST HAVE PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES SHALL RECEIVE TEMPORARY STABILIZATION IF UNWORKED FOR 7 DAYS.
- CONCRETE SLURRY FROM REMOVAL OPERATIONS MUST BE VACUUMED UP IMMEDIATELY. NO CONCRETE WASHOUT SHALL COME IN CONTACT WITH THE CIRCULATED AND MUST BE PROPERLY DISPOSED OF.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.
- CONTRACTOR MUST SUBMIT A DEWATERING PLAN TO THE ENGINEER FOR APPROVAL 10 DAYS PRIOR TO ANY DEWATERING ON SITE. THE PLAN MUST INCLUDE A DEWATERING SYSTEM PRIOR TO DISCHARGING INTO RECEIVING WATER. THE DEWATERING PLAN MUST ENSURE THAT THE DISCHARGE WATER IS FREE OF SEDIMENT AND TURBID WATER IN ACCORDANCE WITH THE PROJECT SPEC. THE DEWATERING PLAN MUST ALSO INCLUDE A COMPONENT FOR ONSITE TESTING AND MONITORING OF TURBIDITY AND PH.
- RAPID STABILIZATION #4 WITH CATEGORY 3N BLANKET ON SIDE SLOPES 3:1 OR STEEPER.
- TEMPORARY OR PERMANENT STABILIZATION AND DOWN GRADIENT PERIMETER SEDIMENT CONTROL IS NEEDED ON ROW, CURB, AND GUTTER LINE.

**KIWATCHI ADDITION**

6285 DUCK LAKE ROAD  
EDEN PRAIRIE, MN

6285 DUCK LAKE, LLC

17516 RUSTIC HILLS DRIVE  
EDEN PRAIRIE, MN 55434

**LOUCKS**

PLANNING  
CIVIL ENGINEERING  
LAND DEVELOPMENT  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL

7200 Hemlock Lane, Suite 300  
Maple Grove, MN 55369  
763.424.5505  
www.loucksinc.com

**CADD QUALIFICATION**

LOUCKS has prepared the CADD for this project. The CADD was prepared in accordance with the Minnesota Professional Engineer Act and the requirements of the Minnesota Professional Engineer Act. The CADD was prepared by the following individuals:

DATE	NAME	ROLE
08/22/22	CITY SUBMITTAL	
09/15/22	SCHL BORINGS	
09/17/22	WATERSHED COMMENTS	
09/16/22	WATERSHED COMMENTS	
03/17/23	WATERSHED COMMENTS	

.....

**SUBMITTAL/REVISIONS**

.....

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.

**ZACHARY H. WEBBER**

Professional Engineer - License # 20983

**QUALITY CONTROL**

LOUCKS Project No. 21680

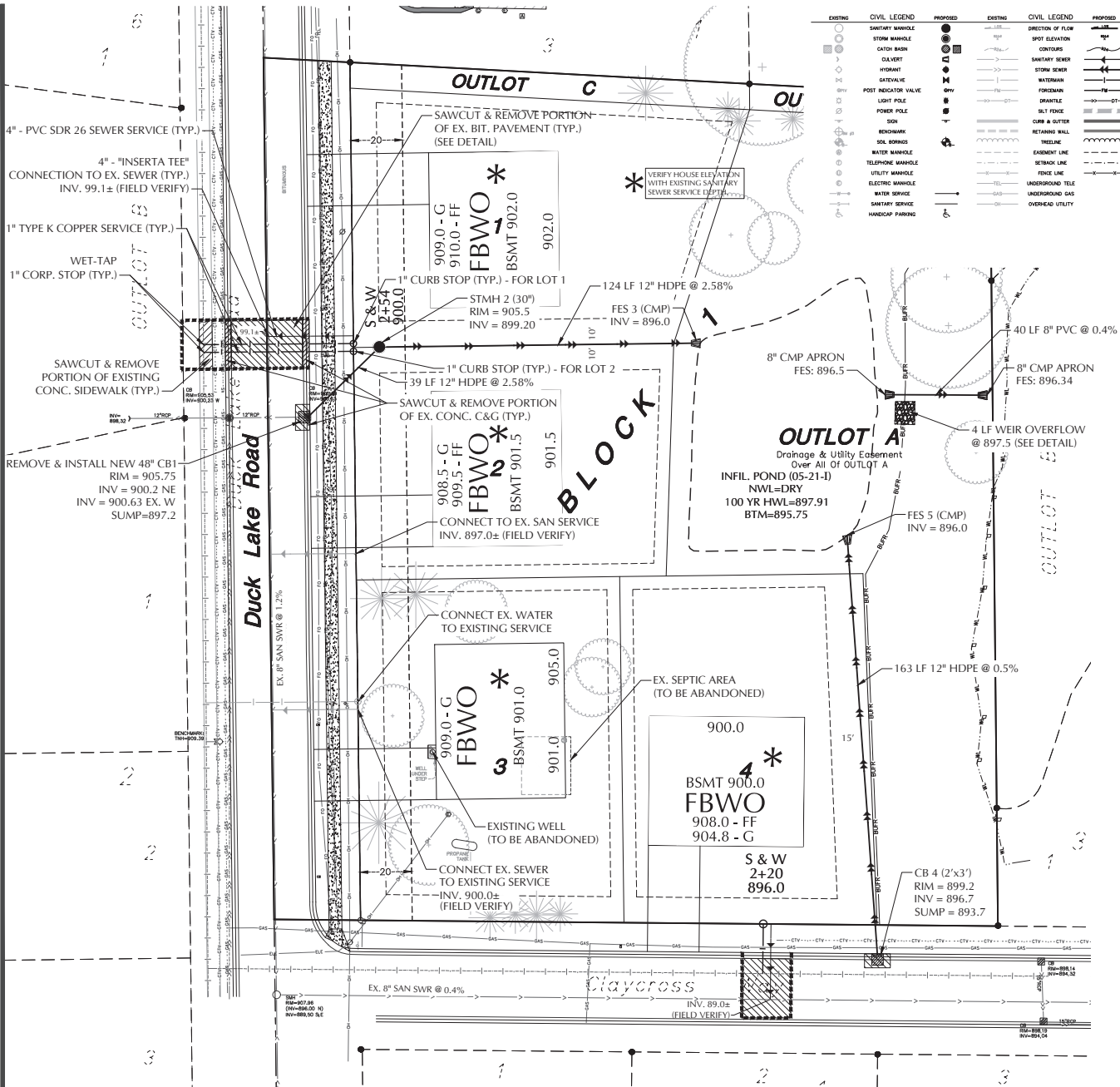
Project Lead: TWM  
Drawn By: HW  
Checked By: HW  
Review Date: 08/22/22

**SHEET INDEX**

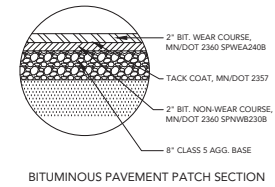
NO.	DESCRIPTION
CO-1	COVER SHEET
CO-2	GENERAL NOTES
CO-3	WETLAND Delineation
CO-4	WETLAND Delineation
CO-5	WETLAND Delineation
CO-6	WETLAND Delineation
CO-7	PRELIMINARY PLAN
CO-8	DRAWING PLAN
CO-9	SWPPP PLAN
CO-10	SWPPP NOTES
CO-11	WETLAND Delineation
CO-12	WETLAND Delineation
CO-13	SWPPP NOTES
CO-14	WETLAND Delineation
CO-15	WETLAND Delineation
CO-16	LANDSCAPE PLAN
CO-17	LANDSCAPE DETAILS

**SWPPP NOTES**

**C3-3**



EXISTING	CIVIL LEGEND	PROPOSED	EXISTING	CIVIL LEGEND	PROPOSED
○	SANITARY MANHOLE	○	○	SPOT ELEVATION	○
○	STORM MANHOLE	○	○	CONTIGRIS	○
○	CATCH BASIN	○	○	SANITARY SEWER	○
○	VALVE	○	○	STORM SEWER	○
○	HYDRANT	○	○	WATERMAIN	○
○	GREASELINE	○	○	FORZEMAN	○
○	POST INDICATOR VALVE	○	○	DRINKLE	○
○	POWER POLE	○	○	SOIL FENCE	○
○	SOIL	○	○	CURB & GUTTER	○
○	BOUNDARY	○	○	RETAINING WALL	○
○	SOL BORINGS	○	○	THEIRLINE	○
○	WATER MANHOLE	○	○	ESSENTIAL LINE	○
○	TELEPHONE MANHOLE	○	○	SEWER LINE	○
○	UTILITY MANHOLE	○	○	FORCE LINE	○
○	SANITARY SERVICE	○	○	UNDERGROUND TELE	○
○	HANDICAP PARKING	○	○	UNDERGROUND GAS	○
				OVERHEAD UTILITY	○



- UTILITY NOTES**
- ALL SANITARY SEWER, STORM SEWER AND WATERMAIN UTILITIES SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS, THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), 2018 EDITION.
  - ALL UTILITY PIPE BEDDING SHALL BE COMPACTED SAND OR FINE GRANULAR MATERIAL. ALL COMPACTION SHALL BE PERFORMED PER THE REQUIREMENTS OF THE REM SPECIFICATION AND THE GEOTECHNICAL REPORT.
  - ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK. WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
  - A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES UNLESS OTHERWISE NOTED.
  - ALL NEW WATERMAIN AND SERVICES MUST HAVE A MINIMUM OF 7.5 FEET OF COVER. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. THE CONTRACTOR SHALL FIELD ADJUST WATERMAIN TO AVOID CONFLICTS WITH SANITARY SEWER, STORM SEWER, AND SERVICES AS REQUIRED. INSULATION OF WATER AND SANITARY SEWER LINES SHALL BE PROVIDED WHERE 7.5 FEET MINIMUM DEPTH CAN NOT BE ATTAINED.
  - PROPOSED PIPE MATERIALS:  
STORM SEWER: PVC - SDR 35  
HPIPE - DUAL WALL 8" DIAMETER  
12" TO 15" DIAMETER
  - ALL JOINTS AND CONNECTIONS IN THE STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT PER MINNESOTA RULES, PART 4715.0100. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, AND OTHER STRUCTURES.
  - CONTRACTOR AND MANHOLE FABRICATOR SHALL SUMP (LOWER) ALL STORM SEWER CATCH BASIN CASTINGS WITH PAVED AREAS 0.16 FEET OR 2-INCHES BELOW THE RIM ELEVATION DEPICTED ON THE UTILITY PLAN.
  - ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE CITY. THIS SHALL INCLUDE ALL SIGNAGE, BARRICADES, FLASHERS AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT THE EXPRESSED AUTHORITY OF THE CITY.
  - THE CITY SHALL OPERATE ALL GATE VALVES.
  - CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE BY CORE DRILLING THE MANHOLE AT THE PROPOSED INVERT ELEVATIONS AND INSTALLING A RUBBER BOOT, GROUT IN THE BOOT AND AN INVERT FOR THE NEW SEWER LINE.
  - PIPE LENGTHS SHOWN ON THE PLAN INCLUDE THE APRON SECTION.
  - TRENCH COMPACTION SHALL BE 95% STANDARD PROCTOR DENSITY IN THE AREA FROM THE PIPE ZONE TO WITHIN 3 FEET OF FINISHED GRADE AND 100% IN FINAL 3 FEET OF THE BACKFILL TO FINISH GRADE.

**KIWATCHI ADDITION**

6285 DUCK LAKE ROAD  
EDEN PRAIRIE, MN

6285 DUCK LAKE, LLC

17516 RUSTIC HILLS DRIVE  
EDEN PRAIRIE, MN 55354

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7200 Hemlock Lane, Suite 300  
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763.424.5505  
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**CADD QUALIFICATION**

CADD files prepared by the Consultant shall be the property of the Consultant and shall not be used for any other project, for addition to this project, or for completion of this project, by any person without the approval of the Consultant. The Consultant shall not be held responsible for any errors, omissions, or deviations in the CADD files that result from the use of the CADD files by any person other than the Consultant. The Consultant shall not be held responsible for any errors, omissions, or deviations in the CADD files that result from the use of the CADD files by any person other than the Consultant.

**SUBMITTAL/REVISIONS**

08/22/22	CITY SUBMITTAL
09/15/22	SOL BORINGS
09/17/22	WATERSHED COMMENTS
09/16/22	WATERSHED COMMENTS
09/17/22	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.

**PRELIMINARY**

Scale: FE 20383

**QUALITY CONTROL**

Locucks Project No. 21680  
Project Lead TWM  
Drawn By HW  
Checked By HW  
Review Date 08/22/22

**SHEET INDEX**

CD-1	COVER SHEET
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CD-17	CONCRETE PLAN
CD-18	CONCRETE PLAN
CD-19	CONCRETE PLAN
CD-20	CONCRETE PLAN

**Gopher State One Call**

TWIN CITY AREA: 651-454-0002  
TOLL FREE: 1-800-551-1166

**WARNING:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITIES DURING CONSTRUCTION AT NO COST TO THE OWNER.

SCALE IN FEET

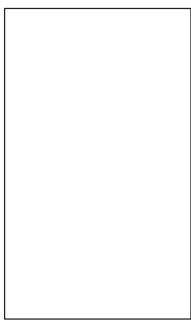
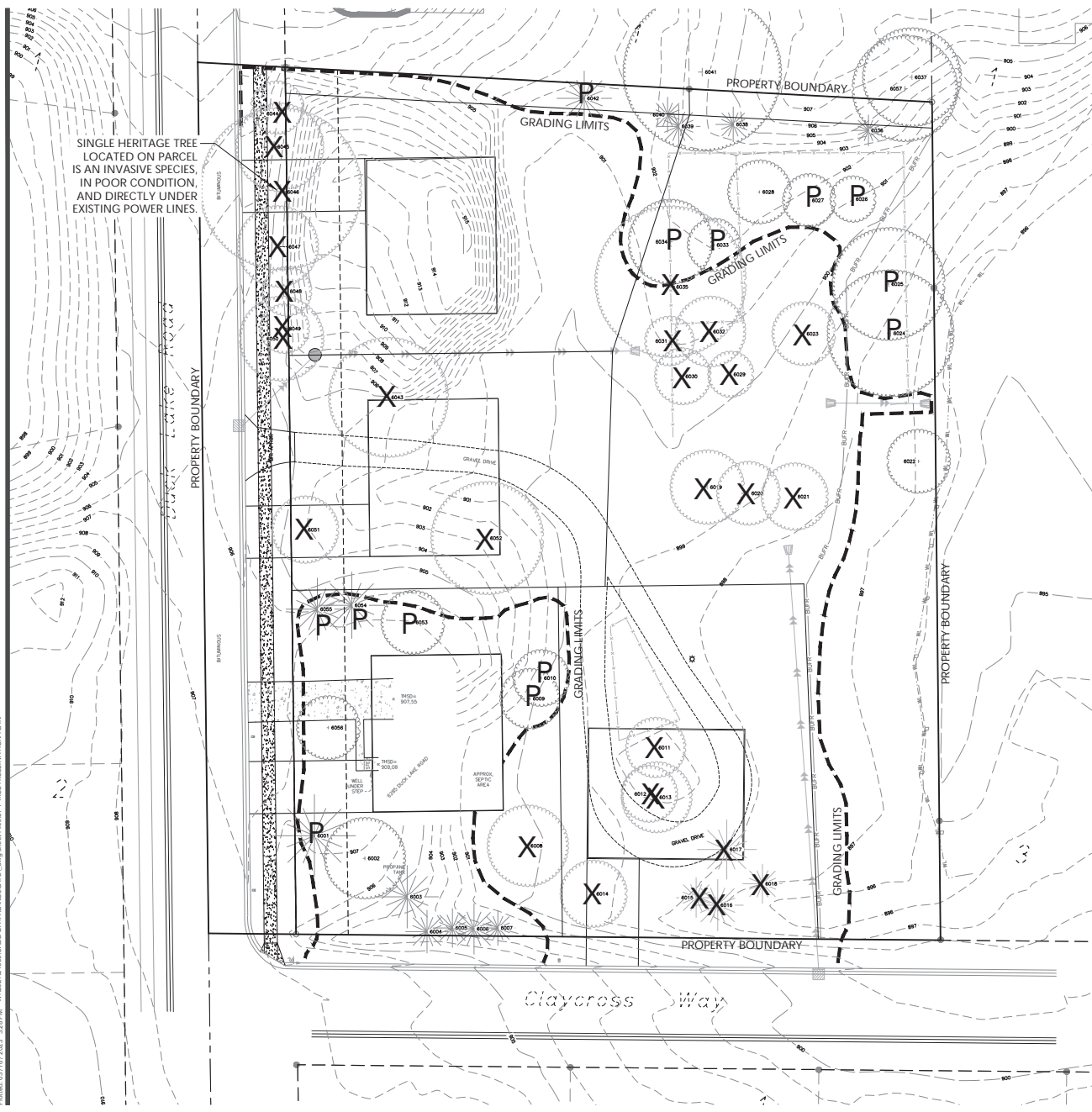
0 20 40

**UTILITY PLAN**

**C4-1**



Printed: 07/16/2023 3:28PM W:\2023\2308\CAD\DATA\LANDSCAPE.dwg Sheet: 1 of 1 TREE PRESERVATION PLAN



**KIWATCHI ADDITION**  
 6285 DUCK LAKE ROAD  
 EDEN PRAIRIE, MN  
  
 6285 DUCK LAKE, LLC  
  
 17516 RUSTIC HILLS DRIVE  
 EDEN PRAIRIE, MN 55344

**LOUCKS**  
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 ENVIRONMENTAL  
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 Maple Grove, MN 55369  
 763.424.5505  
 www.loucksinc.com

**TREE PRESERVATION CALCULATIONS**

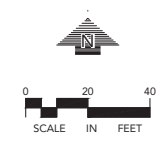
TOTAL CALIPER INCHES: (HERITAGE TREE ON SITE:	971.0 CAL. IN. 45.0 CAL. IN. *)
SIGNIFICANT INCHES IN POOR HEALTH:	202.0 CAL. IN.
TOTAL SIGNIFICANT INCHES ON SITE:	769.0 CAL. IN.
TOTAL POOR HEALTH SIGNIFICANT INCHES REMOVED:	141.5 CAL. IN.
TOTAL HEALTHY SIGNIFICANT INCHES REMOVED ON SITE:	409.5 CAL. IN.
CITY'S REPLACEMENT CONSTANT:	0.5
<b>((409.5 / 769.0) x 0.5) x 409.5 = 109.0 CAL. IN.</b>	
<b>TOTAL CALIPER INCHES NEEDED TO BE REPLACED ON SITE:</b>	<b>109.0 CAL. IN.</b>

**NOTES:**  
 \* TREE NO. #6046 IS THE ONLY HERITAGE TREE ON SITE. IT IS A BLACK LOCUST WHICH HAS BEEN DETERMINED A NOXIOUS WEED/INVASIVE SPECIES PER THE MINNESOTA DEPARTMENT OF AGRICULTURE (MDA). IT IS IN POOR CONDITION, LOCATED UNDER EXISTING POWER LINES, AND IS NOT INCLUDED WITHIN ANY REPLACEMENT CALCULATIONS.

REFER TO SHEET L1-2 FOR TREE INVENTORY LIST AND TREE PRESERVATION DETAIL.  
 REFER TO SHEET L2-1 FOR LANDSCAPE PLAN, LANDSCAPE DATA, AND GENERAL NOTES.  
 REFER TO SHEET L3-1 FOR LANDSCAPE NOTES, IRRIGATION NOTES, AND LANDSCAPE DETAILS.

**LEGEND**

- EXISTING SIGNIFICANT TREE TO REMAIN
- EXISTING SIGNIFICANT TREE TO BE PROTECTED - SEE DETAIL 1A/1-2
- EXISTING SIGNIFICANT TREE TO BE REMOVED



CALL BEFORE YOU DIG!  
**Gopher State One Call**  
 TWIN CITY AREA: 651-454-0007  
 TOLL FREE: 1-800-252-1166

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**SUBMITTAL/REVISIONS**

08/22/22	CITY SUBMITTAL
09/15/22	SCHL BORINGS
09/17/22	WATERSHED COMMENTS
09/18/22	WATERSHED COMMENTS
03/17/23	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscaper in the State of Minnesota.

\_\_\_\_\_  
 Date: 08/22/2023 License No.: LA 24610

**QUALITY CONTROL**

Loucks Project No. 21680  
 Project Lead TWM  
 Drawn By GJA  
 Checked By GJA  
 Review Date 08/22/22

**SHEET INDEX**

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CO-98	PROPOSED PLAN
CO-99	PROPOSED PLAN
CO-100	PROPOSED PLAN

**TREE PRESERVATION PLAN**  
**L1-1**

TREE INVENTORY LIST

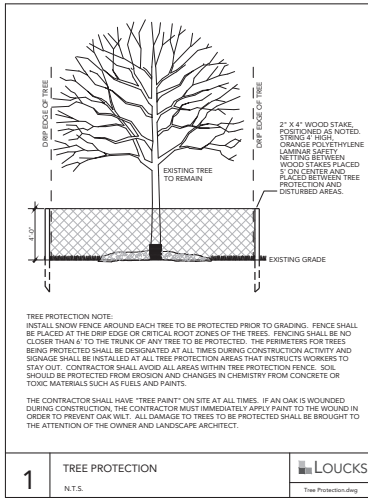
Tree #	Species	DBH	Condition	Stems	Heritage	Notes	Saved/Removed
6001	Spruce	21.0	Fair	1	No		Saved
6002	Maple, Norway	22.0	Good	1	No		Saved
6003	Spruce	16.5	Fair	1	No		Saved
6004	Spruce	11.5	Fair	1	No		Saved
6005	Spruce	10.0	Poor	1	No		Saved
6006	Spruce	13.5	Fair	1	No		Saved
6007	Spruce	9.0	Fair	1	No		Saved
6008	Honeylocust	22.0	Good	1	No		Removed
6009	Maple, Norway	16.5	Poor	1	No		Saved
6010	Maple, Norway	15.5	Fair	2	No		Saved
6011	Honeylocust	16.0	Good	1	No		Removed
6012	Honeylocust	15.0	Good	1	No		Removed
6013	Honeylocust	19.0	Good	1	No		Removed
6014	Walnut	18.0	Good	1	No		Removed
6015	Spruce	10.5	Fair	1	No		Removed
6016	Spruce	13.5	Fair	1	No		Removed
6017	Pine, white	15.5	Good	1	No		Removed
6018	Spruce	10.0	Fair	1	No		Removed
6019	Ash, green	20.0	Good	1	No		Removed
6020	Ash, green	17.0	Good	1	No		Removed
6021	Ash, green	17.5	Good	1	No		Removed
6022	Ash, green	17.0	Poor	1	No		Saved
6023	Ash, green	17.5	Fair	1	No		Removed
6024	Cottonwood	35.0	Good	1	No		Saved
6025	Cottonwood	31.0	Good	1	No		Saved
6026	Ash, green	12.5	Good	1	No		Saved
6027	Ash, green	14.5	Good	1	No		Saved
6028	Ash, green	17.0	Poor	1	No		Saved
6029	Ash, green	12.5	Good	1	No		Removed
6030	Ash, green	15.0	Good	1	No		Removed
6031	Ash, green	13.5	Good	1	No		Removed
6032	Maple, silver	19.5	Good	1	No		Removed
6033	Ash, green	14.0	Good	1	No		Saved
6034	Cottonwood	23.5	Good	1	No		Saved
6035	Cottonwood	42.0	Good	1	No		Removed
6036	Spruce	8.5	Fair	1	No		Saved
6038	Spruce	9.0	Fair	1	No		Saved
6039	Spruce	11.0	Fair	1	No		Saved
6040	Spruce	9.5	Fair	1	No		Saved
6042	Pine, white	14.0	Good	1	No		Saved
6043	Cottonwood	33.0	Good	1	No		Removed
6044	Locust, black	14.0	Poor	2	No	Invasive Species	Removed
6045	Locust, black	24.0	Poor	1	No	Invasive Species	Removed
6046	Locust, black	45.0	Poor	3	Yes	Invasive Species	Removed
6047	Locust, black	22.0	Poor	2	No	Invasive Species	Removed
6048	Locust, black	13.5	Poor	2	No	Invasive Species	Removed
6049	Locust, black	13.5	Fair	1	No	Invasive Species	Removed
6050	Locust, black	23.0	Poor	1	No	Invasive Species	Removed
6051	Crabapple	18.0	Good	1	No		Removed
6052	Maple, amur	31.0	Good	3	No		Removed
6053	Oak, bur	17.0	Good	1	No		Saved
6054	Spruce	17.5	Fair	1	No		Saved
6055	Spruce	16.0	Fair	1	No		Saved
6056	Maple, Norway	17.5	Good	1	No		Saved

NOTES:

REFER TO SHEET L1-1 FOR TREE INVENTORY PLAN AND TREE PRESERVATION CALCULATIONS.

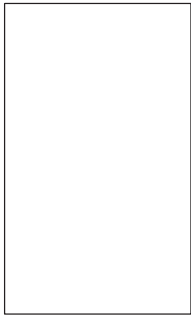
REFER TO SHEET L2-1 FOR LANDSCAPE PLAN, LANDSCAPE DATA, AND GENERAL NOTES.

REFER TO SHEET L3-1 FOR LANDSCAPE NOTES, IRRIGATION NOTES, AND LANDSCAPE DETAILS.



**1 TREE PROTECTION**  
 N.T.S.

**LOUCKS**  
 Tree Protection.dwg



**KIWATCHI ADDITION**  
 6285 DUCK LAKE ROAD  
 EDEN PRAIRIE, MN

6285 DUCK LAKE, LLC  
 17516 RUSTIC HILLS DRIVE  
 EDEN PRAIRIE, MN 55339

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**CADD QUALIFICATION**

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**SUBMITTAL/REVISIONS**

08/22/22	CITY SUBMITTAL
09/15/22	SOIL BORINGS
09/17/22	WATERSHED COMMENTS
09/18/22	WATERSHED COMMENTS
03/17/23	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscaper in the State of Minnesota.  
 \_\_\_\_\_  
 Ed Johnson - LA 24610

**QUALITY CONTROL**

Locks Project No.	21680
Project Lead	TWM
Drawn By	GJA
Checked By	GJA
Review Date	08/22/22

**SHEET INDEX**

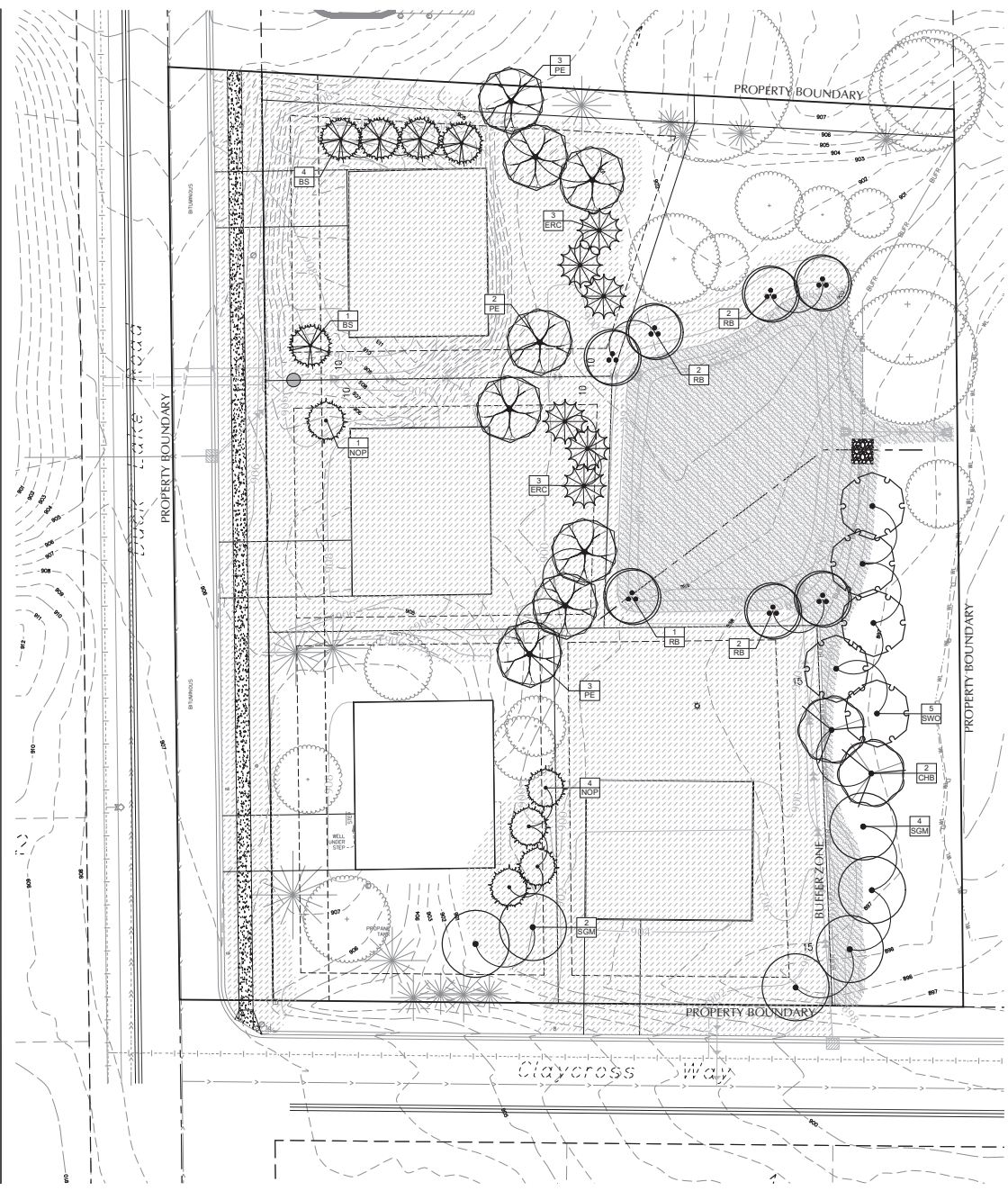
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1 of 1	PRELIMINARY PLAN
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CD-8	LANDSCAPE PLAN
CD-9	LANDSCAPE DETAILS



**CALL BEFORE YOU DIG!**  
**Gopher State One Call**  
 TWIN CITY AREA: 651-644-0902  
 TOLL FREE: 1-800-932-1166

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**TREE INVENTORY**  
**L1-2**



**GENERAL NOTES:**

CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID. HE SHALL INSPECT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.

VERIFY LAYOUT AND ANY DIMENSIONS SHOWN AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN AND/OR INTENT OF THE PROJECT'S LAYOUT.

ASSURE COMPLIANCE WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK OR MATERIALS SUPPLIED.

CONTRACTOR SHALL PROTECT ALL EXISTING ROADS, CURBS / GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING PLANTING OPERATIONS. ANY DAMAGE TO SAME SHALL BE REPAIRED AT NO COST TO THE OWNER.

CONTRACTOR SHALL VERIFY ALIGNMENT AND LOCATION OF ALL UNDERGROUND AND ABOVE GRADE UTILITIES. CONTRACTOR TO PROVIDE THE NECESSARY PROTECTION FOR THE UTILITIES BEFORE CONSTRUCTION / MATERIAL INSTALLATION BEGINS. CONTRACTOR TO NOTIFY GENERAL CONTRACTOR OF ANY CONCERNS PRIOR TO INSTALLATION OF PLANTINGS.

EXISTING CONTOURS, TRAILS, VEGETATION, CURB / GUTTER AND OTHER EXISTING ELEMENTS BASED UPON INFORMATION SUPPLIED TO LANDSCAPE ARCHITECT BY OTHERS. CONTRACTOR SHALL VERIFY ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION AND NOTIFY LANDSCAPE ARCHITECT OF SAME.

CITY NOTES:

THE PROJECT SHALL BE CONSTRUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G. ZEBRA MUSSELS, EURASIAN WATERFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.

ALL DISTURBED AREAS WITHIN THE WETLAND BUFFER SHALL BE ESTABLISHED WITH NATIVE SEED MIX AS SHOWN IN THE PLANT SCHEDULE

PLANT SCHEDULE					
DECIDUOUS TREES	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT SIZE
	CHB	2	COMMON HACKBERRY	<i>Celtis occidentalis</i>	B & B 2.5' Cal
	PE	8	PRINCETON ELM	<i>Ulmus americana 'Princeton'</i>	B & B 2.5' Cal
	RB	7	RIVER BIRCH CLUMP	<i>Betula nigra</i>	B & B 8' HGT
	SGM	6	SIENNA GLEN MAPLE	<i>Acer freemanii 'Sienna Glen'</i>	B & B 2.5' Cal
	SWO	5	SWAMP WHITE OAK	<i>Quercus bicolor</i>	B & B 2.5' Cal
EVERGREEN TREES	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT SIZE
	BS	5	BLACK HILLS SPRUCE FULL FORM	<i>Picea glauca 'Denata'</i>	B & B 6' HGT
	ERC	6	EASTERN RED CEDAR FULL FORM	<i>Juniperus virginiana</i>	B & B 6' HGT
	NOP	5	NORWAY PINE FULL FORM	<i>Pinus resinosa</i>	B & B 6' HGT
GROUND COVERS	CODE	COMMON NAME	BOTANICAL NAME		
	SEED 1	TURF SEED			
SOD/SEED	CODE	COMMON NAME	BOTANICAL NAME		
	SEED 2	NATIVE SEED MNDOT SEED MIX 33-251 - SEED PER MNDOT SPECIFICATIONS			

**LANDSCAPE CALCULATIONS:**

NO SPECIFIC LANDSCAPE REQUIREMENTS FOR R1 - 13.5 SINGLE FAMILY, EXCEPT AS MENTIONED BELOW AND THE REQUIREMENT TO REPLACE TREES BASED ON EXISTING TREE REMOVALS DUE TO SITE GRADING AND CONSTRUCTION DISTURBANCE AREAS.

ALL EXPOSED GROUND AREA SURROUNDING THE PRINCIPAL BUILDING AND ACCESSORY BUILDING WHICH ARE NOT DEVOTED TO DRIVEWAYS, SIDEWALKS, OR PATIOS, SHALL BE LANDSCAPED WITH GRASS, SHRUBS, TREES, OR OTHER ORNAMENTAL LANDSCAPE MATERIAL.

- TOTAL CALIPER INCHES NEEDED TO BE REPLACED ON SITE: 109.0 CAL. IN.
- TOTAL CALIPER INCHES PROPOSED: 110.0 CAL. IN.
- DECIDUOUS TREES - 2.5' CAL: 21 (52.5 CAL. IN.)
- DECIDUOUS TREES - CLUMP FORM (2.5' CAL): 7 (17.5 CAL. IN.)
- CONIFEROUS TREES - 6 FOOT HIGH (2.5' CAL): 16 (40.0 CAL. IN.)

REFER TO SHEET L1-1 FOR TREE REPLACEMENT CALCULATIONS AND TREE PRESERVATION PLAN.  
REFER TO SHEET L1-2 FOR TREE INVENTORY LIST AND TREE PRESERVATION DETAIL.  
REFER TO SHEET L3-1 FOR LANDSCAPE DETAILS, LANDSCAPE NOTES, AND IRRIGATION NOTES.



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08/22/22	CITY SUBMITTAL
09/15/22	SCH. BORINGS
09/17/22	WATERSHED COMMENTS
09/18/22	WATERSHED COMMENTS
03/17/23	WATERSHED COMMENTS

**PROFESSIONAL SIGNATURE**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscaper in the State of Minnesota.

Signature: \_\_\_\_\_ Date: 08/22/22

**QUALITY CONTROL**

Locks Project No. 21680  
Project Lead TWM  
Drawn By GJA  
Checked By GJA  
Review Date 08/22/22

**SHEET INDEX**

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CO-9	CITY NOTES
CO-10	TREE PRESERVATION
CO-11	TREE INVENTORY
CO-12	LANDSCAPE PLAN
CO-13	LANDSCAPE DETAILS

**LANDSCAPE PLAN**  
**L2-1**



