Rice Creek Watershed District
Stormwater Management Grant Program
2025 Application Form

I. APPLICANT INFORMATION

Organization (to be named as Grantee): The City of Mounds View

Street Address: 2466 Bronson Drive

City, State, Zip: Saint Paul, MN, 55112

Tax Status: Local Government Tax ID#: 416008912

(e.g., local government, non-profit 501(c)(3), private business, etc.)

II. PROJECT CONTACT:

Project Officer: Pete Szurek
Title: Public Works Superintendent
Telephone: 763-286-3632
Fax:
Email: pete.szurek@moundsviewmn.org

Financial Officer: Don Peterson
Title: Public Works Director
Telephone: 763-286-2062
Fax:
Email: don.peterson@moundsviewmn.org

III. PROJECT INFORMATION

Project Name: Silver View Pond Improvement Project

Location(s) of Project: 2700 County Road I

City: Mounds View State: MN County: 55112

Project Start Date: 4/1/2025 Project Completion Date: 11/28/2025

Project Type (check only those that directly apply):

- [x] Water Quality Treatment Project
- [ ] Stormwater Reuse Irrigation Project
- [ ] Peak Runoff Rate Control Project
- [x] Runoff Volume Control / Flood Storage Project
- [ ] Other: _____

Is a RCWD Rule C permit required for this project? [ ] YES [x] NO [ ] UNKNOWN

IV. GRANT REQUEST

RCWD Grant Funding Requested: $ 100,000

Applicant Match Funding Committed: $ 375,000

State/Other Funding Committed: $ 0.00 Source(s): NA

Total Estimated Project Cost: $ 475,000

Would you be willing to accept grant funding in an amount less than requested? [x] YES [ ] NO

V. SIGNATURE OF APPLICANT

I certify that the information contained within this application is true and accurate.

Signature of Project Officer

12/18/2024
Date

VI. Executive Summary / Abstract

Include a brief Executive Summary (100 words or less) that summarizes the main goals and activities of the project and the expected environmental outcomes that will be achieved. Identification of the total amount of funds being requested along with the required match. The summaries will be used in the grant review process and on the RCWD website, for projects that are funded.

The Silver View Pond Project in Mounds View improves water quality and stormwater management. It will add a forebay with an iron-enhanced filtration bench, infiltration/biofiltration basins, and pretreatment. These changes are based on the June 2023 Stormwater Pond Assessment. Utilizing 2023 field data, the project restores the pond's functionality, reducing pollutant loads, mitigating flooding, and promoting long-term environmental health. The funding request is $100,000, with a City match of $375,000. This initiative supports regional water quality goals, aligns with RCWD priorities, and delivers lasting benefits to the Rice Creek watershed.

VII. Description (10 points)

The RCWD has established guidelines for prioritizing projects based on location. Water quality improvement projects should be located to benefit a RCWD lake classified as either "Protection" or "Restoration" (see Table 2-4 in the RCWD 2020 Watershed Management Plan), and/or a waterbody with an approved Total Maximum Daily Load (TMDL) study or other recognized diagnostic water quality study. Flood storage and runoff rate control projects should focus on reducing peak flood elevations in known regional flood hazard areas and/or documented local problem areas. Describe the specific watershed management, water quality or quantity need(s) that the project will address and its impact on the target water resource within the District.

Name the target waterbody benefiting from this project: Silver View Pond

List and describe the Best Management Practices (BMPs) to be incorporated into this project

The Silver View Pond Improvement Project incorporates many Best Management Practices (BMPs) to improve stormwater management and water quality. These include a forebay with an iron-enhanced filtration bench, four infiltration/biofiltration basins, and two SAFL Baffle (or equivalent) sump structures. Engineers designed the forebay to capture, settle, and filter debris, sediment, and nutrients before they enter Silver View Pond, with iron filings enhancing the phosphorus removal process and improving pollutant removal efficiency. The infiltration/biofiltration basins will store stromwater temporarily. This will reduce runoff and recharge groundwater by allowing the water to infiltrate into the soil. Drain tile will be added to capture excess runoff. It will filter the water through an engineered subgrade. The SAFL Baffle sump structures will be placed to catch and remove larger particles and pollutants from street runoff before it enters the pond. This will further improve water quality. These BMPs will improve the water quality of Silver View Pond and work in tandem with the pond to improve the overall system's capacity to manage sediment and nutrients, improve stormwater management, and contribute to the long-term health of the watershed.

If applicable, describe how the project impacts or protects RCWD groundwater resources, minimizes impervious surfaces, and/or maximizes infiltration.

The Silver View Pond Improvement project provides biofiltration features that capture runoff and filter it before providing the opportunity to infiltrate into the native soils, which in Mounds View are generally sandy with high infiltration capacity. As part of the project, existing areas of turf grass and invasive species within the park will be replaced with native vegetation. These natives are diverse, deep-rooted plantings that will enhance infiltration and promote sustainable ecosystem management, benefiting both surface water and groundwater quality.

Provide drawings, maps and/or schematics which graphically illustrate the location and conceptual design of the project. **(Attach separate sheets.)**

See attached plan set.

Describe how long-term operation and maintenance of the project will be accomplished and identify the individual(s) responsible for maintenance activities if different than the project officer listed in section 2.

The City of Mounds View will integrate the Silver View Pond Improvement project's long-term operation and maintenance into its existing surface water management system. The City's Stormwater Management Fund will support maintenance work. Rates will be reviewed annually to ensure enough funding. Maintenance will follow established policies and schedules outlined in the City's Storm Water Pollution Prevention Plan (SWPPP), including semiannual street sweeping, regular inspections of BMPs, inspections of stormwater ponds every five years, and cleaning and maintenance as needed. A new Stormwater Pond Maintenance Program will be developed to include design volume estimation, sediment tracking, and triggers for sediment removal. The program will ensure ongoing monitoring of the pond's function and effectiveness. City staff will be responsible for the maintenance activities, with the support of contracted services for specialized tasks such as sediment removal and pond dredging. Employee training will continue to ensure proper operation, maintenance, and inspection of the system, as part of the City's broader stormwater management efforts.

VIII. Prioritization (15 points)

How does the project support existing regional planning efforts such as the RCWD Watershed Management Plan, municipal surface water management plans, TMDLs, or other recognized diagnostic studies? Is the project included on the Member Community Project List (Appendix G) within the RCWD Watershed Management Plan? Please provide citations where possible.

The Silver View Pond Improvement project supports several regional planning efforts, including the RCWD Watershed Management Plan and the City of Mounds View's Local Surface Water Management Plan (LSWMP). It aligns with the broader goal of improving water quality and mitigating pollution to comply with Total Maximum Daily Load (TMDL) regulations. Specifically, the project contributes to addressing water quality issues related to impaired waters in the region such as Rice Creek and Long Lake, which are listed on the MPCA's 303(d) list of impaired waters. By improving stormwater filtration and reducing nutrient loading through the installation of a forebay and infiltration basins, the project helps reduce the impact of pollutants, such as phosphorus and sediment, which contribute to impairments in these waterbodies.

While not explicitly listed in Appendix G of the RCWD Watershed Management Plan, the Silver View Pond project aligns with the objectives outlined in both the RCWD Watershed Management Plan and the City's LSWMP to restore water quality and address TMDL requirements for local and regional water bodies. It addresses three of the issues cited in the updated 2020 WMP Tables ES-1:

- *Water Quality Management, Protecting and/or improving the water quality of District streams, rivers, lakes, and other watercourses:* The proposed BMPs address the issues of *Accelerated Sedimentation* and *Nutrient Enrichment.* Wetland restoration around the pond addresses the issue of *Wetlands.*
- *Collaborations, Developing and maintaining positive collaborative relationships and agreements with other agencies and partners:* Providing funding assistance for the proposed water quality improvements would address the issue of *Collaborations with Local Partners.*
- *Communication, Outreach, and Education; Implementation of effective outreach efforts, with outreach efforts tailored to four main audiences, including the general public:* Silver View Park is one of the most visited sites in the City by the general public, and the City's plans to provide educational signage concerning water quality improvements would address the issue of *Communication Opportunities and Strategies.*

The proposed BMPs are also consistent with updated 2020 WMP Table 2-3, which classifies Long Lake (North) as a Restoration lake. The stormwater system from Silver View discharges to Rice Creek shortly upstream of Long Lake (North).

The proposed project is consistent with the City's LSWMP, specifically Goals 7.2.3 Runoff Volume, 7.2.4 Nutrient and Sediment Loading, 7.2.5 Erosion and Sediment Control, 7.3 Resource Management (specifically wetlands, groundwater, and natural areas), and 7.4.3 Public Education. It also addresses Section 8.2.1 Stormwater Pond Maintenance Program, as the program referenced in the LSWMP has not been completed, and Silver View Pond is one of the initial ponds recommended for maintenance and restoration.

Additionally, the project supports the City of Mounds View's efforts to comply with TMDLs, including the Upper Mississippi River Bacteria TMDL and the South Metro TSS TMDL, which focus on reducing Total Suspended Solids (TSS) loading. The improvements in stormwater management at Silver View Pond, including sediment removal and the addition of forebay improvements and infiltration basins, will help meet these regulatory requirements while supporting the health of the watershed.

IX. Targeting (15 points)

Describe the critical pollution or flooding sources and risks addressed by this project. Explain why the proposed project is the most cost-effective and feasible means to attain the expected resource benefits. Has a formal analysis been conducted to substantiate this position?

The Silver View Pond Improvement project addresses critical pollution and flooding risks in Mounds View. Sediments and nutrients have built up over time in the pond. This has reduced its ability to manage stormwater effectively. Pollutants now flow into downstream water bodies, such as Rice Creek and Long Lake, which are already impaired. Sediment buildup is reducing the pond's capacity. This raises the risk of flooding during heavy rain events. The project proposes to use proven BMPs. These include forebay improvements and infiltration basins that effectively capture sediments and improve stormwater filtration. These measures cut pollutant loads, boost infiltration, and help meet TMDL rules for impaired downstream waters.

This solution is the most cost effective. Silver View Pond is an existing regional basin and it collects runoff from a large, developed area. Existing municipal stormwater infrastructure conveys runoff to this location. It minimizes the need for new facilities or street restoration. It uses efficient, recognized BMPs that fit into local and regional water management plans.

Biolfiltration BMPs on the south side of the pond will treat runoff from CR H2 that discharges to Silver View Pond. Biofiltration BMPs on the pond's east side will treat runoff from the H2 Flats apartments and parking lot. It currently discharges untreated to Silver View Pond. The forebay improvements will upgrade an undersized forebay. We will add an iron-enhanced filtration bench to treat runoff from Silver Lake Road, CSAH 10, and nearby commercial properties. These currently discharge untreated runoff to Silver View Pond. There is limited space for biofiltration BMPs along the pond's northeast side. So, existing CBs will be retrofitted as sump structures with SAFL Baffles (or equivalent). They will treat runoff from Lake Court Drive and the nearby residential area.

The project’s benefits are supported by formal analysis, including field data collection and findings from the June 2023 Mounds View Stormwater Pond Assessment. These studies confirm that the proposed interventions at Silver View Pond represent the most practical and economical means to achieve the desired water quality improvements and mitigate flooding risks. P8 modeling of the proposed improvements was performed that indicated a proposed reduction of 8,600 lb/year of TSS and 18 lb/year of TP resulting from the proposed improvements.

X. Measurable Outcomes (20 points)

Provide a detailed estimate and description of the anticipated pollutant reduction, stormwater rate/volume reduction, groundwater withdrawal reduction, and/or other environmental or natural resource benefits associated with the project. Describe the methods and cite the sources (i.e. P8 model, HydroCAD, XP-SWMM, MIDS, MN Stormwater Manual, etc.) used to calculate or estimate the pollutant reductions and/or hydrologic outcomes. **(Mandatory for RCWD to consider your proposal!)**

The Silver View Pond Improvement Project is expected to yield significant environmental benefits, including pollution reduction, stormwater volume management, and improved groundwater recharge. Based on field surveys and sedimentation analysis conducted by Stantec in 2023, Silver View Pond currently exhibits a sediment accumulation rate of approximately 0.9% per year, with 34.7% of its storage capacity already filled with sediment. This accumulation contributes to high phosphorus and total suspended soil (TSS) levels in the watershed. By implementing forebay improvements and infiltration basins, the project will reduce loading by capturing and settling sediments more effectively, minimizing nutrient flow to downstream impaired waters such as Rice Creek and Long Lake. P8 modeling of the proposed improvements was performed that indicated a proposed reduction of 8,600 lb/year of TSS and 18 lb/year of TP resulting from the proposed improvements.

The installation of infiltration basins will also enhance stormwater management by reducing runoff volumes and increasing infiltration rates. This improves groundwater recharge and decreases peak stormwater flows, mitigating localized flood risks. Quantitative modeling using industry standard tools like ArcGIS Pro for sedimentation analysis and Triangulated Irregular Networks (TINs) for bathymetry informed the project's design, ensuring precise targeting of sediment and nutrient reductions. Additional modeling through the Minnesota Stormwater Manual guidelines has been recommended for adaptive management and long-term monitoring.

The reduction in impervious surface area through regrading and the restoration of native vegetation will further promote natural infiltration, enhancing groundwater recharge. The combined measures will provide long-term improvements in water quality, compliance with TMDL requirements, and overall watershed health.

This integrated approach leverages detailed assessments, regulatory frameworks, and community engagement to ensure the project's cost-effectiveness and environmental sustainability.

XI. Cost-Effectiveness (20 points)

Provide a detailed budget that lists each item for which funding is being requested. You must also list the sources of required local matching contributions. Why is this the most cost-effective approach to solving the problem? Have other alternatives been explored? **(Attach separate sheets if needed.)**

Item:	**Cost:**
Biofiltration Basins EW 04.10 and EW04.11	$179,000
SAFL Baffles	$52,000
Forebay with Filtration Bench	$86,000
Biofiltration Basins EW 04.P1 and EW 04.P, along CR H2	$31,000
Design, Admin, Public Engagement	$127,000
Total Project Cost	**$475,000**

The City's Stormwater Management Fund will be used to provide the City match of $375,000 for the project. This is the most cost-effective approach in that Silver View Pond is an existing regional basin that is a collection point for a large, fully-developed drainage area. Municipal stormwater infrastructure already exists to convey runoff to this location. In addition, the pond is in a park that is the most visible and visited outdoor amenity in the City, with Silver View Pond as the centerpiece. The proposed improvements will not only provide water quality improvements on a regional basis, but they will also enhance an amenity for the local community and provide an outstanding opportunity for educational signage regarding the City's surface water management system.

XII. Project Readiness (10 points)

Please describe the anticipated timeline for implementing this project. What steps have been taken to ensure that the project can be implemented according to this timeline? Are any permits needed? (If permits are required please cite from what agency and where the project is in that process)

The project has been designed and bid, and a contractor selected. The construction substantial completion date is 8/29/2025, with final completion by 11/28/2025. A WCA wetland permit is in process; the City is the LGU. An NPDES construction permit will be obtained by the contractor; the SWPPP and erosion control plan have been completed. An erosion control permit from the City, acting as stormwater LGU, will also be obtained.

XIII. Engagement Opportunities (10 points)

Demonstrate any potential for public engagement, education and demonstration and describe what methods will be used to ensure that the purpose and success of the project are made known to the public. Applicants must incorporate a public engagement component into the project.

The Silver View Pond Improvement Project incorporates a comprehensive public engagement and education component to highlight its purpose and successes. Two public information meetings have been held to date, one on site and one at City Hall. Future community meetings and workshops will inform residents about the project's goals, timeline, and benefits while offering practical guidance on stormwater management practices, such as proper lawn care and waste disposal.

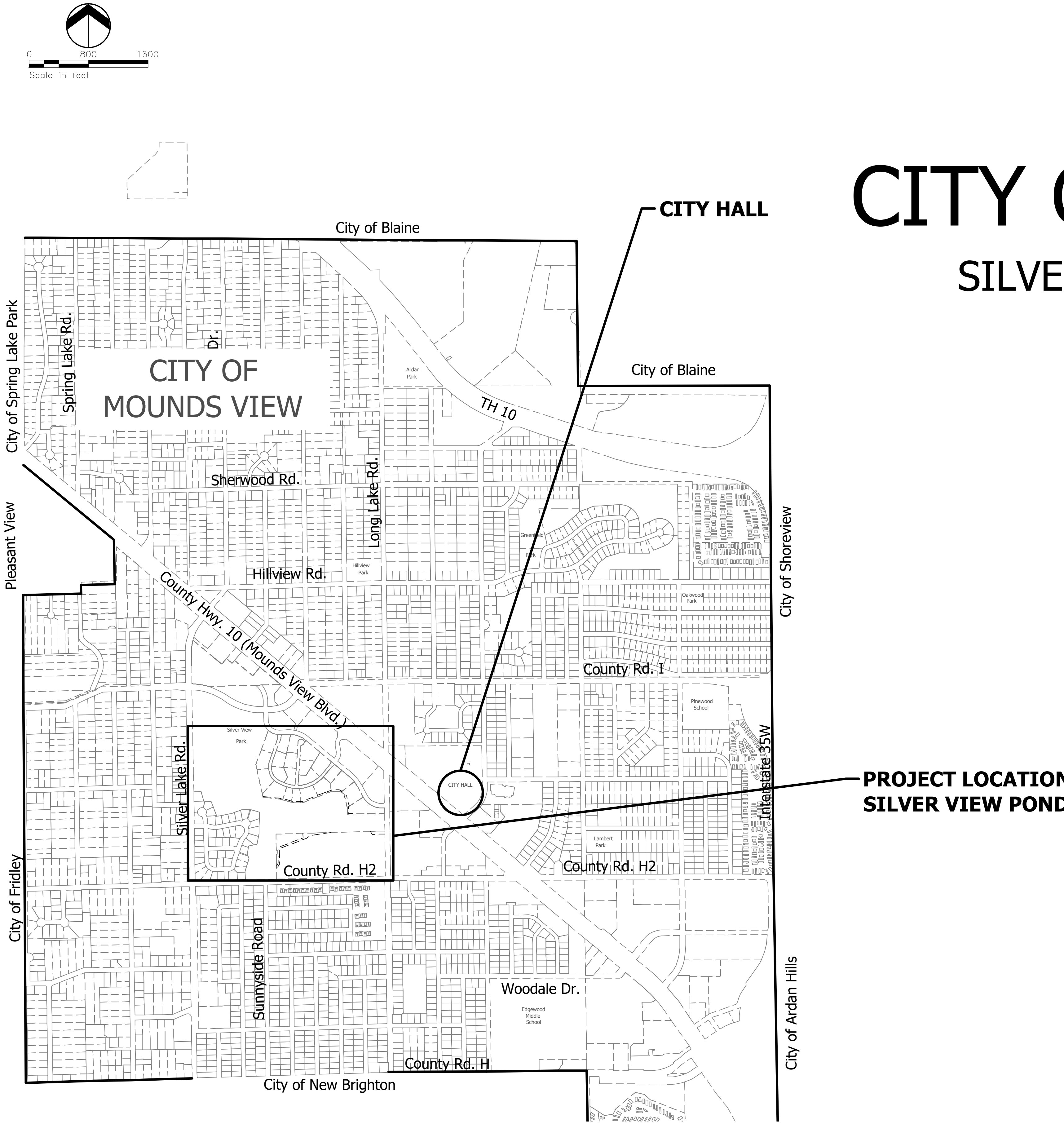
Interpretive signage will be installed around the pond to educate visitors about the role of forebays, infiltration basins, and native vegetation in improving water quality and managing stormwater. Digital outreach, including a dedicated project webpage and newsletters, will keep the public informed of the project's progress and outcomes. These efforts will ensure the community understands the project's environmental impact and encourages stewardship of local water resources.

MOUNDS VIEW PUBLIC WORKS

CITY OF MOUNDS VIEW

SILVER VIEW POND IMPROVEMENTS

CITY PROJECT NO. 2023-C06
PROJECT NO. 193806465



VICINITY MAP

SHEET INDEX

SHEET NUMBER	SHEET TITLE
G0.01	TITLE SHEET
G0.02	LEGEND
C1.01	LOCATION PLAN
C2.01-C2.04	TEMPORARY EROSION CONTROL
C3.01-C3.04	SITE GRADING AND RESTORATION
C5.01-C5.02	STORM MANHOLE IMPROVEMENT
C8.01-C8.03	CONSTRUCTION DETAILS
L100 - L104	LANDSCAPING PLAN
L801	LANDSCAPING DETAILS

THIS PLAN CONTAINS 22 SHEETS

2024 City Officials and Staff Members

Mayor:	Zach Lindstrom
Councilmember:	Sherry Gunn
Councilmember:	Theresa Cermak
Councilmember:	Gary Meehlhause
City Administrator:	Nyle Zikmund
Public Works Director:	Don Peterson

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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 UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: KELLIE SCHLEGEL
SIGNATURE: Kellie M. Schlegel
DATE: 9/30/2024 LIC. NO. 46200

CITY OF MOUNDS VIEW, MINNESOTA
SILVER VIEW POND IMPROVEMENTS
COVER SHEET

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
G0.01

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EXISTING TOPOGRAPHIC SYMBOLS

- STORM SEWER APRON
- BASKETBALL POST
- BARRICADE PERMANENT
- BENCH
- BOOSTER STATION
- BUILDING LOWEST OPENING
- BURIAL CONTROL MONUMENT
- BUSH DECIDUOUS
- CATCH BASIN BEEHIVE
- CURB BOX
- CATCH BASIN
- COLUMN
- CONTROL BOX SIGNAL
- CLEAN OUT (SEWER)
- CULVERT END
- DRINKING FOUNTAIN
- ENERGY DISSIPATER
- FLAG POLE
- FUEL PUMP
- GUY WIRE
- GRILL
- HANDICAP SPACE
- HANDHOLE
- FIRE HYDRANT
- HYDRANT PVMNT MARKER (REFLECTOR)
- HYDRANT VALVE
- INLET (SMALL DIA.)
- LIFT STATION CONTROL PANEL
- LIFT STATION DRY WELL
- LIFT STATION WET WELL
- LIGHT YARD
- LOOP DETECTOR
- MAIL BOX
- MAIL RELAY BOX
- MANHOLE-AIR RELEASE
- MANHOLE-HEAT
- MANHOLE-GAS
- MANHOLE-POWER
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-COMMUNICATIONS
- MANHOLE-UNKNOWN
- MANHOLE-WATER
- METER POWER
- METER GAS
- ORDINARY HIGH WATER MARK
- OUTLET CONTROL STRUCTURE
- PARKING METER
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POWER
- PEDESTAL CATV
- PEDESTAL COMMUNICATIONS
- POST INDICATOR VALVE
- POLE-COMMUNICATIONS
- POLE-GUY
- POLE-LIGHT
- POLE-POWER
- POLE-UTILITY
- POLE-UTILITY SERVICE
- POST
- PROPANE TANK
- PICNIC TABLE
- SAMPLING WELL
- ROCK
- RR SIGNAL CONTROL BOX
- RR CROSSING GATE
- RR SIGNAL
- REGULATION STATION GAS
- SATELLITE DISH
- SEPTIC TANK
- SEPTIC VENT
- SEPTIC DRAIN FIELD
- SIGN
- SOIL BORING
- STAND PIPE GAS
- SPIGOT WATER
- SPRINKLER HEAD
- SPRINKLER VALVE BOX
- STUMP
- SERVICE-GAS POINT ON LINE
- SERVICE-SANITARY SEWER POINT ON LINE
- SERVICE-STORM SEWER POINT ON LINE
- SERVICE-WATER POINT ON LINE
- TELEPHONE BOOTH
- TRANSMISSION TOWER ELECTRIC
- TEST PIT LOC
- TRANSFORMER POWER
- TREE DEAD
- TREE-CONIFEROUS
- TREE-DECIDUOUS
- TREE-FRUIT
- TRASH CAN
- TRAFFIC SIGNAL
- VALVE GAS
- VALVE
- VENT GAS
- WATER REDUCER
- WETLAND
- WELL-MONITORING
- WELL-WATER

SURVEY SYMBOLS

- AERIAL CONTROL POINT
- BACKSIGHT CONTROL POINT
- GPS CONTROL POINT
- JUDICIAL LAND MONUMENT
- MONUMENT COMPUTED
- MONUMENT IRON FOUND
- MONUMENT IRON SET
- RESECTED POINT
- ROW MONUMENT
- ROW MARKER POST
- SECTION CORNER
- TRAVERSE CONTROL POINT
- BENCH MARK LOCATION

PROPOSED TOPOGRAPHIC SYMBOLS

- BOLLARD
- SANITARY CLEANOUT
- MANHOLE
- SANITARY OR STORM LIFT STATION
- STORM SEWER BEEHIVE CATCH BASIN
- STORM SEWER CATCH BASIN
- STORM SEWER FLARED END SECTION
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER REDUCER
- VALVE
- RIP RAP
- DRAINAGE FLOW
- PEDESTRIAN RAMP

EXISTING PRIVATE UTILITY LINES

- CABLE TV QUALITY LEVEL D
- CABLE TV QUALITY LEVEL C
- CABLE TV QUALITY LEVEL B
- CABLE TV QUALITY LEVEL A
- FIBER OPTIC QUALITY LEVEL D
- FIBER OPTIC QUALITY LEVEL C
- FIBER OPTIC QUALITY LEVEL B
- FIBER OPTIC QUALITY LEVEL A
- POWER QUALITY LEVEL D
- POWER QUALITY LEVEL C
- POWER QUALITY LEVEL B
- POWER QUALITY LEVEL A
- GAS QUALITY LEVEL D
- GAS QUALITY LEVEL C
- GAS QUALITY LEVEL B
- GAS QUALITY LEVEL A
- COMMUNICATION QUALITY LEVEL D
- COMMUNICATION QUALITY LEVEL C
- COMMUNICATION QUALITY LEVEL B
- COMMUNICATION QUALITY LEVEL A
- OVERHEAD POWER
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITIES

EXISTING TOPOGRAPHIC LINES

- RETAINING WALL
- FENCE - BARBED WIRE
- FENCE - CHAIN LINK
- FENCE - DECORATIVE
- FENCE - STOCKADE
- FENCE - WOOD
- FENCE - ELECTRIC
- GUARD RAIL
- TREE LINE
- WETLAND

SURVEY LINES

- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- FLOOD PLAIN BOUNDARY
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE

EXISTING UTILITY LINES

- FORCE MAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- WATER MAIN
- WATER SERVICE

PROPOSED UTILITY LINES

- FORCE MAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER DRAINTILE
- STORM SEWER
- WATER MAIN
- WATER SERVICE
- PIPE CASING

FUTURE UTILITY LINES

- FORCE MAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER DRAINTILE
- STORM SEWER
- WATER MAIN
- WATER SERVICE
- PIPE CASING

CONCRETE CURB AND GUTTER

- EXISTING
- PROPOSED
- FUTURE
- DEMOLITION

GRADING INFORMATION

952 950 952 950

- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROPOSED SPOT ELEVATION (× 953.53; × STA:5+67.19 980.87)
- RISE:RUN (SLOPE) (1:4)

ABBREVIATIONS

AD	ALGEBRAIC DIFFERENCE
BV	BUTTERFLY VALVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
℄	CENTER LINE
CL.	CLASS
CMP	CORRUGATED METAL PIPE
C.O.	CHANGE ORDER
DIP	DUCTILE IRON PIPE
EL/ELEV	ELEVATION
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX	EXISTING
FES	FLARED END SECTION
F/F	FACE TO FACE
FM	FORCE MAIN
F.O.	FIELD ORDER
GV	GATE VALVE
HP	HIGH POINT
HWL	HIGH WATER LEVEL
INV	INVERT
K	CURVE COEFFICIENT
LP	LOW POINT
MH	MANHOLE (SANITARY)
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
PC	POINT OF CURVE
PCC	COMPOUND CURVE
PI	POINT OF INTERSECTION
℘	PROPERTY LINE
PPVC	PERFORATED POLYVINYL CHLORIDE PIPE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT-OF-WAY
SS	STORM SEWER STRUCTURE
STA	STATION
TCE	TEMPORARY CONSTRUCTION EASEMENT
TNH	TOP NUT HYDRANT
TYP	TYPICAL
VC	VERTICAL CURVE
WM	WATER MAIN

HATCH PATTERNS

- HEAVY DUTY BITUMINOUS
- SAND
- BITUMINOUS
- BEDROCK
- CONCRETE
- GROUND
- GRAVEL

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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 UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: KELLIE SCHLEGEL
SIGNATURE: Kellie M. Schlegel
DATE: 9/30/2024 LIC. NO. 46200

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

LEGEND

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
G0.02

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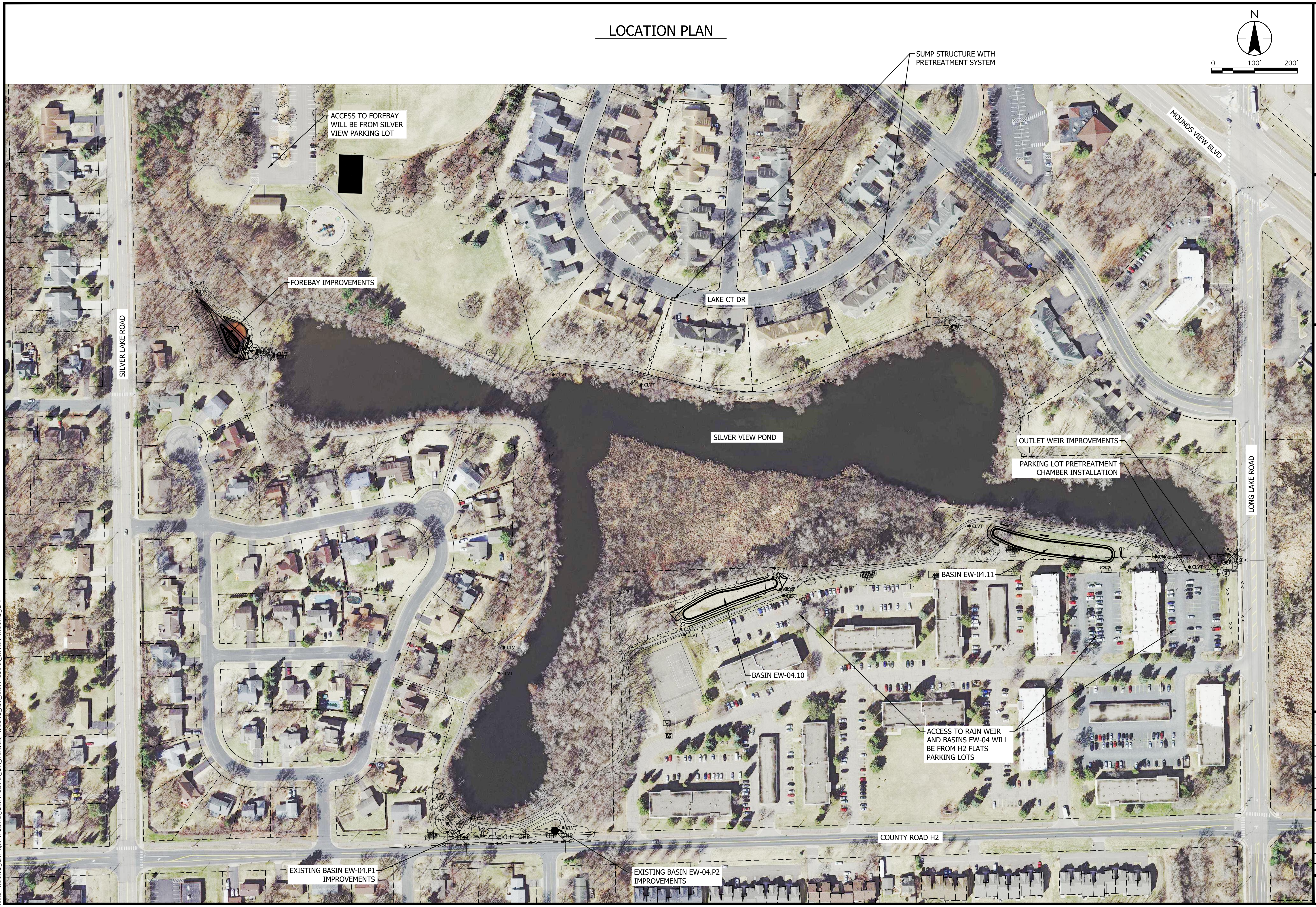
LOCATION PLAN



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PRINT NAME: KELLIE SCHLEGEL

SIGNATURE: Kellie M. Schlegel

DATE: 9/30/2024 LIC. NO. 46200

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

LOCATION PLAN

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C1.01

Plot Date: 09/30/2024 - 3:55pm
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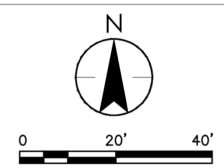
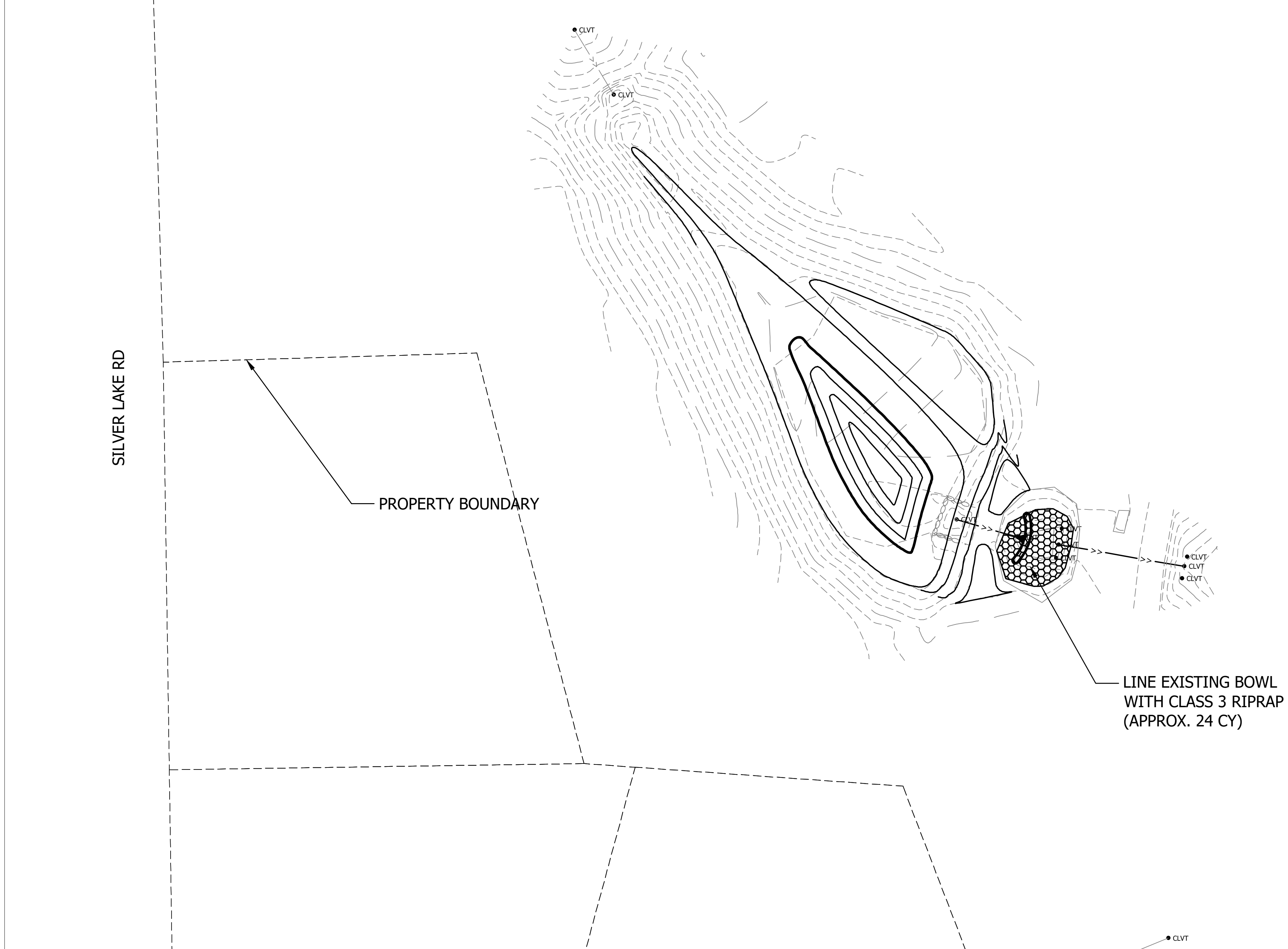


EROSION CONTROL LEGEND

- MS — MACHINE SLICED SILT FENCE
- HD — HEAVY DUTY SILT FENCE
- WB — WIRE BACKED SILT FENCE
- SD — SUPER DUTY SILT FENCE
- BR — BIOROLL
- FLOTATION SILT CURTAIN
- XXXXXXX — ROCK LOG
- RIP RAP
- INLET PROTECTION
- DITCH CHECK - BIOLOG
- DITCH CHECK - ROCK
- CULVERT / PIPE PROTECTION
- TEMPORARY SEDIMENT BASIN W/ PIPE DRAIN
- SEDIMENT — TEMPORARY SEDIMENT TRAP
- DIVERSION AND PIPE DRAIN
- SANDBAGS
- CONCENTRATED SURFACE FLOW
- CW — CONCRETE WASHOUT
- EROSION MATS
- TEMPORARY HYDROMULCH NO SEED
- MULCH
- HYDROMULCH
- SOD
- TURF REINFORCEMENT MAT (TRM)
- OTHER APPROVED BEST MANAGEMENT PRACTICE (BMP)
- CONSTRUCTION ENTRANCE / EXIT



RESTORATION:
1) INSTALL EROSION CONTROL BLANKET ALONG BASIN BOTTOM AND SIDE SLOPES
2) SEE LANDSCAPING PLANS FOR FINAL RESTORATION DETAILS

Plot Date: 09/30/2024 - 3:55pm
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PRINT NAME: KELLIE SCHLEGEL
SIGNATURE: Kellie M. Schlegel
DATE: 9/30/2024 LIC. NO. 46200

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

TEMPORARY EROSION CONTROL

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C2.01

EROSION CONTROL LEGEND

- MS — MACHINE SLICED SILT FENCE
- HD — HEAVY DUTY SILT FENCE
- WB — WIRE BACKED SILT FENCE
- SD — SUPER DUTY SILT FENCE
- BR — BIOROLL
- FLOTATION SILT CURTAIN
- XXXXXXX — ROCK LOG
- RIP RAP
- INLET PROTECTION
- DITCH CHECK - BIOLOG
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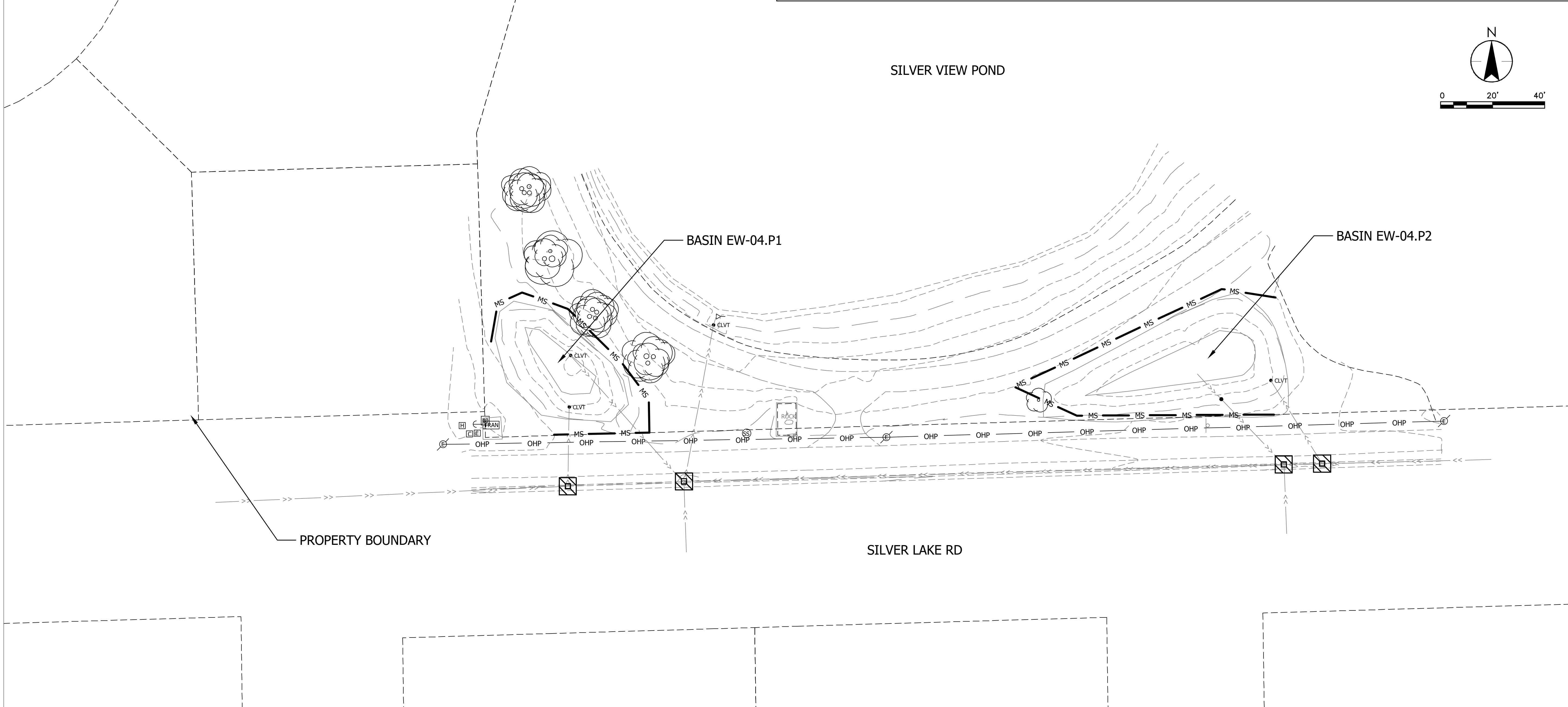

RESTORATION:

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TEMPORARY EROSION CONTROL

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C2.02

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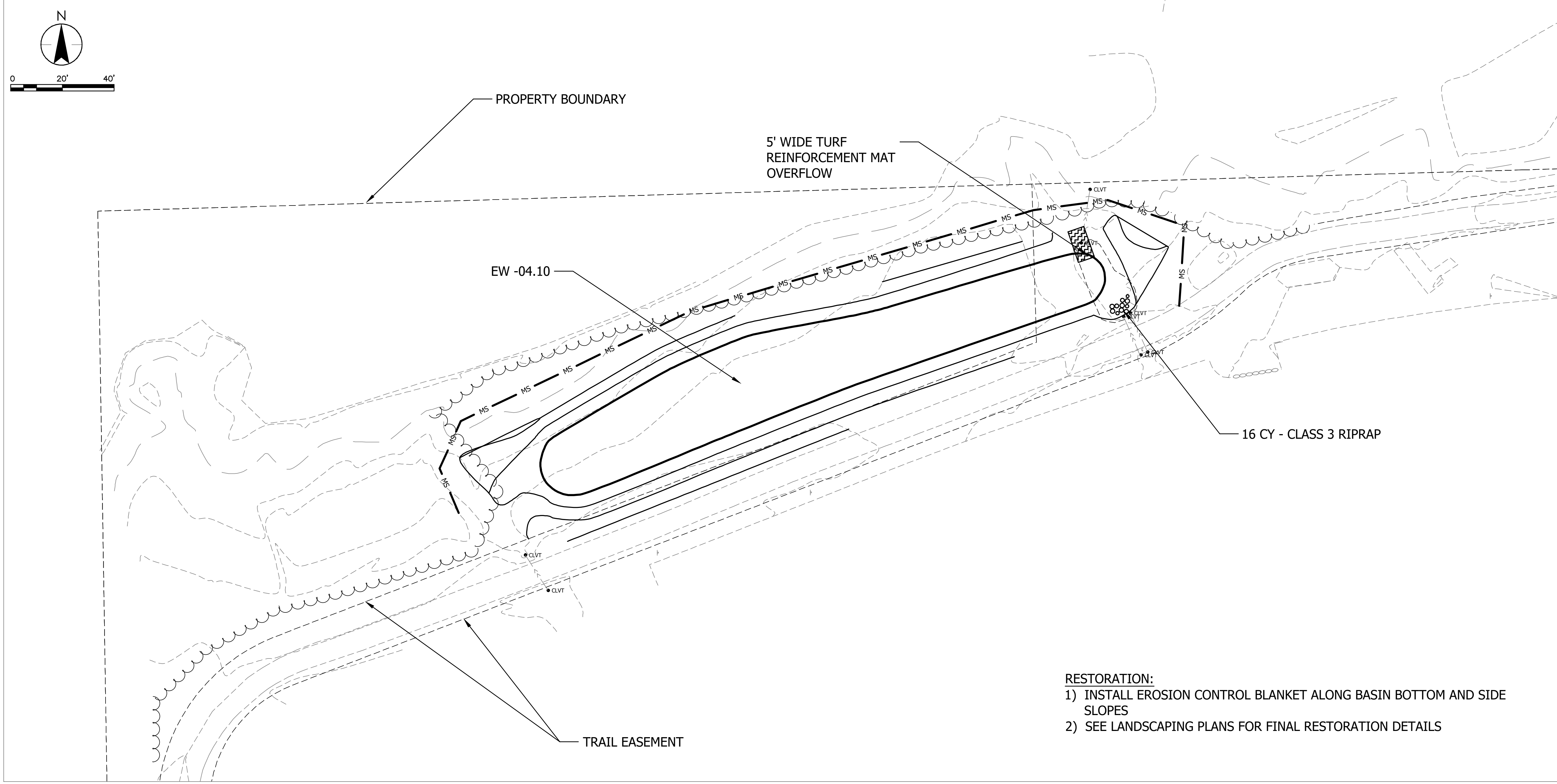
EROSION CONTROL LEGEND

MACHINE SLICED SILT FENCE (MS)	DITCH CHECK - ROCK	EROSION MATS	SOD
HEAVY DUTY SILT FENCE (HD)	CULVERT / PIPE PROTECTION	TEMPORARY HYDROMULCH NO SEED	TURF REINFORCEMENT MAT (TRM)
WIRE BACKED SILT FENCE (WB)	TEMPORARY SEDIMENT BASIN W/ PIPE DRAIN	MULCH	OTHER APPROVED BEST MANAGEMENT PRACTICE (BMP)
SUPER DUTY SILT FENCE (SD)	TEMPORARY SEDIMENT TRAP (SEDIMENT)	HYDROMULCH	CONSTRUCTION ENTRANCE / EXIT
BIOROLL (BR)	DIVERSION AND PIPE DRAIN		
FLOTATION SILT CURTAIN	SANDBAGS		
ROCK LOG (XXXXXXX)	CONCENTRATED SURFACE FLOW		
RIP RAP	CONCRETE WASHOUT (CW)		
INLET PROTECTION			
DITCH CHECK - BIOLOG			



RESTORATION:
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SILVER VIEW POND IMPROVEMENTS
TEMPORARY EROSION CONTROL

NO	REVISION	DATE

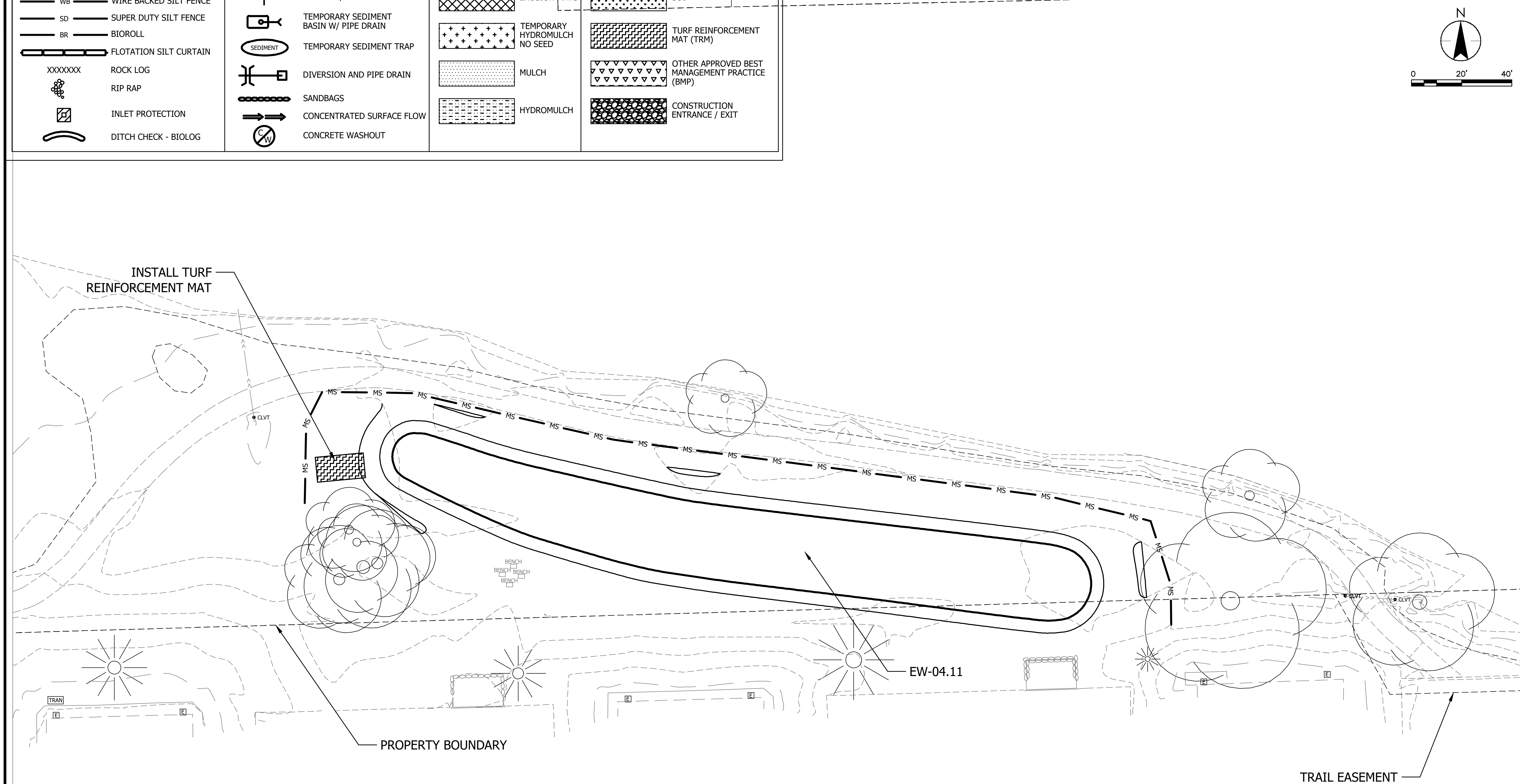
SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C2.03

Plot Date: 09/30/2024 - 3:56pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_C200R.dwg
Xrefs:, 193806465_XSXT-Topo, 193806465_BORDER, 193806465_XSPL

EROSION CONTROL LEGEND

MS	MACHINE SLICED SILT FENCE
HD	HEAVY DUTY SILT FENCE
WB	WIRE BACKED SILT FENCE
SD	SUPER DUTY SILT FENCE
BR	BIOROLL
	FLOTATION SILT CURTAIN
XXXXXXX	ROCK LOG
	RIP RAP
	INLET PROTECTION
	DITCH CHECK - BIOLOG
	DITCH CHECK - ROCK
	CULVERT / PIPE PROTECTION
	TEMPORARY SEDIMENT BASIN W/ PIPE DRAIN
SEDIMENT	TEMPORARY SEDIMENT TRAP
	DIVERSION AND PIPE DRAIN
	SANDBAGS
	CONCENTRATED SURFACE FLOW
CW	CONCRETE WASHOUT
	EROSION MATS
	TEMPORARY HYDROMULCH NO SEED
	MULCH
	HYDROMULCH
	SOD
	TURF REINFORCEMENT MAT (TRM)
	OTHER APPROVED BEST MANAGEMENT PRACTICE (BMP)
	CONSTRUCTION ENTRANCE / EXIT



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Xrefs:, 193806465_XSXT-Topo, 193806465_BORDER, 193806465_XSPL

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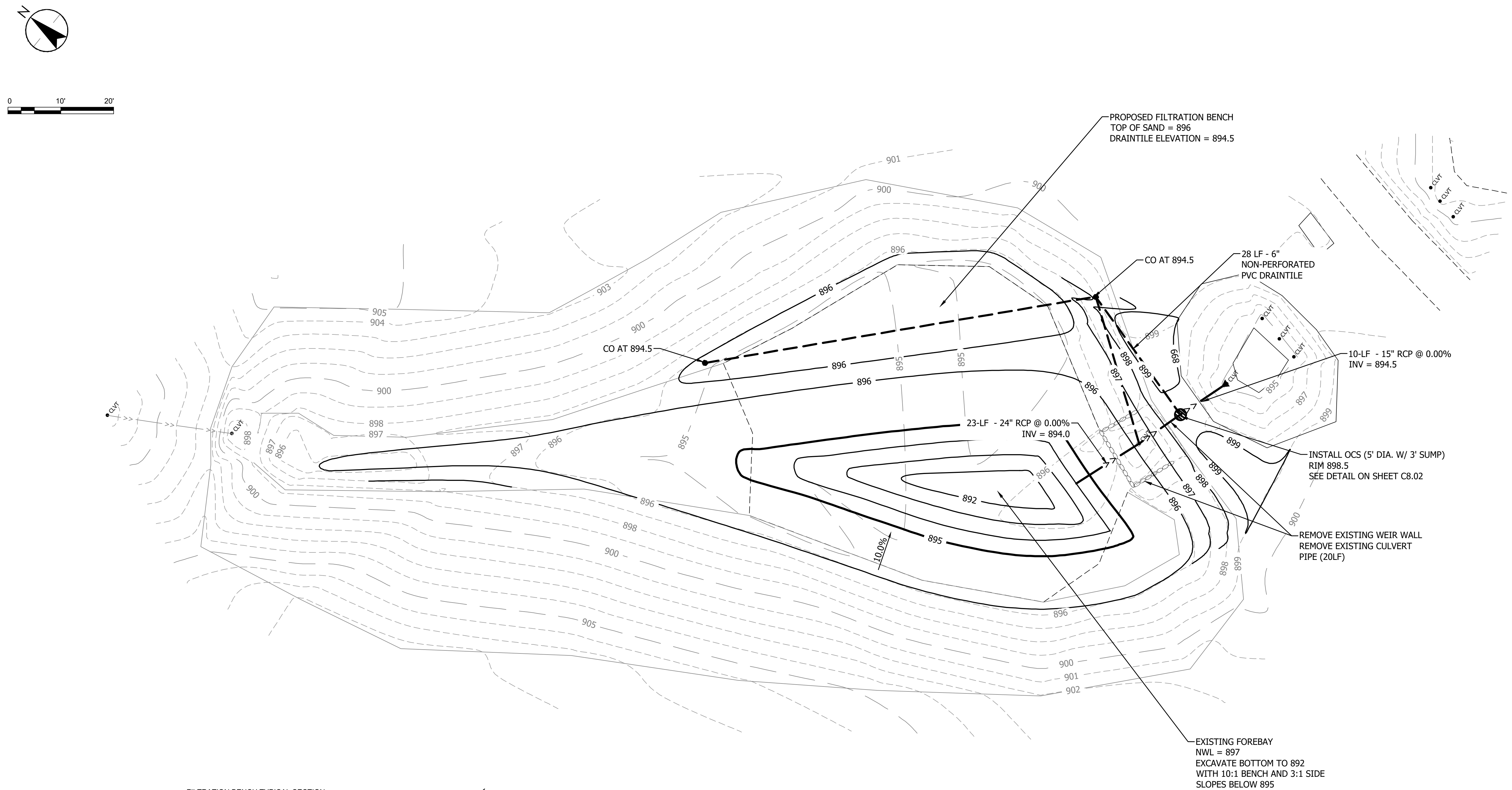
SILVER VIEW POND IMPROVEMENTS
TEMPORARY EROSION CONTROL

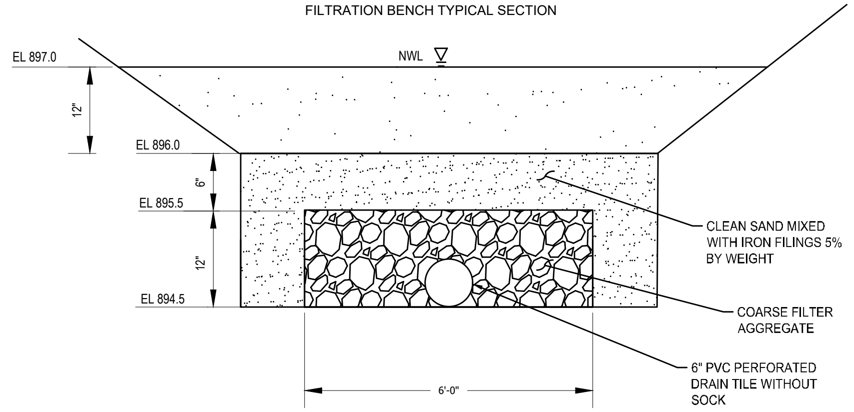
NO	REVISION	DATE

SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C2.04



FILTRATION BENCH TYPICAL SECTION



NOTE:

1. SEE C8.02 FOR TYPICAL SECTION OF FOREBAY/FILTRATION BENCH.

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Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_C300.dwg
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CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

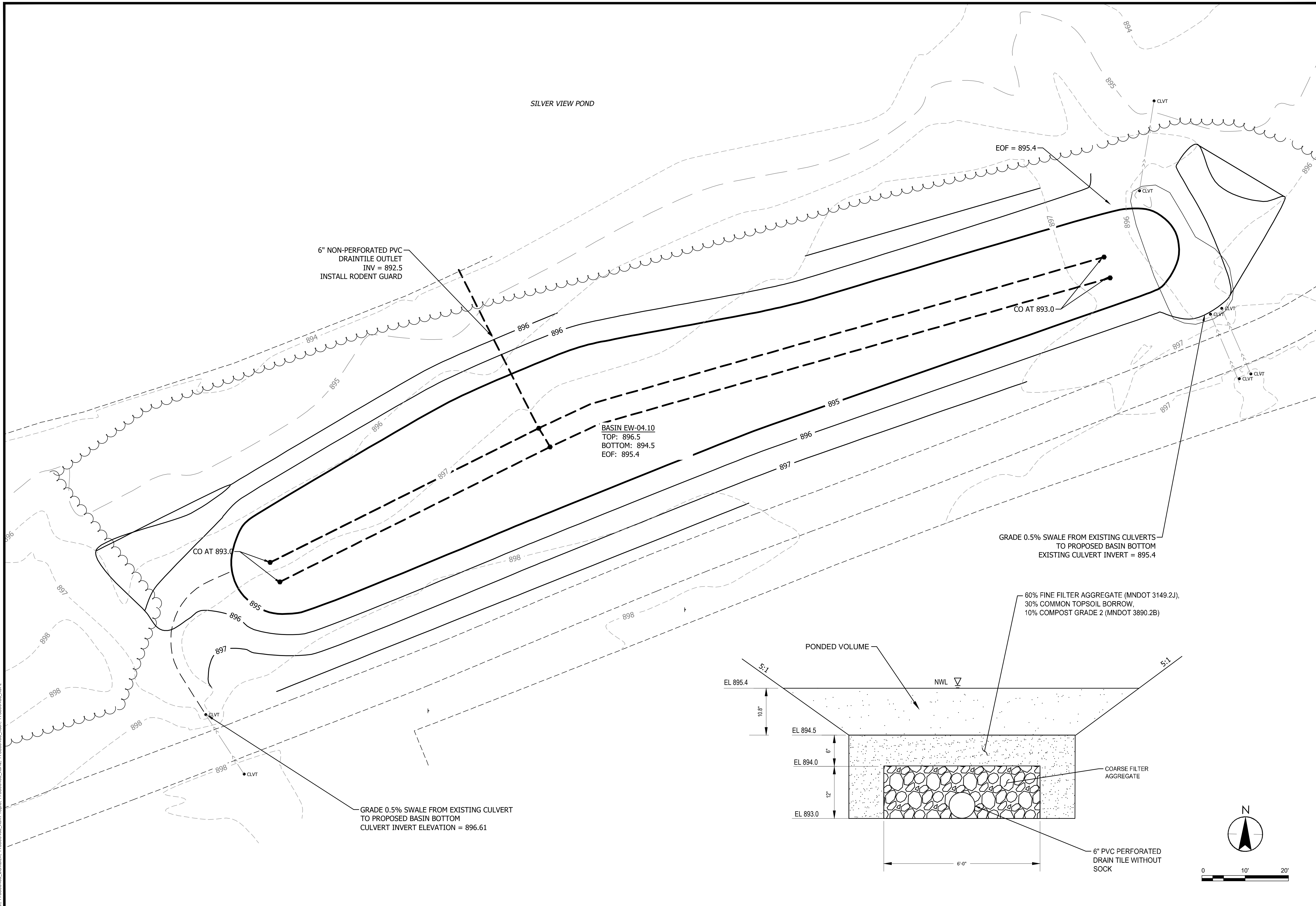
FOREBAY IMPROVEMENTS

NO	REVISION	DATE

SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER

C3.01



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SILVER VIEW POND IMPROVEMENTS

BASIN EW-04.10 IMPROVEMENTS

NO	REVISION	DATE

SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER

C3.02

Plot Date: 09/30/2024 - 3:57pm
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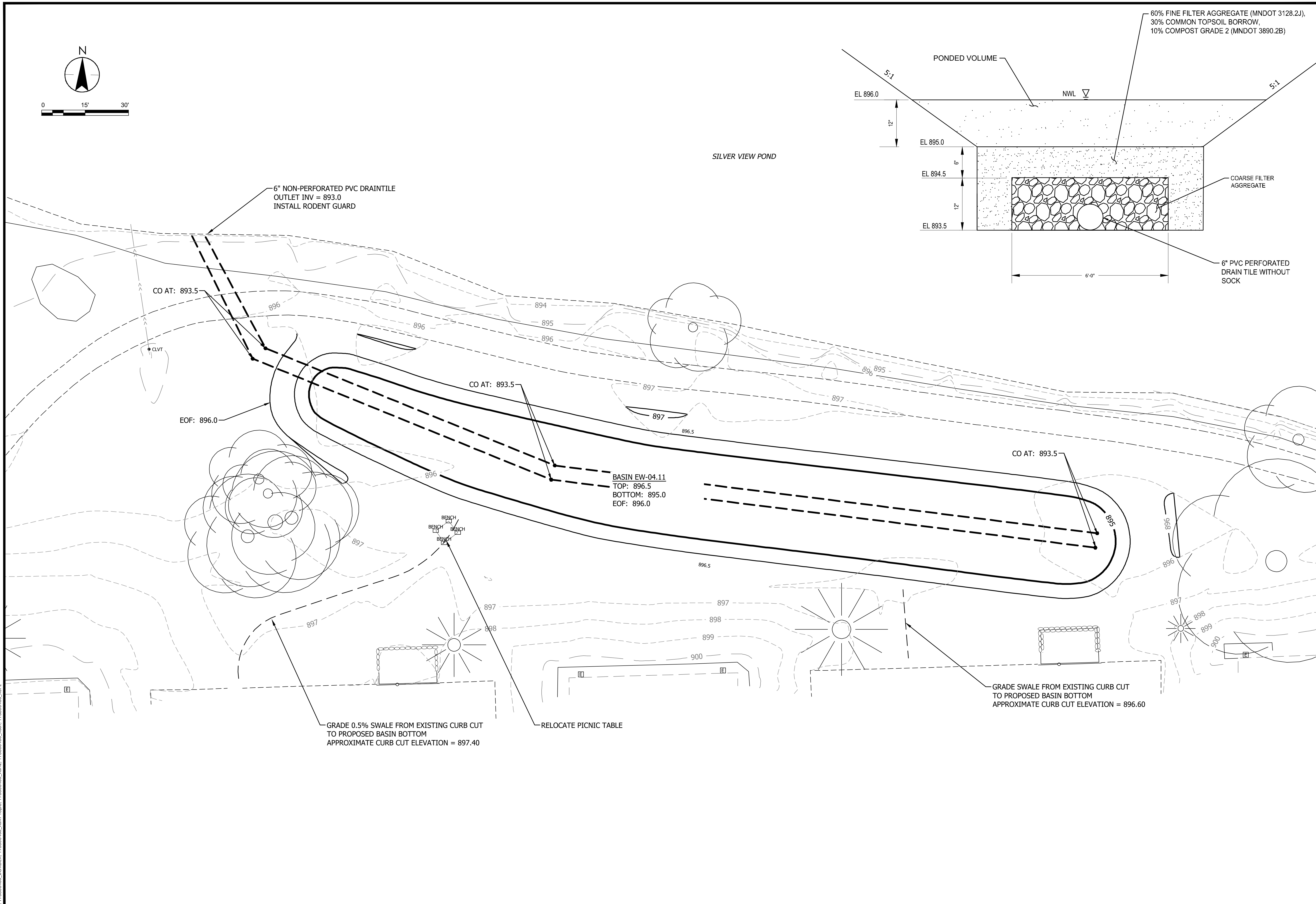

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SILVER VIEW POND IMPROVEMENTS

BASIN EW-04.11 IMPROVEMENTS

NO	REVISION	DATE

SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C3.03

Plot Date: 09/30/2024 - 3:57pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_C300.dwg
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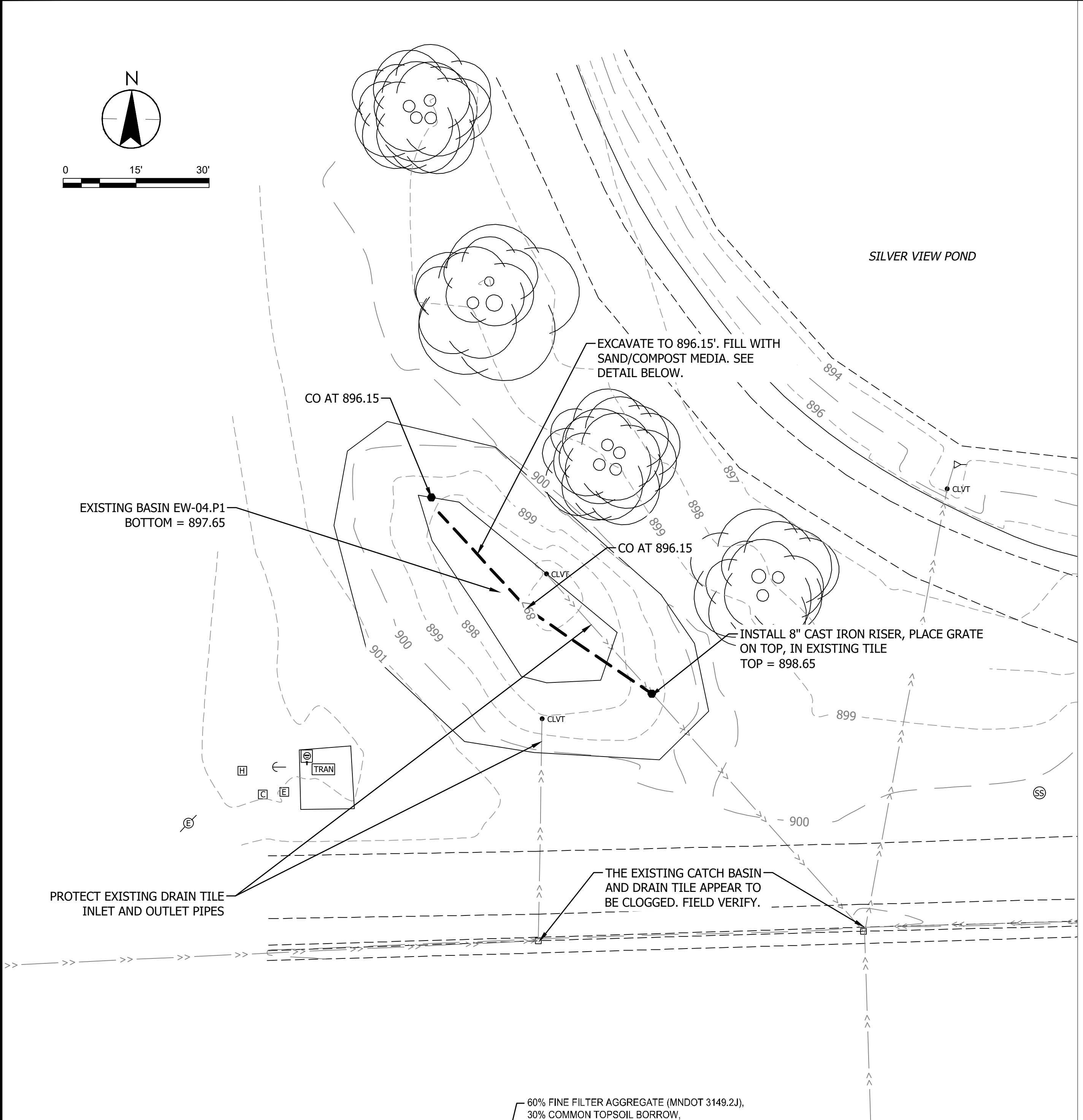

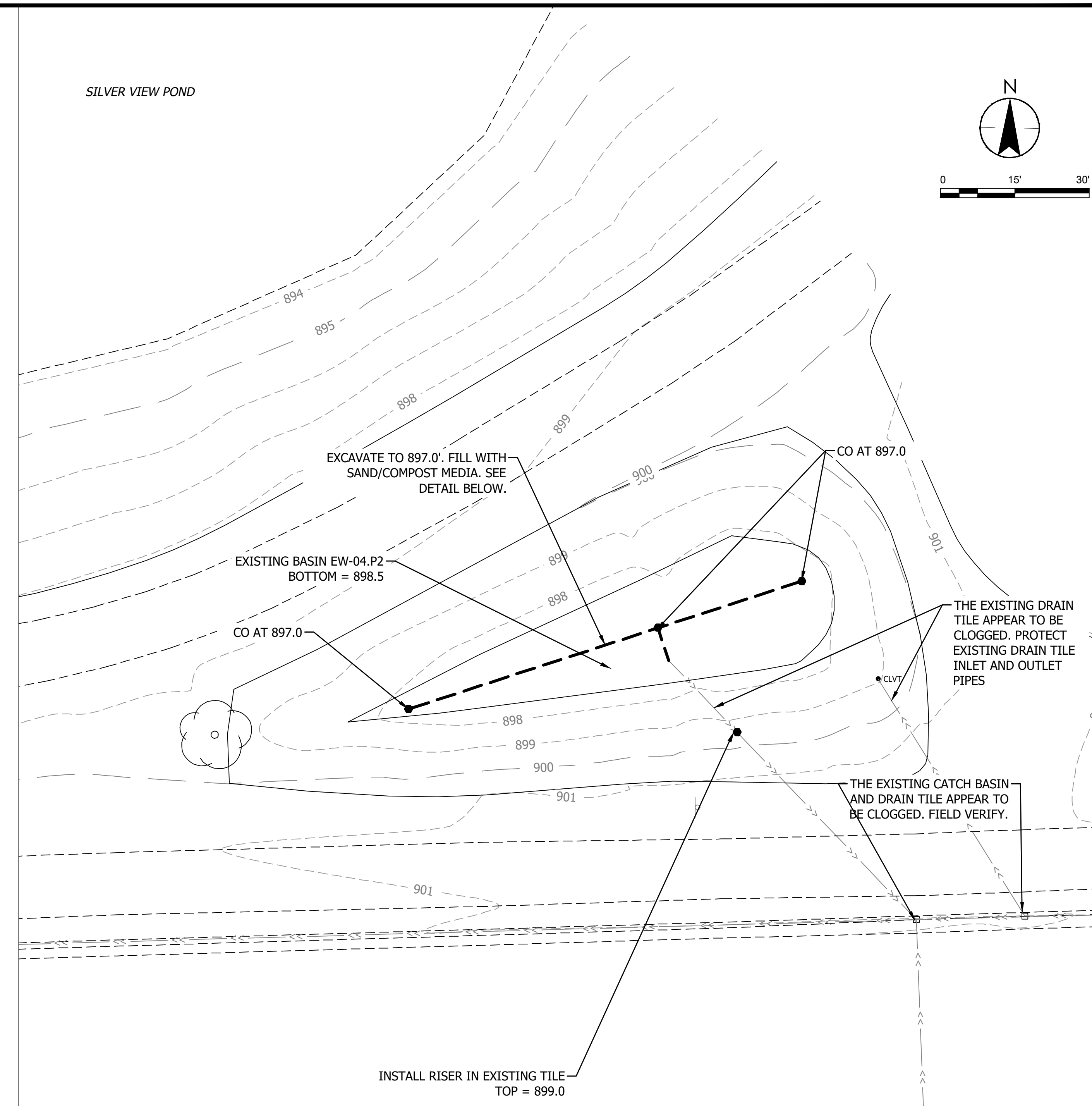

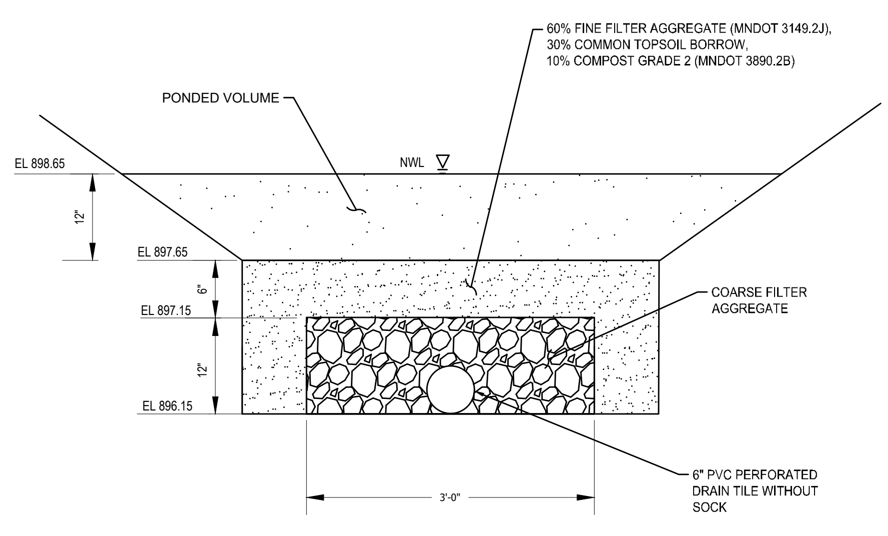

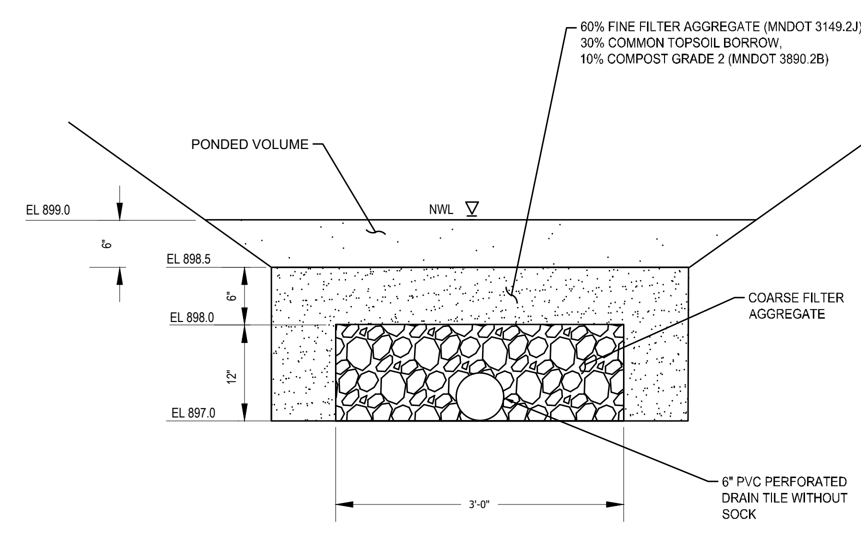

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CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

EXISTING BASIN IMPROVEMENTS

NO	REVISION	DATE

SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C3.04

Plot Date: 09/30/2024 - 3:57pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_C300.dwg
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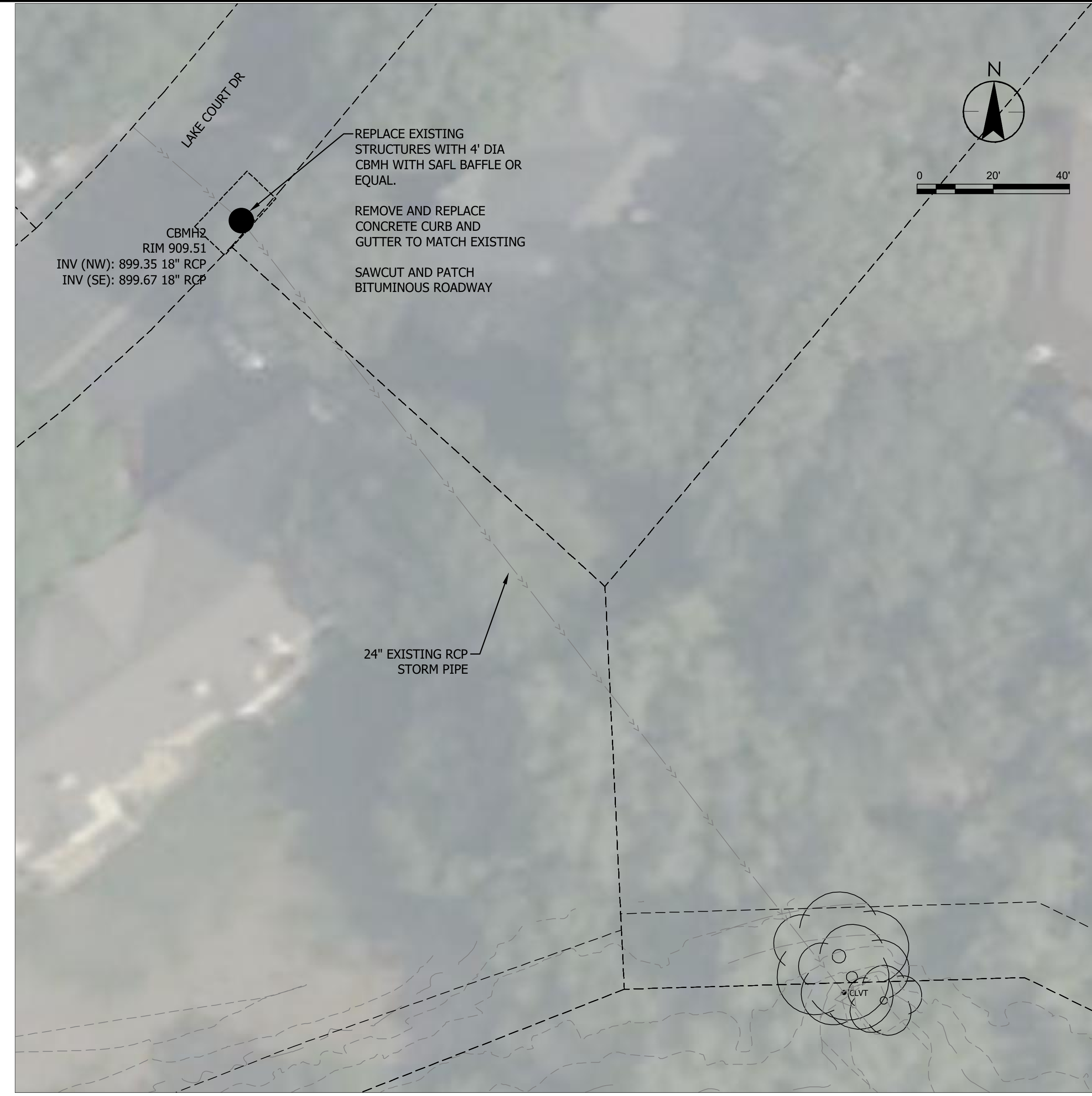
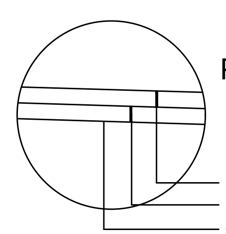
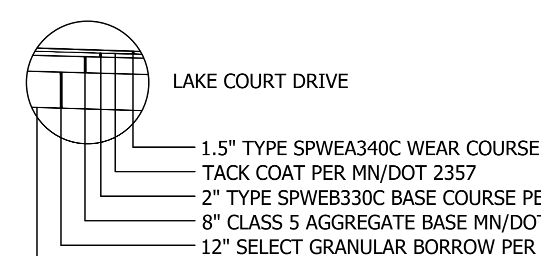


NOTE:
1. CONTRACTOR TO FIELD VERIFY ALL PIPE DIMENSIONS AND INVERTS PRIOR TO FABRICATION OF NEW STRUCTURES.
2. SAWCUT (FULL DEPTH) ALL PAVEMENT AND CURB REMOVAL LIMITS
3. ALL PAVEMENT THICKNESS SHALL BE MINIMUMS. AGGREGATE AND BITUMINOUS DEPTHS SHALL MATCH EXISTING IF THICKER THAN SHOWN.
4. RESTORE DISTURBED AREAS WITH MNDOT SEE MIX 25-151 (RESIDENTIAL TURFGRASS MIX)

RESIDENTIAL DRIVEWAY



LAKE COURT DRIVE



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CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

STORM MANHOLE IMPROVEMENT

NO	REVISION	DATE

SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C5.01

Plot Date: 09/30/2024 - 3:57pm
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Xrefs:, 193806465_XSXT-Topo, 193806465_XSST_STORM, 193806465_XSPL, 193806465_BORDER

BASIS OF DESIGN:

1. GOVERNING CODES: 2020 STATE OF MINNESOTA BUILDING CODE WHICH ADAPTS THE IBC 2018/ASCE -16
2. STRUCTURAL DESIGN CRITEREA
   - 2.1. LATERAL HYDROSTATIC LIVE LOADS
     - 2.1.1. BASEDON 4" OVER THE SKIMMER BEAM 100 PSF/FT OF DEPTH

MATERIALS:

CAST-IN-PLACE CONCRETE SEE DURABILITY REQUIREMENTS
REINFORCING BARS ASTM A615 GRADE 60
POST-INSTALLED CONCRETE AND MASONRY ANCHOR SYSTEMS - U.N.O.
ADHESIVE ANCHORS TO CONCRETEHILTI HIT-RE 500-SD

CONCRETE:

1. CONCRETE WORK SHALL CONFORM TO CURRENT ACI 318 CODE AND THE DETAILING, FABRICATION AND ERECTION OF REINFORCING SHALL CONFORM TO THE CURRENT ACI 315.
2. COLD WEATHER CONCRETE SHALL CONFORM TO ACI 306 AND HOT WEATHER CONCRETE SHALL CONFORM TO ACI 305.
3. CONTRACTOR SHALL SCHEDULE PRE-CONSTRUCTION MEETING WITH ENGINEER OF RECORD AND ALL CONCRETE SUBCONTRACTORS PRIOR TO START OF CONCRETE WORK.
4. REINFORCING BARS ARE TO BE DEFORMED AND CONTINUOUS, UNLESS NOTED OTHERWISE. REFER TO DRAWINGS FOR REINFORCING LAP LENGTH AND SCHEDULE.
5. WHEN NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SHALL BE ROUGHENED TO A MINIMUM ¼ INCH AMPLITUDE. REINFORCING STEEL SHALL BE CONTINUOUS THROUGH THE JOINT. UNO.
6. NO HORIZONTAL JOINTS SHALL BE PLACED IN FOOTINGS, PILE CAPS, BEAMS AND SLABS UNLESS OTHERWISE NOTED ON THE DRAWINGS, INCLUDING DEWATERING PRIOR TO CONSTRUCTING FORMS AND SHORING.
7. DESIGN OF FORMWORK, SHORING AND RE-SHORING IS THE REPSONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ACI 347R.
8. FORMWORK AND SHORING SHALL REMAIN IN PLACE FOR A MINIMUM OF 14 DAYS.
9. FORMWORK AND SHORING SHALL BE REMOVED IN SUCH A MANNER AS NOT TO IMPAIR SAFETY AND SERVICEABILITY OF THE STRUCTURE.
10. PROVIDE ¾ INCH CHAMGER FOR ALL EXPOSED CONRETE CORNERS.
11. EMBEDDED ITEMS SHALL BE PLACED AND SECURED PRIOR TO CONCRETE PLACEMENT
12. PROVIDE CURING COMPOUND APPROPRIATE TO CONCRETE CONSTRUCTION. SUBMIT TO ENGINEER FOR REVIEW AND APPROVAL.

CONCRETE MIX DESIGN PERFORMANCE REQUIREMENTS:

1. WORK SHALL CONFORM TO ACI 318-14 CHAPTER 19 AND OTHER APPLICABLE BUILDING CODES, ORDINANCES, AND REGULATIONS AS ADOPTED BY LOCAL AUTHORITIES HAVNG JURISDICTION.
2. F'C INDICATED ON THESE DOCUMENTS REFERS TO THE 28-DAY COMPRESSIVE STRENGTH.
3. FOR EXTERIOR CONCRETE EXPOSED TO FREEZE/THAW, WHERE F>F0, THE MIX DESIGN SHALL DESIGNATE A RANGE OF AIR-ENTRAINMENT AS A PERCENTAGE OF THE TOTAL MIXTURE BASED ON THE MAXIMUM AGGREGATE SIZE USED. MIX DESIGNER SHALL REFERENCE ACI TABLE 19.3.1. WHERE F'C IS SPECIFICED GREATER THAN 5,000 PSI REDUCTION OF AIR CONTENT INDICATED BY TABLE 19.3.1. BY 1.0 PERCENT SHALL BE PERMITTED.
4. USE OF HIGH-EARLY ASTM TYPE III CEMENT IS PROHIBITED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
5. CONCRETE MIX DESIGN SHALL BE BASED ON THE FOLLOWING PERFORMANCE REQUIREMENTS, PER ACI TABLE 9.3.2.1:
   - 5.1. 'F' REFERS TO THE FREEZE/THAW EXPOSURE RATING, FOR EXTERIOR CONCRETE EXPOSED TO MOISTURE AND CYCLES OF FREEZE/THAW, WITH OR WITHOUT DEICING CHEMICAL APPLICATION.
   - 5.2. 'W' APPLES TO IN CONTACT WITH WATER BUT NOT EXPOSED TO FREEZING AND THAWING, CHLORIDES, OR SULFATES
   - 5.3. 'S' REFERS TO SEVERITY OF SULFATE EXPOSURE FOR CONCRETE IN CONTACT WITH SOIL OR WATER CONTAINING DELETERIOUS AMOUNTS OF WATER-SOLUBLE SULFATE IONS.
   - 5.4. 'C' REFERS TO EXPOSURE RATING TO SOURCES OF CHLORIDES, FOR REINFORCED AND/OR PRESTRESSED CONCRETE EXPOSED TO CONDITIONS THAT REQUIRE ADDITIONAL PROTECTION AGAINST CORROSION OF REINFORCEMENT DUE TO CHLORIDE ION EXPOSURE.
6. SUBMIT MIX DESIGNS IN ACCORDANCE WITH ACI 318, INCLUDING HISTORICAL DATA FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
7. MINIMUM PROJECT REQUIREMENTS PER ACI TABLE 19.3.2.1 ARE:

		Exposure Classification				
Mix #	Min f'c	F	S	W	C	Description
1	5000	F3	S2	W1	C2	WEIR WALL

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 under the laws of the State of Minnesota.

Print Name: DANIEL F. WESTON

Signature: _____

Date _____ License # 20365

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CITY OF MOUNDS VIEW, MINNESOTA
SILVER VIEW POND IMPROVEMENTS
WEIR WALL IMPROVEMENT

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
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CHECKED	KAS
APPROVED	
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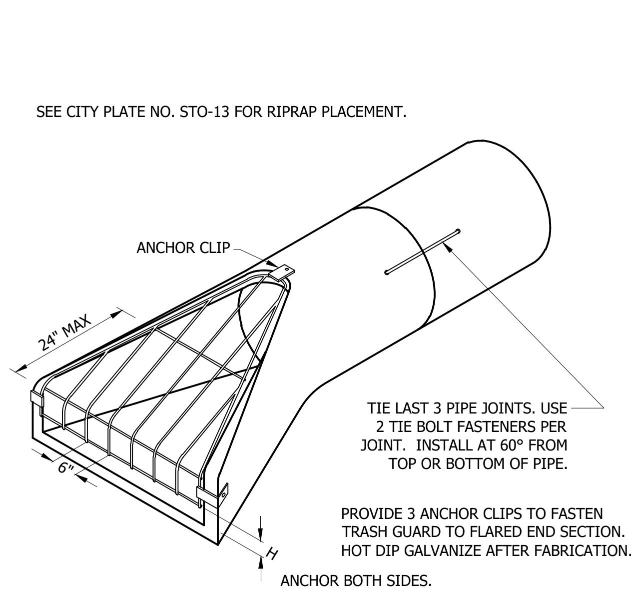
SHEET NUMBER
C5.02

Plot Date: 09/30/2024 - 3:57pm
Drawing name: I:\193806465\CAD\Dwg\Plansets\193806465_C500.dwg
Xrefs: I:\193806465_XSIT\Topo\193806465_XSIT_STORM_193806465_XPR_193806465_BORDER

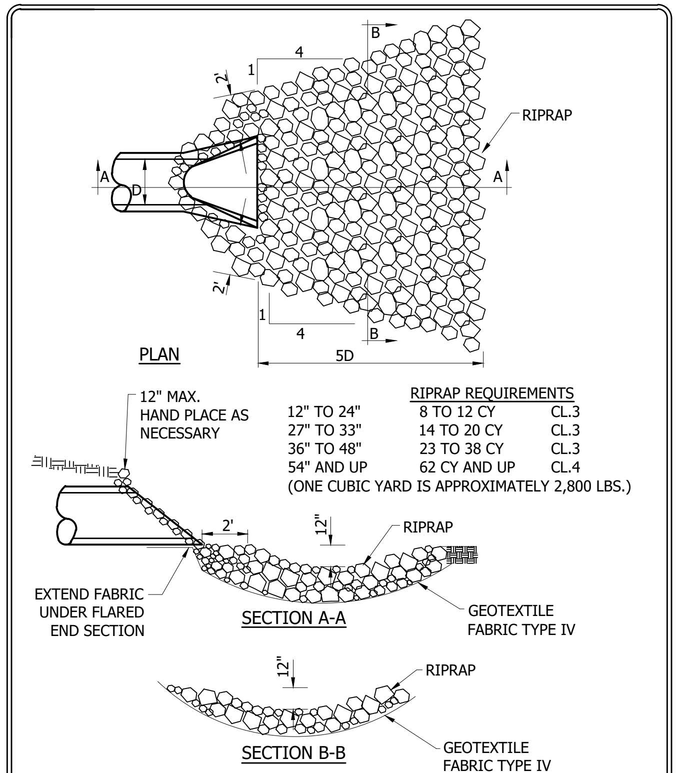

SEE CITY PLATE NO. STO-13 FOR RIPRAP PLACEMENT.
ANCHOR CLIP
24" MAX
6"
H
TIE LAST 3 PIPE JOINTS. USE 2 TIE BOLT FASTENERS PER JOINT. INSTALL AT 60° FROM TOP OR BOTTOM OF PIPE.
PROVIDE 3 ANCHOR CLIPS TO FASTEN TRASH GUARD TO FLARED END SECTION. HOT DIP GALVANIZE AFTER FABRICATION.
ANCHOR BOTH SIDES.
ISOMETRIC

TRASH GUARD SIZING

PIPE SIZE	BARS	'H'	BOLTS
12"- 18"	3/4"Ø	4"	5/8"
21"- 42"	1"Ø	6"	3/4"
48"-72"	1 1/4"Ø	12"	1"

No Scale

STANDARD DETAILS
FLARED END SECTION WITH TRASH GUARD
LAST REVISION: MAR. 2001
MOUNDS VIEW, MINNESOTA
City Plate No. STO-12



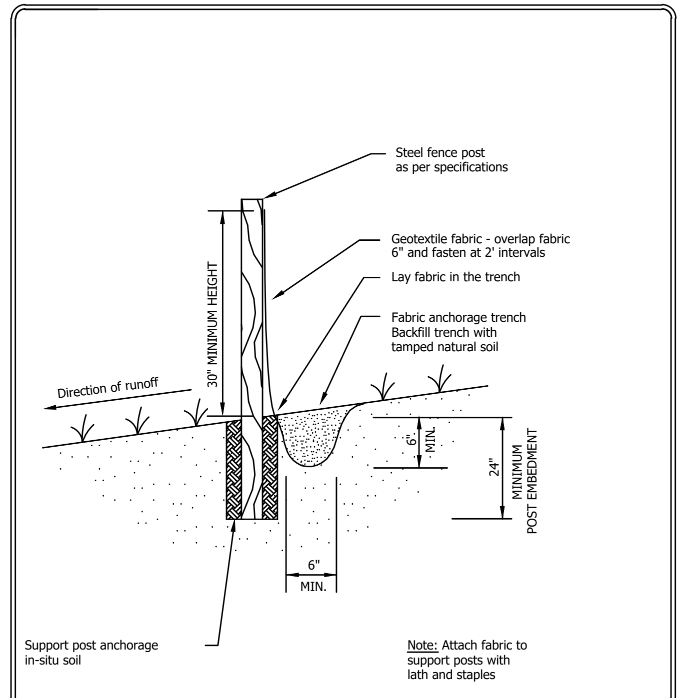
RIPRAP REQUIREMENTS

12" TO 24"	8 TO 12 CY	CL.3
27" TO 33"	14 TO 20 CY	CL.3
36" TO 48"	23 TO 38 CY	CL.3
54" AND UP	62 CY AND UP	CL.4

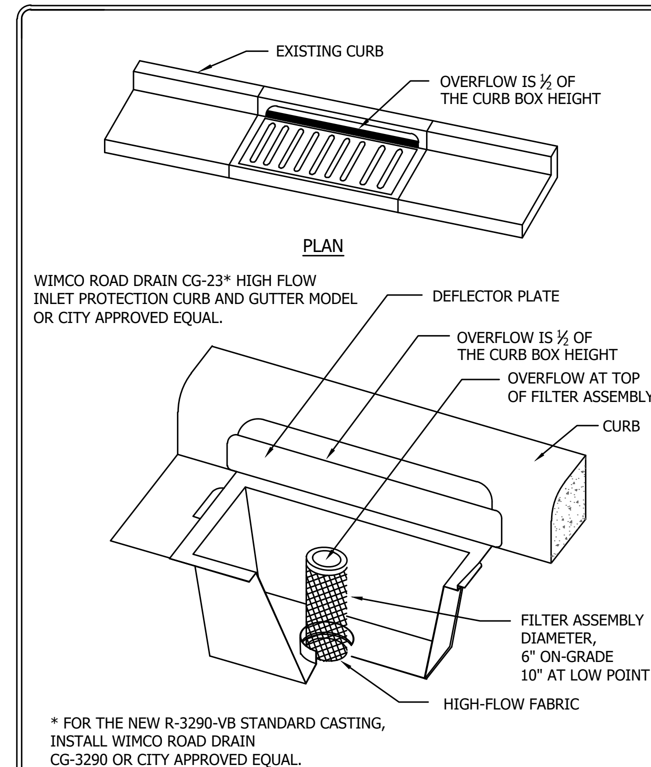
(ONE CUBIC YARD IS APPROXIMATELY 2,800 LBS.)

No Scale

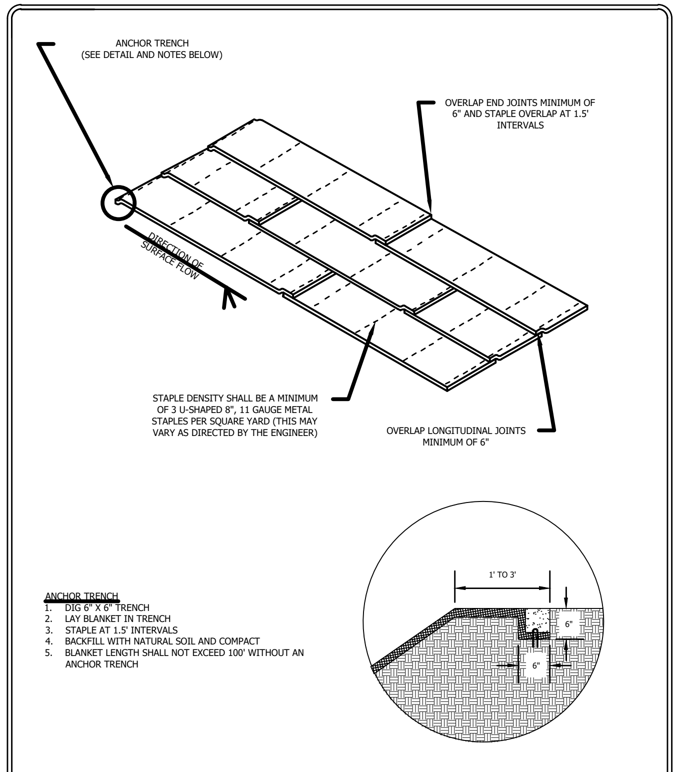
STANDARD DETAILS
RIP RAP AT OUTLETS STORM SEWER STRUCTURE
LAST REVISION: MAR. 2001
MOUNDS VIEW, MINNESOTA
City Plate No. STO-13


Steel fence post as per specifications
Geotextile fabric - overlap fabric 6" and fasten at 2' intervals
Lay fabric in the trench
Fabric anchorage trench Backfill trench with tamped natural soil
30" MINIMUM HEIGHT
Direction of runoff
6" MIN.
24" MINIMUM POST EMBEDMENT
6" MIN.
Support post anchorage in-situ soil
Note: Attach fabric to support posts with lath and staples

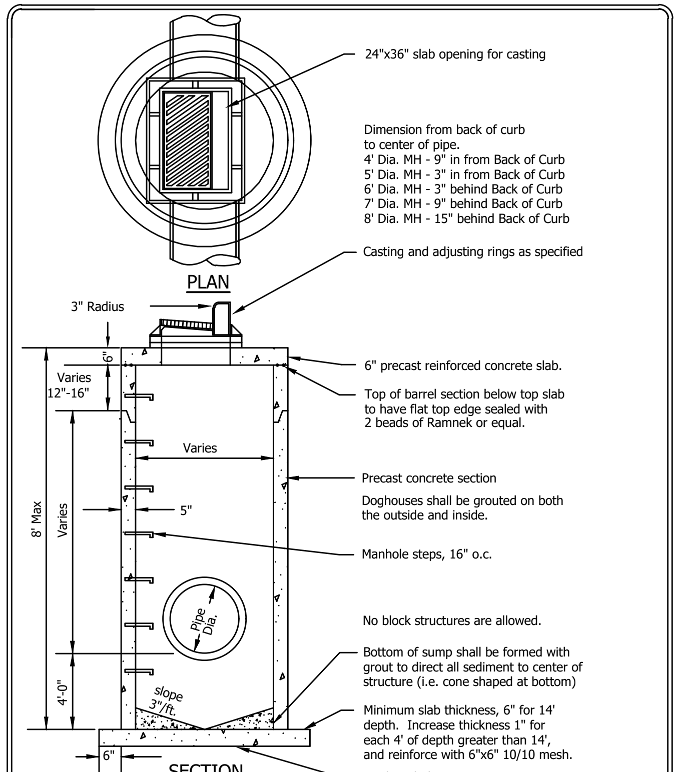
STANDARD DETAILS
SILT FENCE
LAST REVISION: MAR. 2001
MOUNDS VIEW, MINNESOTA
City Plate No. ERO-1


EXISTING CURB
OVERFLOW IS ½ OF THE CURB BOX HEIGHT
PLAN
WIMCO ROAD DRAIN CG-23* HIGH FLOW INLET PROTECTION CURB AND GUTTER MODEL OR CITY APPROVED EQUAL.
DEFLECTOR PLATE
OVERFLOW IS ½ OF THE CURB BOX HEIGHT
OVERFLOW AT TOP OF FILTER ASSEMBLY
CURB
FILTER ASSEMBLY DIAMETER, 6" ON-GRADE 10" AT LOW POINT
HIGH-FLOW FABRIC
* FOR THE NEW R-3290-VB STANDARD CASTING, INSTALL WIMCO ROAD DRAIN CG-3290 OR CITY APPROVED EQUAL.

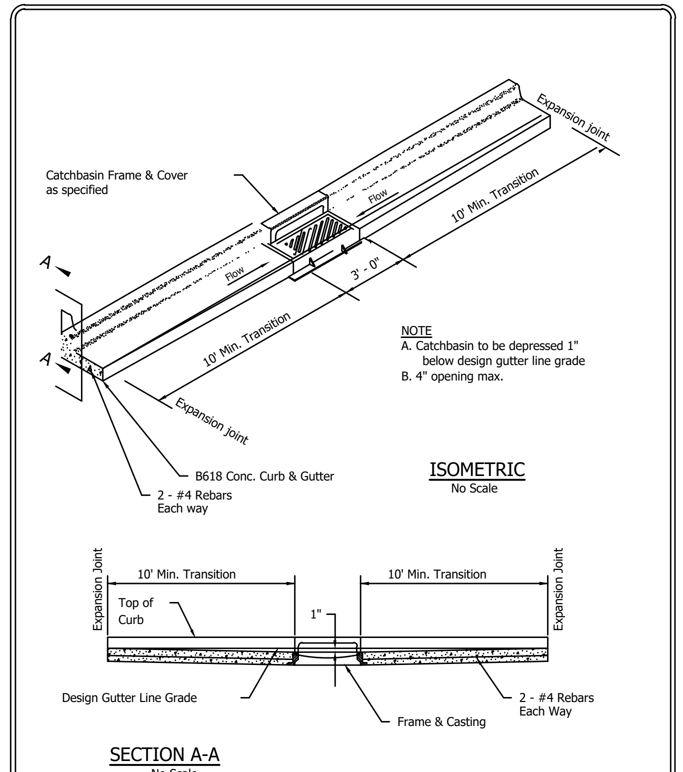
STANDARD DETAILS
CATCH BASIN INLET PROTECTION AFTER PAVING
LAST REVISION: MAR. 2001
MOUNDS VIEW, MINNESOTA
City Plate No. ERO-4C


ANCHOR TRENCH (SEE DETAIL AND NOTES BELOW)
OVERLAP END JOINTS MINIMUM OF 6" AND STAPLE OVERLAP AT 1.5' INTERVALS
DIRECTION OF SURFACE FLOW
STAPLE DENSITY SHALL BE A MINIMUM OF 3 U-SHAPED 8", 11 GAUGE METAL STAPLES PER SQUARE YARD (THIS MAY VARY AS DIRECTED BY THE ENGINEER)
OVERLAP LONGITUDINAL JOINTS MINIMUM OF 6"
ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH
1' TO 3'
6"
6"

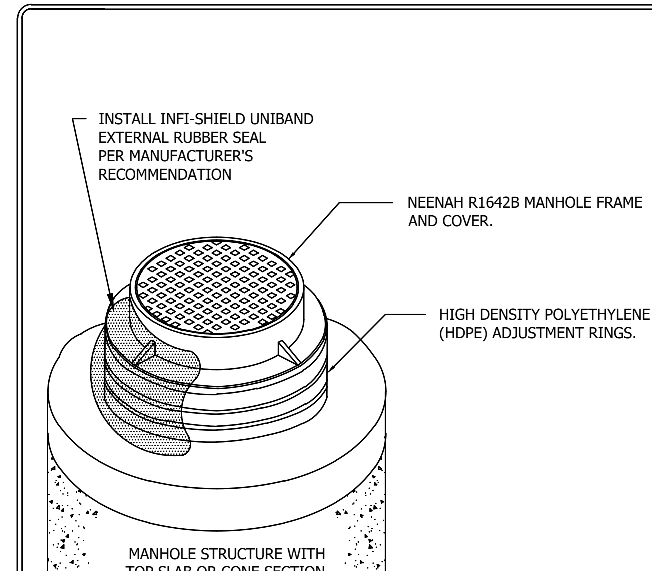
STANDARD DETAILS
EROSION CONTROL BLANKET INSTALLATION
LAST REVISION: MAR. 2014
MOUNDS VIEW, MINNESOTA
City Plate No. ERO-X


24"x36" slab opening for casting
Dimension from back of curb to center of pipe.
4' Dia. MH - 9" in from Back of Curb
5' Dia. MH - 3" in from Back of Curb
6' Dia. MH - 3" behind Back of Curb
7' Dia. MH - 9" behind Back of Curb
8' Dia. MH - 15" behind Back of Curb
PLAN
Casting and adjusting rings as specified
3" Radius
Varies 12"-16"
6"
6" precast reinforced concrete slab.
Top of barrel section below top slab to have flat top edge sealed with 2 beads of Ramnek or equal.
Varies
Precast concrete section
Doghouses shall be grouted on both the outside and inside.
5"
8' Max
Varies
Manhole steps, 16" o.c.
Pipe Dia.
No block structures are allowed.
4'-0"
slope 3"/ft.
Bottom of sump shall be formed with grout to direct all sediment to center of structure (i.e. cone shaped at bottom)
Minimum slab thickness, 6" for 14' depth. Increase thickness 1" for each 4' of depth greater than 14', and reinforce with 6"x6" 10/10 mesh.
6"
SECTION
No drain holes

STANDARD DETAILS
CATCHBASIN MANHOLE WITH SUMP
Last Revision: Mar. 2001
MOUNDS VIEW, MINNESOTA
City Plate No. STO-21


Catchbasin Frame & Cover as specified
Expansion Joint
10' Min. Transition
Flow
Flow
3' - 0"
A
A
10' Min. Transition
NOTE
A. Catchbasin to be depressed 1" below design gutter line grade
B. 4" opening max.
Expansion Joint
B618 Conc. Curb & Gutter
2 - #4 Rebars Each way
ISOMETRIC
No Scale
Expansion Joint
10' Min. Transition
10' Min. Transition
Expansion Joint
Top of Curb
1"
Design Gutter Line Grade
2 - #4 Rebars Each Way
Frame & Casting
SECTION A-A
No Scale

STANDARD DETAILS
B618 CURB & GUTTER CONSTRUCTION AT CATCH BASIN
Last Revision: Mar. 2001
MOUNDS VIEW, MINNESOTA
City Plate No. STR-4



STANDARD DETAILS
MANHOLE ADJUSTMENT HIGH DENSITY POLYETHYLENE RINGS
Last Revision: Feb. 2011
MOUNDS VIEW, MINNESOTA
City Plate No. STR-18b

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PRINT NAME: KELLIE SCHLEGEL
SIGNATURE: Kellie M. Schlegel
DATE: 9/30/2024
LIC. NO. 46200

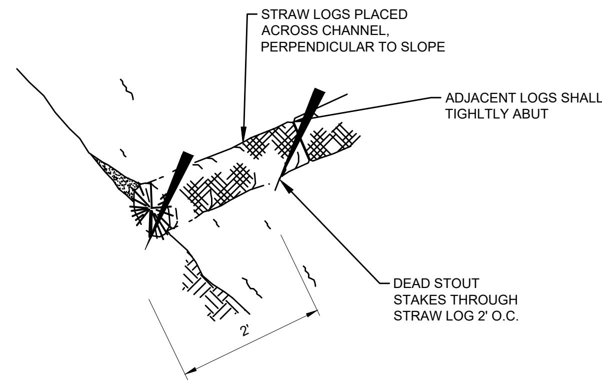
CITY OF MOUNDS VIEW, MINNESOTA
SILVER VIEW POND IMPROVEMENTS
STANDARD DETAILS

NO	REVISION	DATE

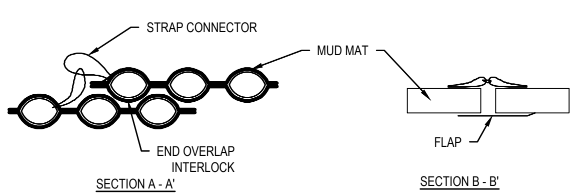
SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

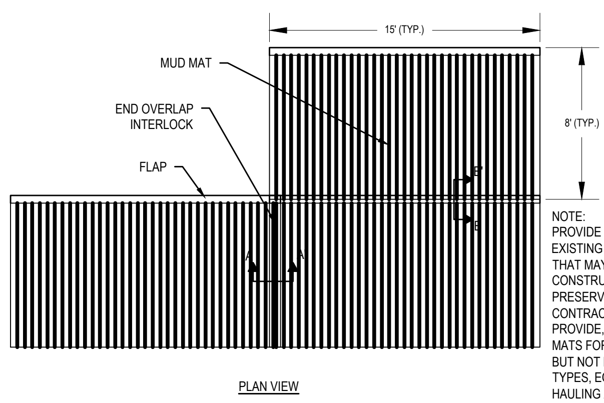
SHEET NUMBER
C8.01

Plot Date: 09/30/2024 - 3:58pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_C801.dwg
Xrefs: 193806465_BORDER; Borderlist



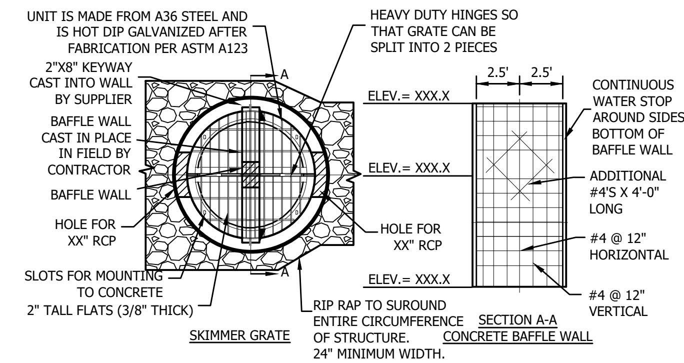
1 C-802 BIOLOG DETAIL



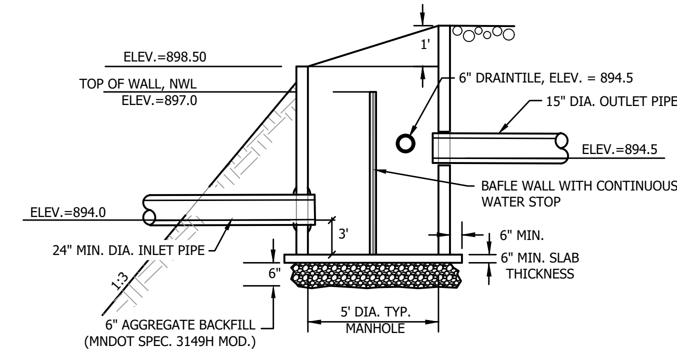


NOTE:
PROVIDE PROTECTIVE MATS ON EXISTING PAVEMENT AND CURB THAT MAY BE IMPACTED BY CONSTRUCTION OPERATIONS TO PRESERVE THE PAVEMENT/CURB. CONTRACTOR SHALL SELECT, PROVIDE, INSTALL, AND MAINTAIN MATS FOR ACTIVITIES INCLUDING BUT NOT LIMITED TO, EQUIPMENT TYPES, EQUIPMENT LOADS AND HAULING ACTIVITIES NECESSARY TO COMPLETE THE WORK. CONTRACTOR SHALL REMOVE MATS UPON COMPLETION AND RESTORE DAMAGED PAVEMENT.

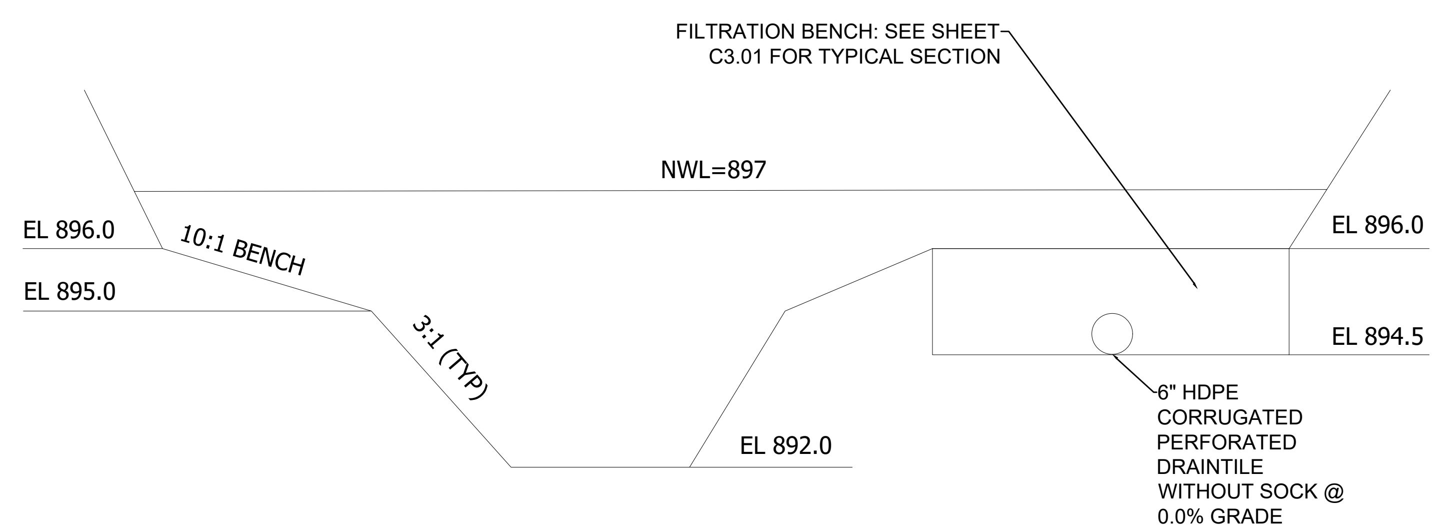
2 C-802 TEMPORARY CONSTRUCTION ENTRANCE - MUD MAT
NOT TO SCALE



NOTE:
WHEN BAFFLE WALL HEIGHT IS GREATER THAN 3' ABOVE NWL THE FOLLOWING SHALL BE REQUIRED:
1. STEPS
2. 6' DIAMETER MH



4 C-802 OUTLET CONTROL STRUCTURE WITH CAST IN FIELD CONCRETE BAFFLE WALL



3 C-802 FOREBAY WITH BENCH

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PRINT NAME: KELLIE SCHLEGEL
SIGNATURE: Kellie M. Schlegel
DATE: 9/30/2024 LIC. NO. 46200

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

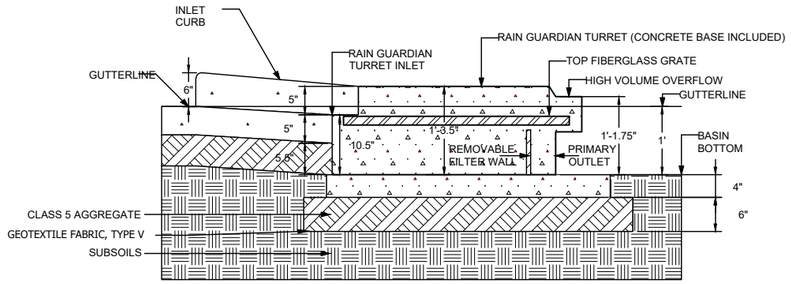
STANDARD DETAILS

NO	REVISION	DATE

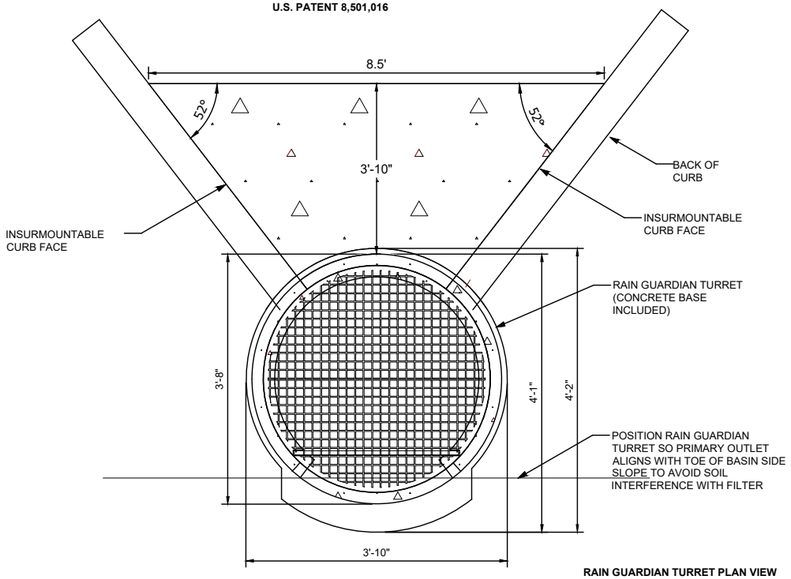
SURVEY	
DRAWN	XWM/JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C8.02

Plot Date: 09/30/2024 - 3:58pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_C801.dwg
Xrefs: 193806465_BORDER, BorderText



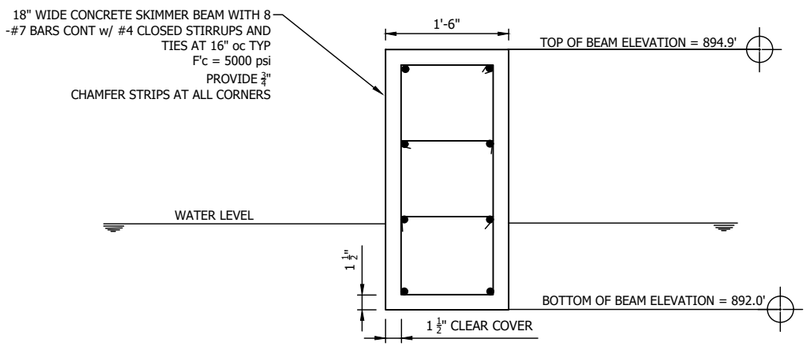
RAIN GUARDIAN TURRET CROSS-SECTION VIEW
U.S. PATENT 8,501,016



RAIN GUARDIAN TURRET PLAN VIEW
U.S. PATENT 8,501,016

EXTENDED CONCRETE GUTTER AT ENTRANCE TO STRUCTURE INCIDENTAL TO PRETREATMENT STRUCTURE BID ITEM

5 C-802 PRETREATMENT CHAMBER (RAIN GUARDIAN TURRET) PLAN AND SECTION



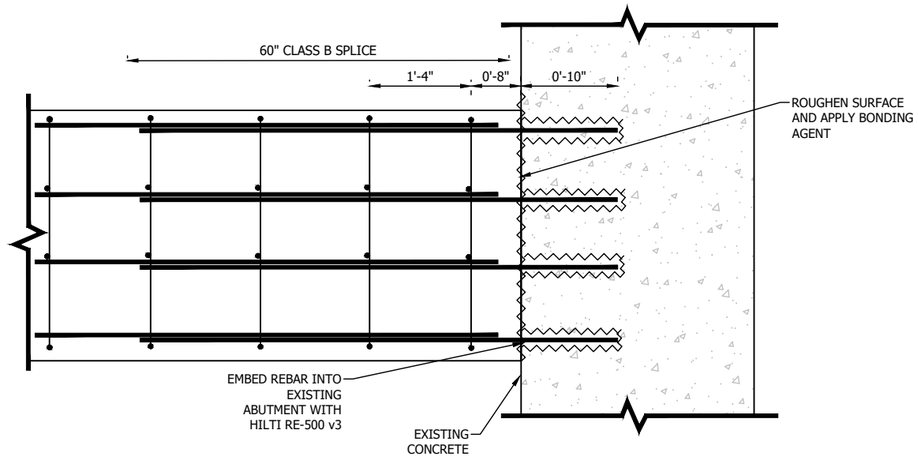
6 C-803 WEIR WALL CONCRETE BEAM SECTION

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 under the laws of the State of Minnesota.

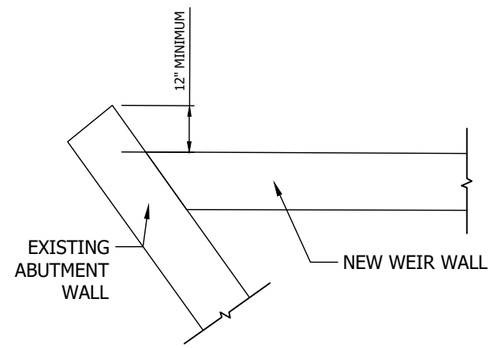
Print Name: DANIEL F. WESTON

Signature: _____

Date _____ License # 20365



6 C-803 WEIR WALL CONCRETE BEAM ELEVATION



7 C-803 WEIR WALL CONCRETE BEAM CONNECTION

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PRINT NAME: KELLIE SCHLIEGEL

SIGNATURE: Kellie M. Schlegel

DATE: 9/30/2024

LIC. NO. 46920

CITY OF MOUNDS VIEW, MINNESOTA
SILVER VIEW POND IMPROVEMENTS
STANDARD DETAILS

NO	REVISION	DATE

SURVEY	
DRAWN	XWM//JDP
DESIGNED	XWM
CHECKED	KAS
APPROVED	
PROJ. NO.	193806465

SHEET NUMBER
C8.03

Plot Date: 09/30/2024 - 3:58pm
Drawing Name: N:\193806465_CAD\Dwg\Planset\193806465_C801.dwg
Xrefs: 193806465_BORDER_BorderTest

LEGEND

- BUR OAK - PIN OAK WOODLAND
- LOWLAND HARDWOODS
- NATIVE GROUND COVER
- MOWED NONNATIVE GRASSES & SCATTERED LANDSCAPE TREES
- WET MEADOW/CARR & HARDWOOD SWAMP

LANDSCAPING NOTES:

1. BUR OAK - PIN OAK WOODLAND
   1.1. REMOVE AND TREAT INVASIVE AND NONNATIVE TREES (MAINLY BLACK LOCUST).
   1.2. REMOVE DISEASED NATIVE TREES (SUCH AS CHERRY, ASH INFECTED WITH EMERALD ASH BORER AND OAKS INFECTED WITH OAK WILT.
   1.3. REMOVE ELM AND BOXELDER TREES.
   1.4. REMOVE DOWNED TREES.
   1.5. REMOVE AND TREAT INVASIVE SHRUBS (MAINLY BUCKTHORN, NATIVE PRICKLY ASH, AND TARTARIAN HONEYSUCKLE).
   1.6. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, CREEPING BELLFLOWER, REED CANARY GRASS, AND SMOOTH BROME).
   1.7. SEED WITH OAK WOODLAND CUSTOM NATIVE SEED MIX (GRASS/SEDGE COMPONENT OF MIX IN SPRING, FORB COMPONENT AFTER NOVEMBER 1).
2. LOWLAND HARDWOODS
   2.1. REMOVE AND TREAT INVASIVE AND NONNATIVE TREES.
   2.2. REMOVE DISEASED NATIVE TREES (SUCH AS CHERRY, ASH INFECTED WITH EMERALD ASH BORER AND OAKS INFECTED WITH OAK WILT.
   2.3. REMOVE DOWNED TREES.
   2.4. REMOVE AND TREAT INVASIVE SHRUBS (MAINLY BUCKTHORN AND TARTARIAN HONEYSUCKLE).
   2.5. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, VIRGINIA STICKWEED, REED CANARY GRASS, AND SMOOTH BROME).
   2.6. SEED WITH LOWLAND HARDWOODS CUSTOM NATIVE SEED MIX (GRASS/SEDGE COMPONENT OF MIX IN SPRING, FORB COMPONENT AFTER NOVEMBER 1) AND MULCH.
3. MOWED NONNATIVE TURF
   3.1. SEED ALL DISTURBED TURF AREAS NOT CALLED FOR NATIVE GROUND COVER SEED, WITH MNDOT 25-131 LOW MAINTENANCE TURF.
4. NATIVE GROUND COVER
   4.1. PREP AND APPLY TWO ROUNDS OF WEED SPRAY TREATMENT PER SPECIFICATIONS.
   4.2. SCARIFY SOILS TO PREP FOR SEED APPLICATION.
   4.3. SEED BASIN BOTTOMS AND SIDESLOPES WITH MESIC PRAIRIE SOUTHEAST 35-642 NATIVE SEED MIX, COVER CROP AND EROSION CONTROL BLANKET (SEE SHEETS L-102 THROUGH L-104).
   4.4. INSTALL NATIVE PLUGS WITHIN BOTTOM OF BASINS EW-04.10 AND EW-04.11.
   4.5. SEED FOREBAY AREA (L-101) WITH THE FOLLOWING SEED MIXES, COVER CROP AND MULCH: IMPOUNDMENT GENERAL 33-161 NATIVE SEED MIX FROM NWL 897 TO 899 CONTOURS, MESIC PRAIRIE SOUTHEAST 35-642 UPLAND OF 899 CONTOUR IN FULL TO PARTIAL SUN AREAS, AND WOODLAND EDGE SOUTH & WEST 36-211 MODIFIED IN SHADE AREAS.
   4.6. SEED ALL OTHER AREAS WITH POLLINATOR PLOT URBAN SE 38-631 NATIVE SEED MIX, COVER CROP AND MULCH.
5. WET MEADOW/CARR AND HARDWOOD SWAMP
   5.1. REMOVE INVASIVE SHRUBS (MAINLY BUCKTHORN).
   5.2. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, REED CANARY GRASS, AND SMOOTH BROME).
   5.3. SEED WITH RIPARIAN SOUTH AND WEST 34-265, MODIFIED NATIVE SEED MIX, COVER CROP AND MULCH.

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PRINT NAME: SARAH HARDING
SIGNATURE:
DATE: 09/30/2024 LIC. NO. 45592

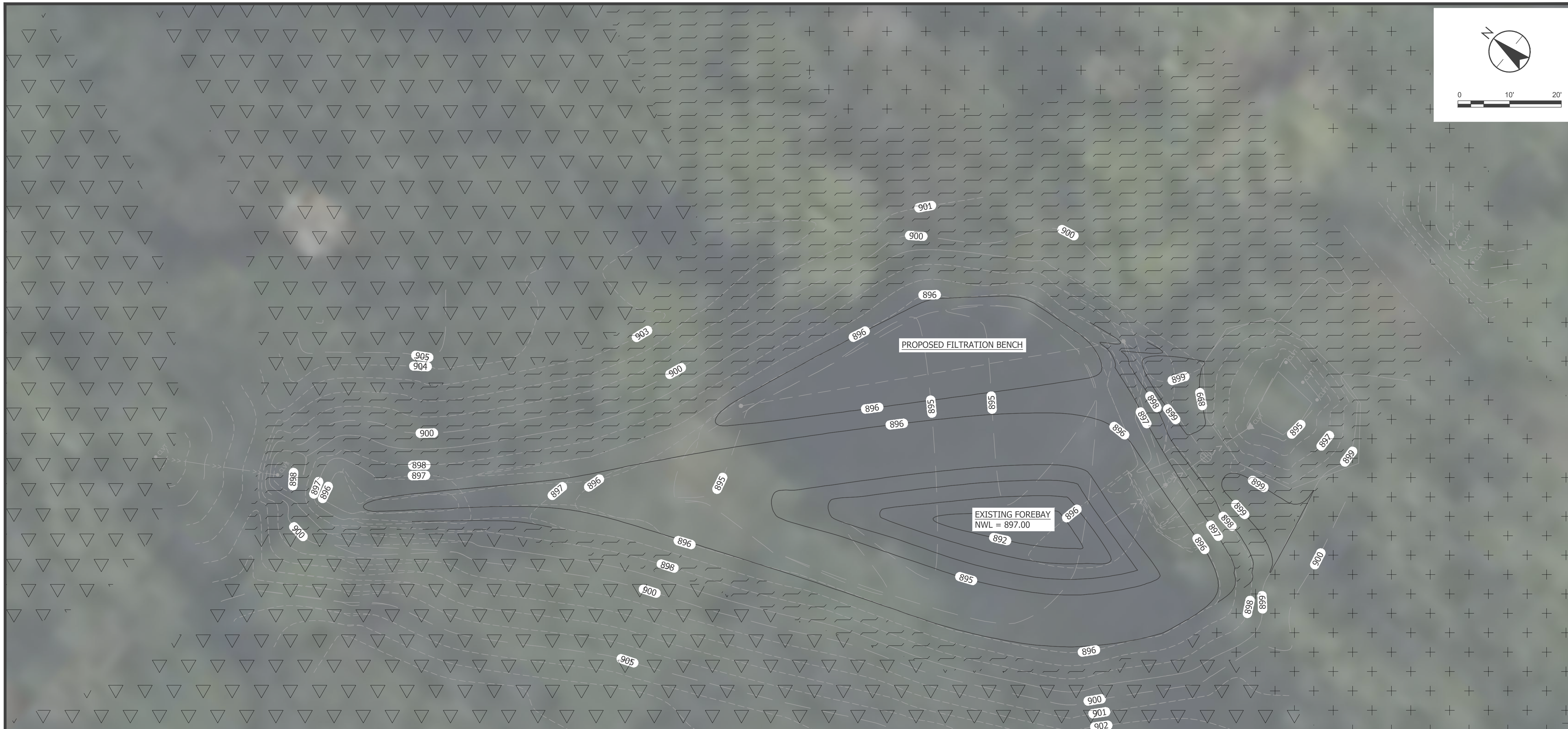
CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS
LANDSCAPING PLAN OVERVIEW

NO	REVISION	DATE

SURVEY	
DRAWN	JRP
DESIGNED	XWM
CHECKED	KAS
APPROVED	SEH
PROJ. NO.	193806465

SHEET NUMBER
L-100



LANDSCAPING NOTES:

1. BUR OAK - PIN OAK WOODLAND
   1.1. REMOVE AND TREAT INVASIVE AND NONNATIVE TREES (MAINLY BLACK LOCUST).
   1.2. REMOVE DISEASED NATIVE TREES (SUCH AS CHERRY, ASH INFECTED WITH EMERALD ASH BORER AND OAKS INFECTED WITH OAK WILT.
   1.3. REMOVE ELM AND BOXELDER TREES.
   1.4. REMOVE DOWNED TREES.
   1.5. REMOVE AND TREAT INVASIVE SHRUBS (MAINLY BUCKTHORN, NATIVE PRICKLY ASH, AND TARTARIAN HONEYSUCKLE).
   1.6. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, CREEPING BELLFLOWER, REED CANARY GRASS, AND SMOOTH BROME).
   1.7. SEED WITH OAK WOODLAND CUSTOM NATIVE SEED MIX (GRASS/SEDGE COMPONENT OF MIX IN SPRING, FORB COMPONENT AFTER NOVEMBER 1).
2. LOWLAND HARDWOODS
   2.1. REMOVE AND TREAT INVASIVE AND NONNATIVE TREES.
   2.2. REMOVE DISEASED NATIVE TREES (SUCH AS CHERRY, ASH INFECTED WITH EMERALD ASH BORER AND OAKS INFECTED WITH OAK WILT.
   2.3. REMOVE DOWNED TREES.
   2.4. REMOVE AND TREAT INVASIVE SHRUBS (MAINLY BUCKTHORN AND TARTARIAN HONEYSUCKLE).
   2.5. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, VIRGINIA STICKWEED, REED CANARY GRASS, AND SMOOTH BROME).
   2.6. SEED WITH LOWLAND HARDWOODS CUSTOM NATIVE SEED MIX (GRASS/SEDGE COMPONENT OF MIX IN SPRING, FORB COMPONENT AFTER NOVEMBER 1) AND MULCH.
3. NATIVE GROUND COVER
   3.1. PREP AND APPLY TWO ROUNDS OF WEED SPRAY TREATMENT PER SPECIFICATIONS.
   3.2. SCARIFY SOILS TO PREP FOR SEED APPLICATION.
   3.3. SEED BASIN BOTTOMS AND SIDESLOPES WITH MESIC PRAIRIE SOUTHEAST 35-642 NATIVE SEED MIX, COVER CROP AND EROSION CONTROL BLANKET (SEE SHEETS L-102 THROUGH L-104).
   3.4. INSTALL NATIVE PLUGS WITHIN BOTTOM OF BASINS EW-04.10 AND EW-04.11.
   3.5. SEED FOREBAY AREA (L-101) WITH THE FOLLOWING SEED MIXES, COVER CROP AND MULCH: IMPOUNDMENT GENERAL 33-161 NATIVE SEED MIX FROM NWL 897 TO 899 CONTOURS, MESIC PRAIRIE SOUTHEAST 35-642 UPLAND OF 899 CONTOUR IN FULL TO PARTIAL SUN AREAS, AND WOODLAND EDGE SOUTH & WEST 36-211 MODIFIED IN SHADE AREAS.
   3.6. SEED ALL OTHER AREAS WITH POLLINATOR PLOT URBAN SE 38-631 NATIVE SEED MIX, COVER CROP AND MULCH.

LEGEND

▽ ▽ ▽	BUR OAK - PIN OAK WOODLAND
+ +	LOWLAND HARDWOODS
⟋ ⟋	NATIVE GROUND COVER

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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 UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: SARAH HARDING
SIGNATURE: [signature]
DATE: 09/30/2024 LIC. NO. 45592

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

LANDSCAPING PLAN (1 OF 4)

NO	REVISION	DATE

SURVEY	
DRAWN	JRP
DESIGNED	XWM
CHECKED	KAS
APPROVED	SEH
PROJ. NO.	193806465

SHEET NUMBER
L-101

Plot Date: 09/30/2024 - 4:00pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_L101.dwg
Xrefs:, 193806465_BORDER, 193806465_XSXT-Topo, 193806465_XSNZ, 193806465_XSST, 193806465_XSPL

LANDSCAPING NOTES:

1. MOWED NONNATIVE TURF
   1.1. SEED ALL DISTURBED TURF AREAS NOT CALLED FOR NATIVE GROUND COVER SEED, WITH MNDOT 25-131 LOW MAINTENANCE TURF.
2. NATIVE GROUND COVER
   2.1. PREP AND APPLY TWO ROUNDS OF WEED SPRAY TREATMENT PER SPECIFICATIONS.
   2.2. SCARIFY SOILS TO PREP FOR SEED APPLICATION.
   2.3. SEED BASIN BOTTOMS AND SIDESLOPES WITH MESIC PRAIRIE SOUTHEAST 35-642 NATIVE SEED MIX, COVER CROP AND EROSION CONTROL BLANKET (SEE SHEETS L-102 THROUGH L-104).
   2.4. INSTALL NATIVE PLUGS WITHIN BOTTOM OF BASINS EW-04.10 AND EW-04.11.
   2.5. SEED FOREBAY AREA (L-101) WITH THE FOLLOWING SEED MIXES, COVER CROP AND MULCH: IMPOUNDMENT GENERAL 33-161 NATIVE SEED MIX FROM NWL 897 TO 899 CONTOURS, MESIC PRAIRIE SOUTHEAST 35-642 UPLAND OF 899 CONTOUR IN FULL TO PARTIAL SUN AREAS, AND WOODLAND EDGE SOUTH & WEST 36-211 MODIFIED IN SHADE AREAS.
   2.6. SEED ALL OTHER AREAS WITH POLLINATOR PLOT URBAN SE 38-631 NATIVE SEED MIX, COVER CROP AND MULCH.
3. WET MEADOW/CARR AND HARDWOOD SWAMP
   3.1. REMOVE INVASIVE SHRUBS (MAINLY BUCKTHORN).
   3.2. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, REED CANARY GRASS, AND SMOOTH BROME).
   3.3. SEED WITH RIPARIAN SOUTH AND WEST 34-265, MODIFIED NATIVE SEED MIX, COVER CROP AND MULCH.

LEGEND

- NATIVE GROUND COVER
- MOWED NONNATIVE GRASSES & SCATTERED LANDSCAPE TREES
- WET MEADOW/CARR & HARDWOOD SWAMP

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PRINT NAME: SARAH HARDING
SIGNATURE: Sarah Harding
DATE: 09/30/2024 LIC. NO. 45592

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS

LANDSCAPING PLAN (2 OF 4)

NO	REVISION	DATE

SURVEY	
DRAWN	JRP
DESIGNED	XWM
CHECKED	KAS
APPROVED	SEH
PROJ. NO.	193806465

SHEET NUMBER
L-102

Plot Date: 09/30/2024 - 4:00pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_L101.dwg
Xrefs:, 193806465_BORDER, 193806465_XSXT-Topo, 193806465_XSNZ, 193806465_XSST, 193806465_XSPL

LANDSCAPING NOTES:

1. LOWLAND HARDWOODS
   1.1. REMOVE AND TREAT INVASIVE AND NONNATIVE TREES.
   1.2. REMOVE DISEASED NATIVE TREES (SUCH AS CHERRY, ASH INFECTED WITH EMERALD ASH BORER AND OAKS INFECTED WITH OAK WILT.
   1.3. REMOVE DOWNED TREES.
   1.4. REMOVE AND TREAT INVASIVE SHRUBS (MAINLY BUCKTHORN AND TARTARIAN HONEYSUCKLE).
   1.5. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, VIRGINIA STICKWEED, REED CANARY GRASS, AND SMOOTH BROME).
   1.6. SEED WITH LOWLAND HARDWOODS CUSTOM NATIVE SEED MIX (GRASS/SEDGE COMPONENT OF MIX IN SPRING, FORB COMPONENT AFTER NOVEMBER 1) AND MULCH.
2. NATIVE GROUND COVER
   2.1. PREP AND APPLY TWO ROUNDS OF WEED SPRAY TREATMENT PER SPECIFICATIONS.
   2.2. SCARIFY SOILS TO PREP FOR SEED APPLICATION.
   2.3. SEED BASIN BOTTOMS AND SIDESLOPES WITH MESIC PRAIRIE SOUTHEAST 35-642 NATIVE SEED MIX, COVER CROP AND EROSION CONTROL BLANKET (SEE SHEETS L-102 THROUGH L-104).
   2.4. INSTALL NATIVE PLUGS WITHIN BOTTOM OF BASINS EW-04.10 AND EW-04.11.
   2.5. SEED FOREBAY AREA (L-101) WITH THE FOLLOWING SEED MIXES, COVER CROP AND MULCH: IMPOUNDMENT GENERAL 33-161 NATIVE SEED MIX FROM NWL 897 TO 899 CONTOURS, MESIC PRAIRIE SOUTHEAST 35-642 UPLAND OF 899 CONTOUR IN FULL TO PARTIAL SUN AREAS, AND WOODLAND EDGE SOUTH & WEST 36-211 MODIFIED IN SHADE AREAS.
   2.6. SEED ALL OTHER AREAS WITH POLLINATOR PLOT URBAN SE 38-631 NATIVE SEED MIX, COVER CROP AND MULCH.

LEGEND

+ + +	LOWLAND HARDWOODS
— — — —	NATIVE GROUND COVER

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PRINT NAME: SARAH HARDING
SIGNATURE: Sarah Harding
DATE: 09/30/2024 LIC. NO. 45592

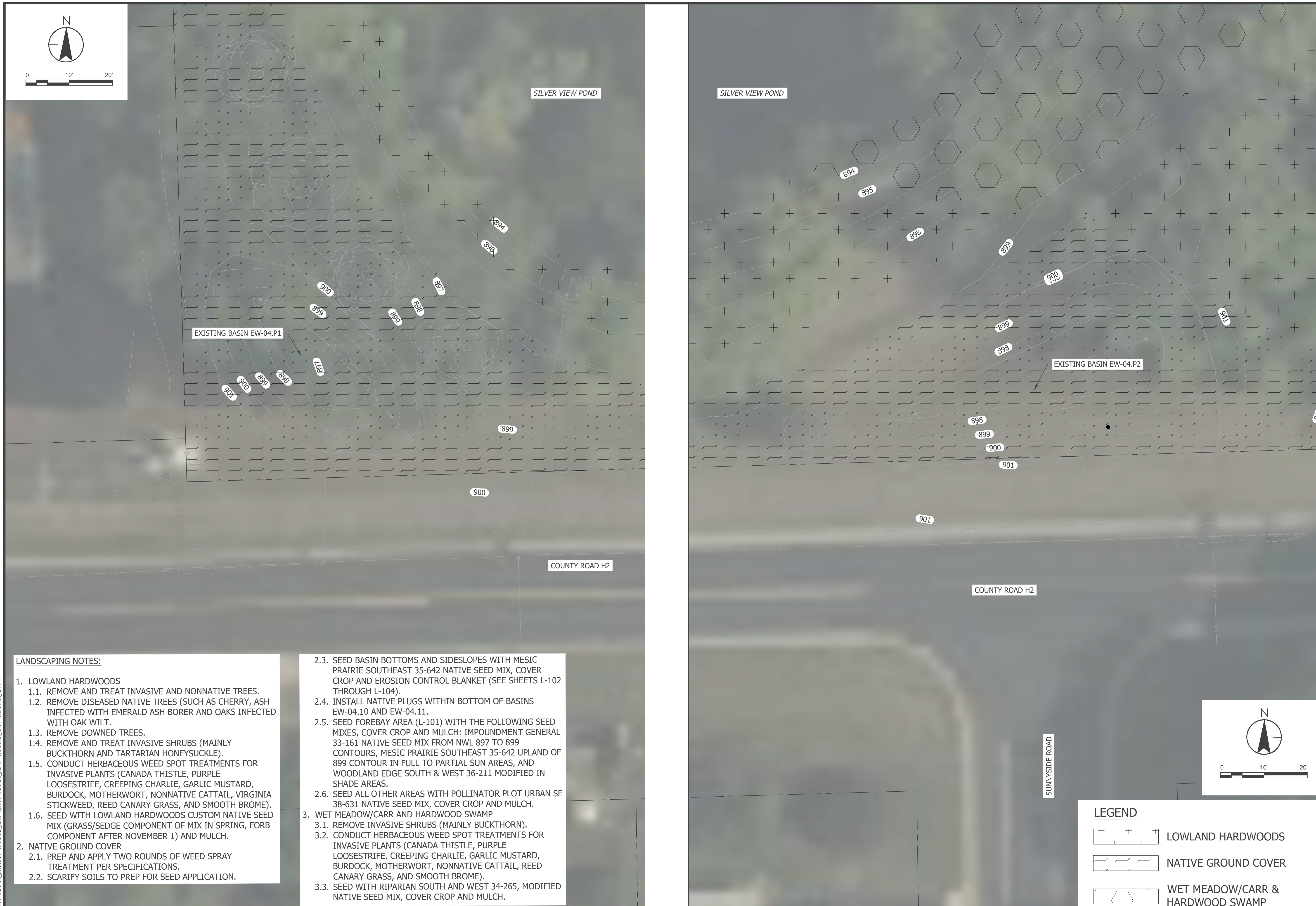
CITY OF MOUNDS VIEW, MINNESOTA
SILVER VIEW POND IMPROVEMENTS
LANDSCAPING PLAN (3 OF 4)

NO	REVISION	DATE

SURVEY	
DRAWN	JRP
DESIGNED	XWM
CHECKED	KAS
APPROVED	SEH
PROJ. NO.	193806465

SHEET NUMBER
L-103

Plot Date: 09/30/2024 - 4:00pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_L101.dwg
Xrefs:, 193806465_BORDER, 193806465_XSXT-Topo, 193806465_XSNZ, 193806465_XSST, 193806465_XSPL



LANDSCAPING NOTES:

1. LOWLAND HARDWOODS
   1.1. REMOVE AND TREAT INVASIVE AND NONNATIVE TREES.
   1.2. REMOVE DISEASED NATIVE TREES (SUCH AS CHERRY, ASH INFECTED WITH EMERALD ASH BORER AND OAKS INFECTED WITH OAK WILT.
   1.3. REMOVE DOWNED TREES.
   1.4. REMOVE AND TREAT INVASIVE SHRUBS (MAINLY BUCKTHORN AND TARTARIAN HONEYSUCKLE).
   1.5. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, VIRGINIA STICKWEED, REED CANARY GRASS, AND SMOOTH BROME).
   1.6. SEED WITH LOWLAND HARDWOODS CUSTOM NATIVE SEED MIX (GRASS/SEDGE COMPONENT OF MIX IN SPRING, FORB COMPONENT AFTER NOVEMBER 1) AND MULCH.
2. NATIVE GROUND COVER
   2.1. PREP AND APPLY TWO ROUNDS OF WEED SPRAY TREATMENT PER SPECIFICATIONS.
   2.2. SCARIFY SOILS TO PREP FOR SEED APPLICATION.
   2.3. SEED BASIN BOTTOMS AND SIDESLOPES WITH MESIC PRAIRIE SOUTHEAST 35-642 NATIVE SEED MIX, COVER CROP AND EROSION CONTROL BLANKET (SEE SHEETS L-102 THROUGH L-104).
   2.4. INSTALL NATIVE PLUGS WITHIN BOTTOM OF BASINS EW-04.10 AND EW-04.11.
   2.5. SEED FOREBAY AREA (L-101) WITH THE FOLLOWING SEED MIXES, COVER CROP AND MULCH: IMPOUNDMENT GENERAL 33-161 NATIVE SEED MIX FROM NWL 897 TO 899 CONTOURS, MESIC PRAIRIE SOUTHEAST 35-642 UPLAND OF 899 CONTOUR IN FULL TO PARTIAL SUN AREAS, AND WOODLAND EDGE SOUTH & WEST 36-211 MODIFIED IN SHADE AREAS.
   2.6. SEED ALL OTHER AREAS WITH POLLINATOR PLOT URBAN SE 38-631 NATIVE SEED MIX, COVER CROP AND MULCH.
3. WET MEADOW/CARR AND HARDWOOD SWAMP
   3.1. REMOVE INVASIVE SHRUBS (MAINLY BUCKTHORN).
   3.2. CONDUCT HERBACEOUS WEED SPOT TREATMENTS FOR INVASIVE PLANTS (CANADA THISTLE, PURPLE LOOSESTRIFE, CREEPING CHARLIE, GARLIC MUSTARD, BURDOCK, MOTHERWORT, NONNATIVE CATTAIL, REED CANARY GRASS, AND SMOOTH BROME).
   3.3. SEED WITH RIPARIAN SOUTH AND WEST 34-265, MODIFIED NATIVE SEED MIX, COVER CROP AND MULCH.

LEGEND

- LOWLAND HARDWOODS
- NATIVE GROUND COVER
- WET MEADOW/CARR & HARDWOOD SWAMP

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PRINT NAME: SARAH HARDING
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DATE: 09/30/2024 LIC. NO. 45592

CITY OF MOUNDS VIEW, MINNESOTA

SILVER VIEW POND IMPROVEMENTS
LANDSCAPING PLAN (4 OF 4)

NO	REVISION	DATE

SURVEY	
DRAWN	JRP
DESIGNED	XWM
CHECKED	KAS
APPROVED	SEH
PROJ. NO.	193806465

SHEET NUMBER
L-104

Plot Date: 09/30/2024 - 4:00pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_L101.dwg
Xrefs:, 193806465_BORDER, 193806465_XSXT-Topo, 193806465_XSNZ, 193806465_XSST, 193806465_XSPL

LOWLAND HARDWOODS CUSTOM SEED MIX

Scientific Name	Common Name	Seeds/ SF	PLS lb/ ac
FORBS			
Agastache scrophulariaefolia	Purple hyssop	1.00	0.03
Ageratina altissima	White snakeroot	0.30	0.01
Anemone virginiana	Tall thimbleweed	0.10	0.01
Aquilegia canadensis	Columbine	1.00	0.07
Blephilia hirsuta	Hairy wood mint	0.10	0.00
Campanulastrum americanum	Tall bellflower	5.00	0.08
Desmodium glutinosum	Savanna tick trefoil	0.50	1.60
Eutrochium purpureum	Sweet Joe-pye weed	1.00	0.06
Geranium maculatum	Wild geranium	3.00	1.63
Helianthus strumosus	Woodland sunflower	1.00	0.65
Heliopsis helianthoides	Early sunflower	0.50	0.22
Hypericum pyramidatum	great St. John's wort	1.00	0.01
Lobelia cardinalis	Cardinal flower	1.00	0.01
Lobelia siphilitica	Blue Lobelia	1.00	0.01
Lysimachia ciliata	Fringed loosetrife	2.00	0.14
Mentha arvensis	Wild mint	0.75	0.01
Monarda fistulosa	Bergamot	1.00	0.04
Osmorhiza claytonii	Sweet cicely	1.00	1.09
Phryma leptostachya	Lopseed	1.00	0.68
Ratibida pinnata	Yellow coneflower	0.50	0.05
Rudbeckia hirta	Black-eyed Susan	2.00	0.06
Rudbeckia triloba	Brown-eyed Susan	0.20	0.02
Scrophularia marilandica	Late figwort	0.50	0.01
Solidago flexicaulis	Zig zag goldenrod	2.00	0.06
Solidago speciosa	Showy goldenrod	1.00	0.03
Solidago ulmifolia	Elm-leaved goldenrod	1.00	0.02
Symphyotrichum cordifolius	Blue wood aster	1.00	0.02
Symphyotrichum laeve	Smooth blue aster	1.00	0.05
Symphyotrichum lateriflorus	Calico aster	3.00	0.03
Symphyotrichum oolentangiense	Sky Blue aster	2.00	0.07
Symphyotrichum urophyllum	Arrow-leaved aster	2.00	0.04
Teucrium canadense	Germander	0.25	0.03
Thalictrum dasycarpum	Tall meadow rue	0.25	0.06
Thalictrum dioicum	Early meadow rue	0.25	0.09
Verbena hastata	Blue vervain	1.00	0.03
Verbena stricta	Hoary vervain	0.50	0.05
Verbena urticifolia	White vervain	1.00	0.06
Veronicastrum virginicum	Culver's root	1.50	0.01
Zizia aurea	Golden alexanders	1.00	0.25
	FORBS SUBTOTALS	**44.20**	**7.38**
GRASSES & SEDGES			
Bromus pubescens	Hairy wood chess	0.5	0.18
Carex gracillima	Purple graceful sedge	2	0.53
Carex sprengelii	Sprengel's sedge	3	0.82
Elymus canadensis	Canada wild rye	1	0.52
Elymus hystrix	Bottlebrush grass	3	1.07
Elymus villosus	Silky wild rye	3	1.49
Elymus virginicus	Virginia wild rye	2	1.30
Festuca subverticillata	Nodding fescue	1	0.14
	GRASSES & SEDGES SUBTOTALS	**15.50**	**6.05**
	TOTALS	**59.70**	**13.42**

OAK WOODLAND CUSTOM SEED MIX

Scientific Name	Common Name	Seeds/ SF	PLS lb/ ac
FORBS			
Agastache scrophulariaefolia	Purple hyssop	1.00	0.03
Ageratina altissima	White snakeroot	0.30	0.01
Amorpha canescens	Lead plant	0.10	0.02
Anemone virginiana	Tall thimbleweed	0.10	0.01
Aquilegia canadensis	Columbine	1.00	0.07
Asclepias tuberosa	Butterfly weed	0.10	0.06
Blephilia hirsuta	Hairy wood mint	0.10	0.00
Campanulastrum americanum	Tall bellflower	5.00	0.08
Chamaecrista fasciculata	Partridge pea	0.10	0.10
Desmodium glutinosum	Savanna tick trefoil	0.50	1.60
Eutrochium purpureum	Sweet Joe-pye weed	1.00	0.06
Fragaria virginiana	Wild strawberry	0.50	0.02
Gallium boreale	Northern bedstraw	1.00	0.04
Geranium maculatum	Wild geranium	1.00	0.54
Helianthus strumosus	Woodland sunflower	1.00	0.65
Heliopsis helianthoides	Early sunflower	0.50	0.22
Hypericum pyramidatum	great St. John's wort	1.00	0.01
Lobelia siphilitica	Blue Lobelia	1.00	0.01
Lysimachia ciliata	Fringed loosetrife	1.00	0.07
Monarda fistulosa	Bergamot	1.00	0.04
Osmorhiza claytonii	Sweet cicely	1.00	1.09
Penstemon digitalis	Foxglove beardstongue	1.00	0.02
Phlox divaricata	Woodland phlox	0.25	0.05
Phryma leptostachya	Lopseed	1.00	0.68
Prenanthes alba	Lions foot	0.50	0.08
Rudbeckia hirta	Black-eyed Susan	2.00	0.06
Rudbeckia triloba	Brown-eyed Susan	0.20	0.02
Scrophularia marilandica	Late figwort	0.10	0.00
Solidago flexicaulis	Zig zag goldenrod	2.00	0.06
Solidago speciosa	Showy goldenrod	1.00	0.03
Solidago ulmifolia	Elm-leaved goldenrod	1.00	0.02
Symphyotrichum cordifolius	Blue wood aster	2.00	0.04
Symphyotrichum laeve	Smooth blue aster	2.00	0.10
Symphyotrichum lateriflorus	Calico aster	2.00	0.02
Symphyotrichum oolentangiense	Sky Blue aster	2.00	0.07
Symphyotrichum urophyllum	Arrow-leaved aster	2.00	0.04
Teucrium canadense	Germander	0.25	0.03
Thalictrum dasycarpum	Tall meadow rue	0.25	0.06
Thalictrum dioicum	Early meadow rue	0.25	0.09
Verbena hastata	Blue vervain	1.00	0.03
Verbena stricta	Hoary vervain	0.50	0.05
Verbena urticifolia	White vervain	1.00	0.06
Veronicastrum virginicum	Culver's root	1.50	0.01
Zizia aurea	Golden alexanders	1.00	0.25
	FORBS SUBTOTALS	**43.10**	**6.60**
GRASSES & SEDGES			
Bouteloua curtipedula	Side oats	0.5	0.23
Bromus pubescens	Hairy wood chess	0.5	0.18
Carex blanda	Wood sedge	0.5	0.11
Carex gracillima	Purple graceful sedge	2	0.53
Carex grisea	Wood gray sedge	1	0.30
Carex sprengelii	Sprengel's sedge	3	0.82
Elymus canadensis	Canada wild rye	1	0.52
Elymus hystrix	Bottlebrush grass	3	1.07
Elymus villosus	Silky wild rye	2	0.99
Elymus virginicus	Virginia wild rye	2	1.30
Festuca subverticillata	Nodding fescue	1	0.14
	GRASSES & SEDGES SUBTOTALS	**16.50**	**6.19**
	TOTALS	**59.60**	**12.79**

MESIC PRAIRIE SOUTHEAST 35-642, MODIFIED
IN ADDITION TO STANDARD SEED MIX, ALSO INCLUDE

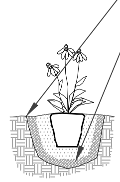
Scientific Name	Common Name	Seeds/ SF	PLS lb/ac
FORBS			
Helenium autumnale	Autumn Sneezeweed		
Monarda punctata	Horsemint		
Solidago riddelii	Riddell's Goldenrod		
Symphyotrichum oolentangiense	Skyblue Aster		
Tradescantia ohiensis	Ohio Spiderwort		

POLLINATOR PLOT URBAN SE 38-631, MODIFIED
IN ADDITION TO THE STANDARD SEED MIX, ALSO INCLUDE

Scientific Name	Common Name	Seeds/ SF	PLS lb/ac
FORBS			
Drymocallis arguta	Tall Cinquefoil		
Heuchera richardsonii	Alumroot		
Lysimachia ciliata	Fringed Loosestrife		
Penstemon gracilis	Slender Beard Tongue		
Solidago nemoralis	Gray Goldenrod		
Symphyotrichum oolentangiense	Skyblue Aster		
Teucrium canadense	Germander		
Zizia aptera	Heart-leaved Alexanders		
LEGUMES			
Vicia americana	American Vetch		

RIPARIAN SOUTH AND WEST 34-265, MODIFIED
IN ADDITION TO THE STANDARD SEED MIX, ALSO INCLUDE

Scientific Name	Common Name	Seeds/ SF	PLS lb/ac
GRASSES			
Calamagrostis canadensis	Bluejoint	3	
Elymus villosus	Downy Wild Rye	3	
FORBS			
Cicuta maculata	Spotted Water Hemlock	1	
Lobelia cardinalis	Cardinal Flower	3	
Lysimachia ciliata	Fringed Loosestrife	2	
Mentha arvensis (1-9)	Wild Mint	4	
Scrophularia lanceolata (1, 5-9)	Lance-leaved Figwort	1	
Veronicastrum virginicum (3-9)	Culver's Root	3	



EROSION CONTROL BLANKET, AS SPECIFIED

SLICE SMALL HOLE IN EROSION CONTROL BLANKET AND SPADE PLANTING HOLE. INSTALL PLUG ROOTS AT THE SAME ELEVATION AS FINISH GRADE. BACKFILL AND TAMP SOIL AROUND INSTALLED PLUG ROOTS. WATER THOROUGHLY WITHIN 2 HOURS.
IF PLANT IS SHIPPED WITH A CONTAINER AROUND THE ROOTBALL, SLICE SIDES OF CONTAINER AND REMOVE COMPLETELY. USE FINGERS OR SMALL HAND TOOLS TO PULL APART ANY POT BOUND OR ENCIRCLING ROOTS.

SPACE PLANTS ACCORDING TO PLAN.

1 / C-801 PLUG PLANTING
NOT TO SCALE

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PRINT NAME: SARAH HARDING
SIGNATURE:
DATE: 09/30/2024 LIC. NO. 45592

CITY OF MOUNDS VIEW, MINNESOTA
SILVER VIEW POND IMPROVEMENTS
LANDSCAPING DETAILS

NO	REVISION	DATE

SURVEY	
DRAWN	JRP
DESIGNED	XWM
CHECKED	KAS
APPROVED	SEH
PROJ. NO.	193806465

SHEET NUMBER
L-801

Plot Date: 09/30/2024 - 4:00pm
Drawing name: U:\193806465\CAD\Dwg\Planset\193806465_L101.dwg
Xrefs:, 193806465_BORDER, 193806465_XSXT-Topo, 193806465_XSNZ, 193806465_XSST, 193806465_XSPL