

LL2 Grant Application



Submit completed application to:

Lauren Sampedro

lauren.sampedro@vlawmo.org

Applicant Information:

Organization Name:	City of Vadnais Heights
Project Contact:	Jim Hauth, Public Works Director
Address:	800 East County Road E
City/Township, State, Zip:	Vadnais Heights, Minnesota, 55127
Phone:	651 204 6050
Email:	jim.hauth@cityvadnaisheights.com

Project Summary:

ESTIMATED TOTAL PROJECT COST (\$)	37,404.50 \$33,404.50
AMOUNT REQUESTED	33,664.05 \$30,064.05
EXPECTED PROJECT COMPLETION (Month, Year)	October, 2024

PROJECT TYPE:

- Water Quality Treatment
- Stormwater Rate and Volume Control
- Groundwater Conservation
- Other

If other, please describe the proposed project: _____

Project Background:

Describe the project location and water resources that will benefit from the project.	A 1,200 sq ft raingarden and rock swale will be installed on the southwestern corner of Elmwood Park in Vadnais Heights, Minnesota.
What issues will be addressed with this project?	A concrete flume and turret will be installed on the south side of the Elmwood parking lot. The raingarden will also receive stormwater from a culvert under Elmwood Street to the west side of the park. The raingarden and swale will divert stormwater from neighboring private properties and reduce TSS and TP contributions to nearby water bodies.

Project Background: Continued

<p>Provide estimated water quality results, stormwater rate/volume reduction, or groundwater conservation benefits associated with the project.</p>	<p>The raingarden and swale will result in a 73% reduction in stormwater runoff volume (48,502 cu ft/ yr) and will remove 941.5 pounds of TSS (74%) and 3.6 pounds of TP (73%) per year from the drainage area.</p>
<p>Describe the public education and outreach efforts or signage planned for the project.</p>	<p>The raingarden will feature signage highlighting the purpose of the rain garden including rate reduction and water quality benefits.</p> <p>The rain garden will be featured in the Newsletter and on Social Media.</p> <p>An educational program on the benefits of pollinators may take place at the site soon after construction.</p>
<p>List or describe any partnerships or other forms of support for the project, including external funding sources.</p>	<p>N/A</p>

Project Specifications:

<p>TOTAL PROPERTY AREA (Acres)</p>	<p>0.81</p>	<p>Total PROJECT SIZE (Sq Ft)</p>	<p>4500</p>
<p>IMPERVIOUS AREA DRAINING TO PROJECT (Sq Ft):</p>	<p>16,524</p>	<p>PERVIOUS AREA DRAINING TO PROJECT (Sq Ft):</p>	<p>25,561</p>

Required Attachments:

- ⇒ Detailed final plan set of the proposed project that includes the estimated, quantitative outcomes of the project.
- ⇒ At least 2 bids for construction of proposed project.
- ⇒ Detailed project budget estimate with itemized materials and costs that equal the total project cost.

Site Plan and Outcomes

LL2 2024-02 Elmwood Park Raingarden Application



4/2/24, 10:22:41 AM

VLAWMO Boundary 2020

Flow Arrows

Project Location



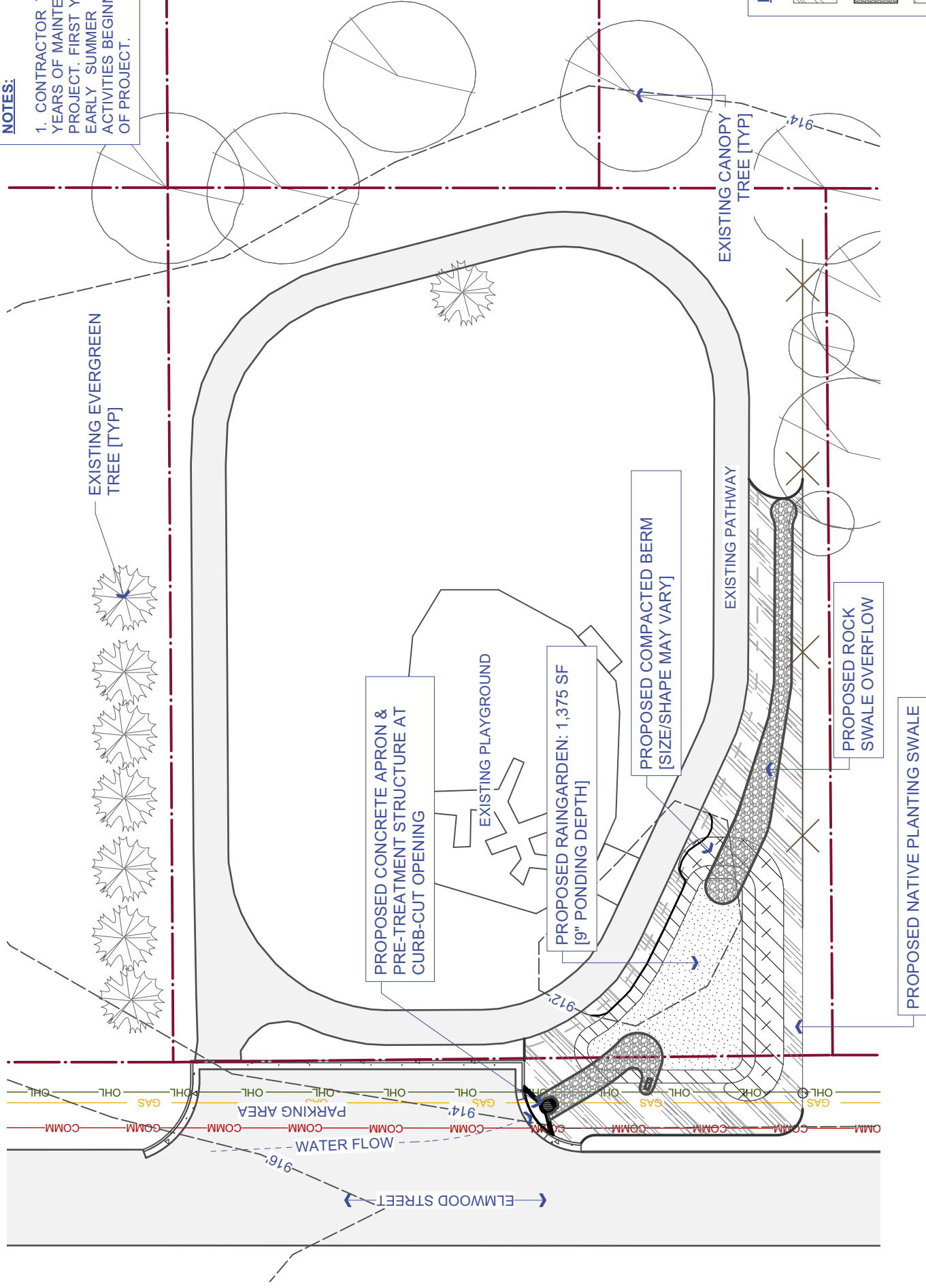
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., County of Ramsey, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA | ArcGIS Web AppBuilder

PROJECT INFORMATION: ELMWOOD PARK RAINGARDEN

INSTALL APRON & PRE-TREATMENT STRUCTURE, RAINGARDEN, & ROCK/PLANTED OVERFLOW SWALE. CURB-CUT OPENING PREVIOUSLY INSTALLED BY THE CITY.

NOTES:







1. CONTRACTOR TO INCLUDE WITH BID QUOTES FOR THREE YEARS OF MAINTENANCE ON INSTALLED RAINGARDEN & SWALE PROJECT. FIRST YEAR OF MAINTENANCE ASSUMES SPRING OR EARLY SUMMER INSTALLATION IN 2024 WITH MAINTENANCE ACTIVITIES BEGINNING IMMEDIATELY FOLLOWING INSTALLATION OF PROJECT.

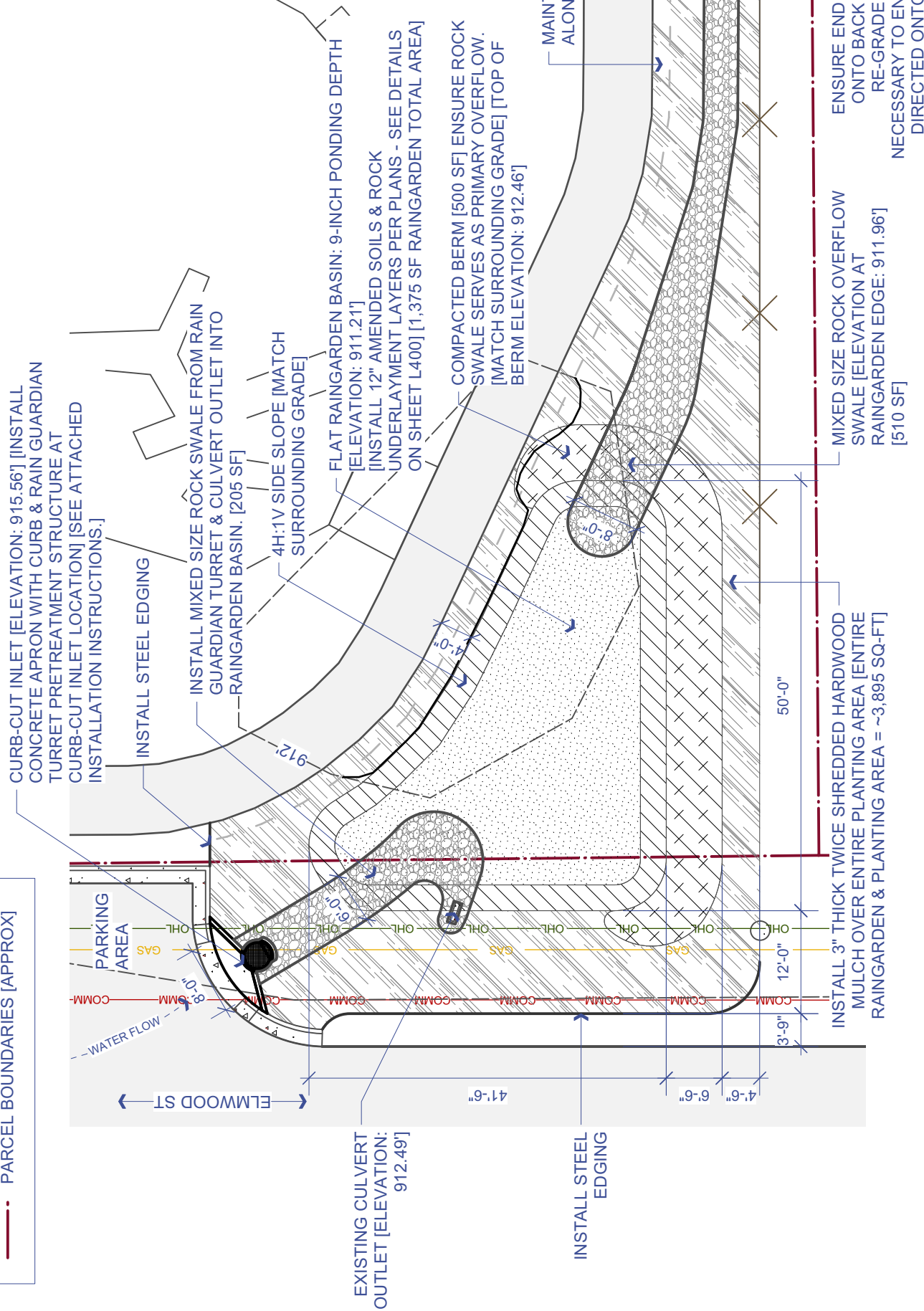


PLAN LEGEND:

	NATIVE PLANTING
	INLET SWALE & RAINGARDEN OVERFLOW ROCK
	FLAT RAINGARDEN BASIN
	RAINGARDEN 4H:1V SIDE SLOPES
	RAINGARDEN COMPACTED BERM
	PARCEL BOUNDARIES [APPROX]

PLAN LEGEND:

-  NATIVE PLANTING
-  INLET SWALE & RAIN GARDEN OVERFLOW ROCK
-  FLAT RAIN GARDEN BASIN
-  RAIN GARDEN 4H:1V SIDE SLOPES
-  RAIN GARDEN COMPACTED BERM
-  PARCEL BOUNDARIES [APPROX]



NOTES:

1. FINAL LAYOUT AND SIZING OF PROJECT MAY VARY. CONTRACTOR TO MEET WITH RCSWCD STAFF ONSITE PRIOR TO INSTALLATION TO VERIFY PROJECT EXTENT.
2. REMOVE EXISTING VEGETATION WITHIN PROJECT AREA. TURF GRASS TO BE STRIPPED OR KILLED WITH HERBICIDE APPLICATION [1-2 APPLICATIONS MINIMUM].
3. PLANTING AREAS TO BE PREPPED FOR PLANTING BY LOOSENING SITE SOILS TO PROMOTE INFILTRATION.
4. INSTALL RAIN GARDEN PER PLANS WITH FLAT BASIN, 4H:1V SIDE SLOPES, COMPACTED BERM, & OVERFLOW. SEE PLAN FOR ELEVATIONS. USE TRACKED EQUIPMENT ONLY TO LIMIT COMPACTION.
5. INSTALL RAIN GUARDIAN TURRET PRE-TREATMENT STRUCTURE. INSTALL CONCRETE APRON WITH CURBING TO CONNECT EXISTING WIDE CURB-CUT TO STRUCTURE. [~20 SF CONCRETE APRON & ~10 LF CURB]
6. INSTALL MIXED SIZE ROCK (4-12" WASHED RIVER ROCK/FIELDSTONE BOULDERS OR APPROVED EQUIVALENT ROCK MIX) DRY CREEK SWALE FROM PRE-TREATMENT STRUCTURE & EXISTING CULVERT OUTLET TO RAIN GARDEN BASIN & ALONG CENTERLINE OF OVERFLOW SWALE. INSTALL NON-WOVEN GEOTEXTILE FABRIC BETWEEN ROCK AND SOIL.
7. INSTALL COMPACTED BERM SURROUNDING PERIMETER OF RAIN GARDEN AS NECESSARY TO ENSURE OVERFLOW THROUGH ROCK SWALE. [500 SF] EXACT SHAPE & SIZE OF REQUIRED BERM MAY VARY. SITE VERIFY WITH RCSWCD STAFF.
8. INSTALL 3"-THICK TWICE SHREDDED HARDWOOD MULCH OVER ALL PLANTING AREAS INCLUDING RAIN GARDEN AND BERM.
9. INSTALL NATURAL NETTING EROSION CONTROL BLANKET OVER COMPACTED BERM AREA BENEATH MULCH. INSTALL PER MANUFACTURERS SPECIFICATION WITH BIODEGRADABLE STAKES.
10. INSTALL STEEL EDGING OR APPROVED EQUIVALENT BETWEEN PLANTED/MULCHED AREAS AND PARK PROPERTY TURF GRASS AREAS. [75 LF TOTAL]
11. PLANT AREA WITH NATIVE SPECIES PER PLANTING PLAN ON SHEET L300 & L301. INSTALL IN GROUPS OF LIKE SPECIES FOR EASY IDENTIFICATION AND MAINTENANCE.
12. ANY AREAS OUTSIDE OF PROJECT AREA DISTURBED DURING INSTALLATION TO BE RESTORED AND SEEDED WITH TURF GRASS. CONTRACTOR TO TAKE CARE TO NOT DISTURB RECENTLY COMPLETED ROAD AND PARKING AREA ASPHALT.
13. CONTRACTOR TO PROVIDE ADEQUATE SAFETY SIGNAGE DURING CONSTRUCTION ALONG WALKING PATH AND IN PARKING LOT OF ELMWOOD PARK.
14. CONTRACTOR TO ENSURE THAT ANY OVERFLOW FROM END OF SWALE IS DIRECTED ONTO THE PARK PARCEL. RE-GRADE AREA SURROUNDING END OF PLANTED AND ROCK SWALE AS NECESSARY TO ENSURE WATER IS NOT DIRECTED ONTO NEIGHBOR PROPERTY.




RAMSEY COUNTY SWCD
 1425 PAUL KIRKWOOD DR
 ARDEN HILLS, MN 55112
 651-266-7280
 www.ramseycounty.us

PROJECT: ELMWOOD PARK
LOCATION: 3892 ELMWOOD ST
 VADNAIS HEIGHTS, MN
WATERSHED DISTRICT:



DESIGNER: BRIAN T. OLSEN
DATE: 1/25/2024
REVISION: 1/17/2024
REVISION:
REVISION:
REVISION:
CHECKED BY: JL
TAA:

- NOTES:**
- ELEVATIONS ARE APPROXIMATE
 - UTILITY LOCATIONS ARE APPROXIMATE, CONFIRM LOCATIONS PRIOR TO WORK
 - CONTRACTOR ACQUIRE NECESSARY PERMITS PRIOR TO START
 - EXCAVATE WITH TRACKED EQUIPMENT ONLY
 - RIP UNDERLYING SOILS 6-12" TO REMOVE COMPACTION
 - SIZE AND SHAPE MAY VARY
 - MAINTAIN SQUARE FEET
 - ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1/16"=1'-0"


LAYOUT PLAN

L200

PLANTING NOTES:

1. EXACT PLANT LAYOUT/SIZING/SPECIES MAY VARY WITH RCSWCD STAFF APPROVAL BASED ON PLANT AVAILABILITY AND FINAL SITE CONDITIONS.
2. SEE PLANT SCHEDULE FOR SPECIES, SIZE & SPACING INFORMATION.
3. VERIFY ANY REQUIRED PLANTING PLAN ALTERATIONS OR SUBSTITUTIONS WITH RCSWCD STAFF PRIOR TO PURCHASE & INSTALLATION.
4. SEE SHEET L300 FOR GROUND COVER SPECIES PLAN & SEE SHEET L301 FOR SEASON INTEREST SPECIES PLAN.

PLANT SCHEDULE - GROUND COVER LAYER					
ID	Qty	Latin Name	Common Name	Size	Spacing (ft)
C14	66	Carex sprengelii	Sprengel's Sedge	2" Plug	2
C17	200	Carex brevoir	Plains Oval Sedge	2" Plug	2
C32	114	Carex vulpinoidea	Fox Sedge	2" Plug	2
C33	74	Carex pellita	Woolly Sedge	2" Plug	2
R4	74	Juncus tenuis	Path Rush	2" Plug	2
	528	TOTAL PLANTS			



RAMSEY COUNTY SWCD
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651-266-7280
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PROJECT: ELMWOOD PARK

LOCATION:

3892 ELMWOOD ST
VADNAIS HEIGHTS, MN

WATERSHED DISTRICT:



DESIGNER: BRIAN T. OLSEN

DATE: 1/25/2024

REVISION: 1/17/2024

REVISION:

REVISION:

REVISION:

CHECKED BY: JL

TAA:

NOTES:

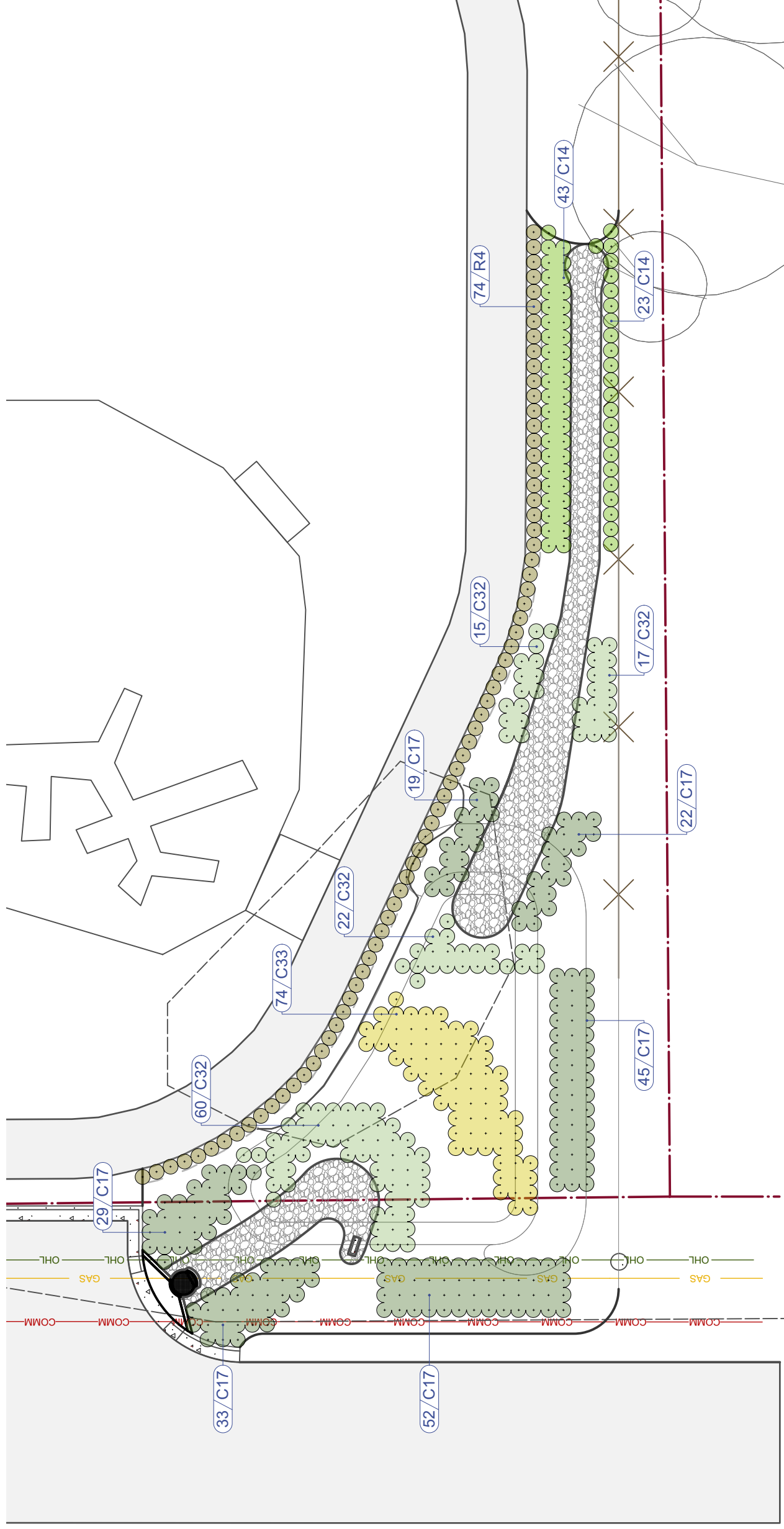
- CALL GOPHER ONE TO MARK UTILITIES BEFORE DIGGING
- SEE PLANT SCHEDULE FOR SPACING [PLANT LOCATION MAY VARY]
- PLANT SUBSTITUTIONS MUST BE APPROVED BY SWCD STAFF
- ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1/16"=1'-0"



PLANTING PLAN:
GROUND COVER:

L300

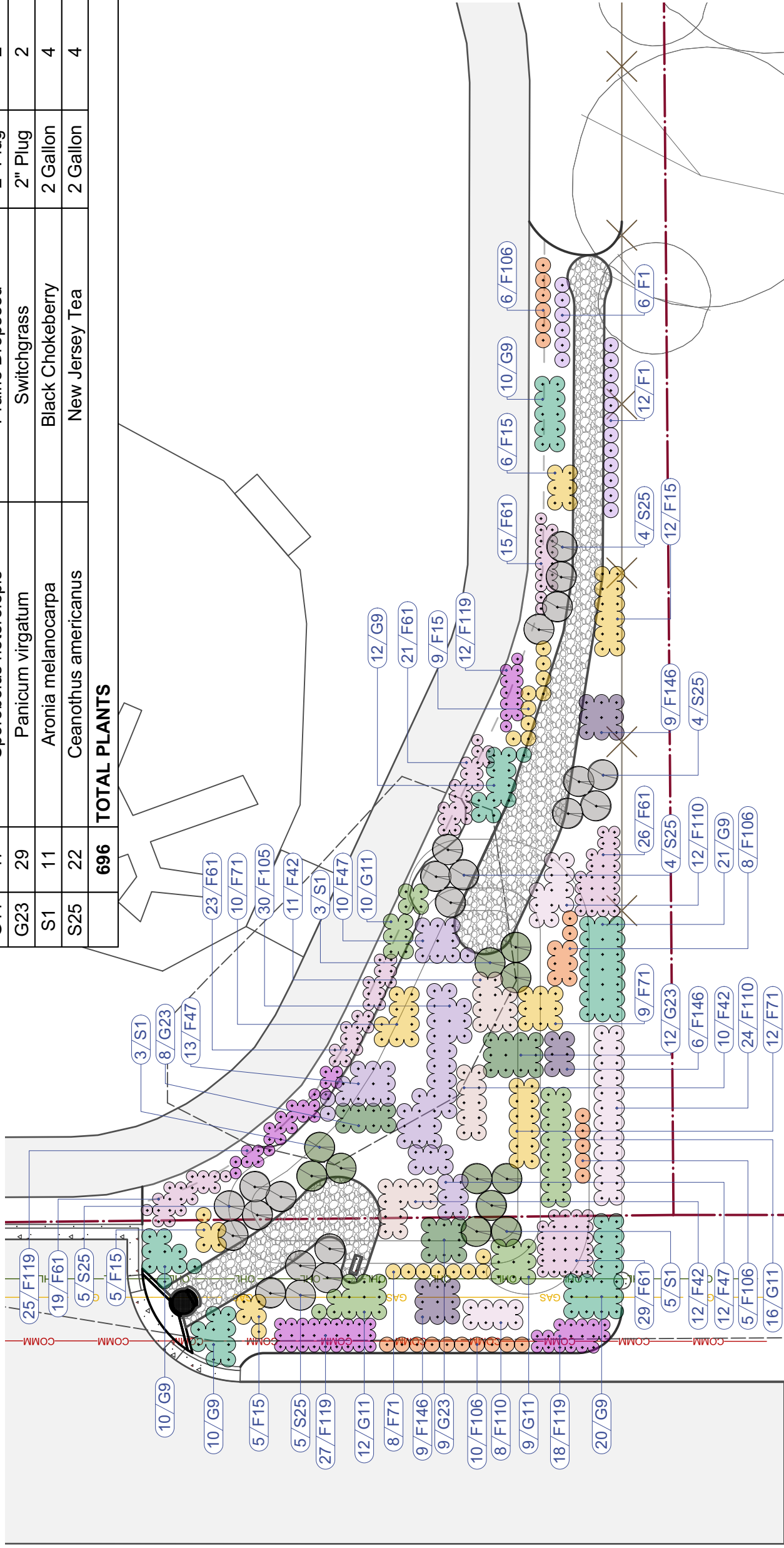


PLANTING NOTES:

1. EXACT PLANT LAYOUT/SIZING/SPECIES MAY VARY WITH RCSWCD STAFF APPROVAL BASED ON PLANT AVAILABILITY AND FINAL SITE CONDITIONS.
2. SEE PLANT SCHEDULE FOR SPECIES, SIZE & SPACING INFORMATION.
3. VERIFY ANY REQUIRED PLANTING PLAN ALTERATIONS OR SUBSTITUTIONS WITH RCSWCD STAFF PRIOR TO PURCHASE & INSTALLATION.
4. SEE SHEET L300 FOR GROUNDCOVER SPECIES PLAN & SEE SHEET L301 FOR SEASONAL INTEREST SPECIES PLAN.
5. TWO DECIDUOUS TREES TO BE PLANTED ALONG SWALE AREA. VADNAIS HEIGHTS STAFF WILL CONFIRM EXACT SPECIES & PLANTING LOCATION WITH CONTRACTOR DURING INSTALLATION.

PLANT SCHEDULE - SEASONAL INTEREST LAYER

ID	Qty	Latin Name	Common Name	Size	Spacing (ft)
F1	18	Agastache foeniculum	Anise Hyssop	2" Plug	2
F15	37	Rudbeckia subtomentosa	Sweet Black-Eyed Susan	2" Plug	2
F42	33	Eupatorium purpureum	Joe-Pye Weed	2" Plug	2
F47	35	Liatris spicata	Marsh Blazing Star	2" Plug	2
F61	133	Geum triflorum	Prairie Smoke	2" Plug	1.5
F71	39	Ratibida pinnata	Yellow Coneflower	2" Plug	2
F105	30	Symphotrichum puniceum	Swamp Aster	2" Plug	2
F106	29	Asclepias tuberosa	Butterfly Weed	2" Plug	2
F110	44	Echinacea angustifolia	Narrow-leaved Coneflower	2" Plug	2
F119	82	Phlox pilosa	Prairie Phlox	2" Plug	1.5
F146	24	Verbena stricta	Hoary Vervain	2" Plug	2
G9	83	Schizachyrium scoparium	Little Bluestem	2" Plug	2
G11	47	Sporobolus heterolepis	Prairie Dropseed	2" Plug	2
G23	29	Panicum virgatum	Switchgrass	2" Plug	2
S1	11	Aronia melanocarpa	Black Chokeberry	2 Gallon	4
S25	22	Ceanothus americanus	New Jersey Tea	2 Gallon	4
696		TOTAL PLANTS			



NOTES:
 -CALL GOPHER ONE TO MARK UTILITIES BEFORE DIGGING
 -SEE PLANT SCHEDULE FOR SPACING [PLANT LOCATION MAY VARY]
 -PLANT SUBSTITUTIONS MUST BE APPROVED BY SWCD STAFF
 -ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1/16"=1'-0"

PLANTING PLAN:
 SEASONAL INTEREST

L301



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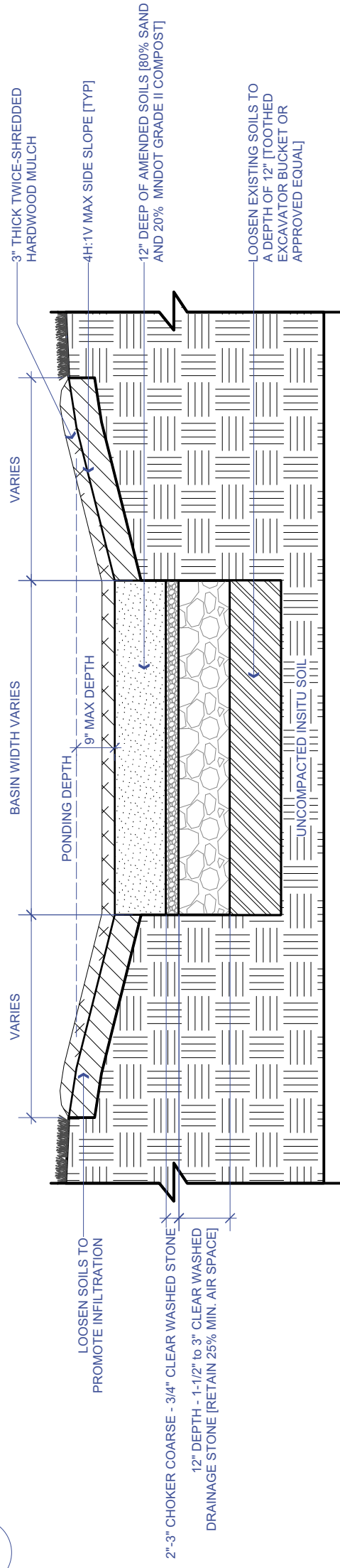
PROJECT: ELMWOOD PARK

LOCATION:
 3892 ELMWOOD ST
 VADNAIS HEIGHTS, MN
 WATERSHED DISTRICT:

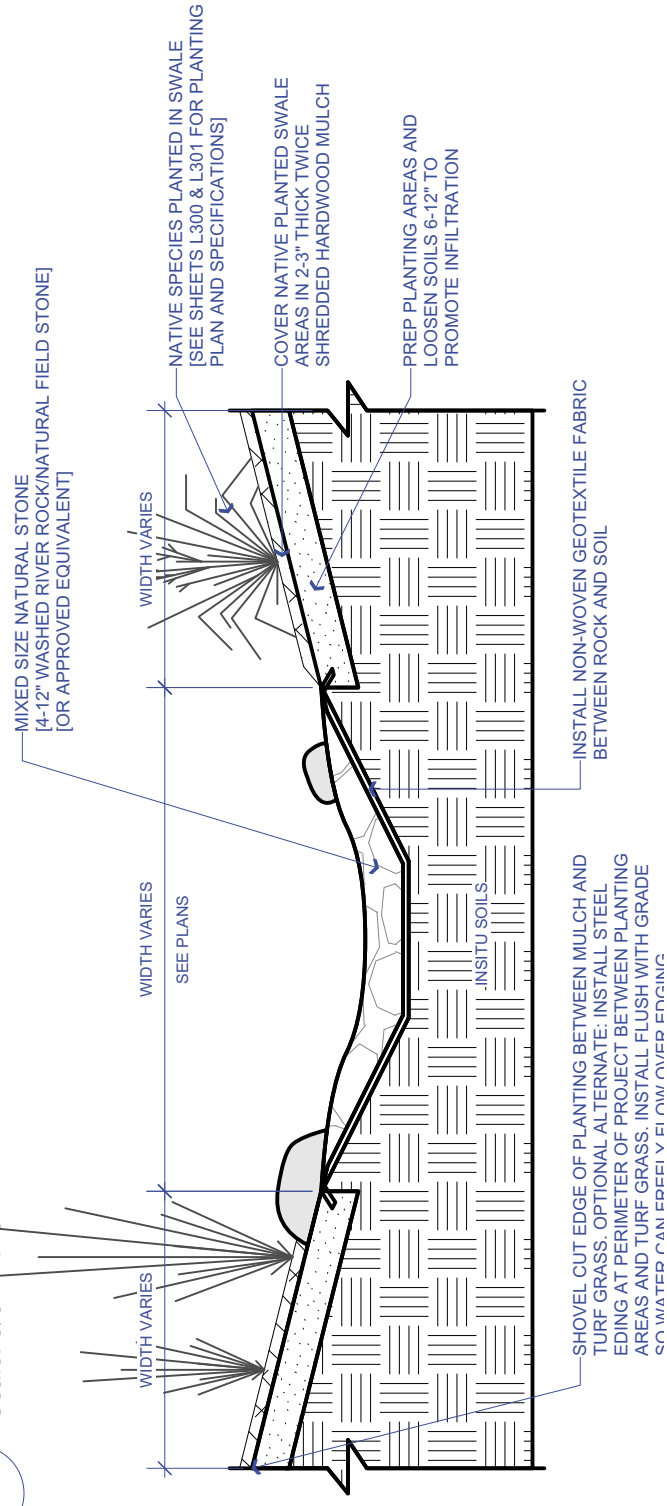


DESIGNER: BRIAN T. OLSEN
 DATE: 1/25/2024
 REVISION: 1/17/2024
 REVISION:
 REVISION:
 CHECKED BY: JL
 TAA:

1 RAINGARDEN SECTION [TYP]
Scale: 3/8" = 1'-0"



2 OVERFLOW SWALE & DRY CREEK BED SECTION [TYP]
Scale: 3/8" = 1'-0"



NOTES:
1. PROPOSED ROCK SIZING MIXES FOR DRY CREEK BED ARE APPROXIMATE. CONTRACTOR TO SUBMIT FINAL ROCK MIXES CHOSEN FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.



PROJECT: ELMWOOD PARK
LOCATION: 3892 ELMWOOD ST
VADNAIS HEIGHTS, MN
WATERSHED DISTRICT:
VLAWMO
Vadnais Lake Area
Water Management Organization

DESIGNER: BRIAN T. OLSEN
DATE: 1/25/2024
REVISION: 1/17/2024
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:
-CONTACT GOPHER STATE ONE CALL TO CONFIRM UTILITY LOCATIONS PRIOR TO WORK
-EXCAVATE WITH TRACKED EQUIPMENT ONLY
-MAINTAIN SQUARE FEET AND DEPTH SUBSTITUTIONS TO CONSTRUCTION DESIGN AND MATERIALS MUST BE APPROVED PRIOR TO INSTALLATION
-ORIGINAL SHEET SIZE: 11"x17"

SCALE:

SITE DETAILS

L400

Pollutant Reductions: Elmwood Park Raingarden

	Before	After	Reduction	Red. %
Volume (cu-ft/yr)	66,448	17,946	48,502	73%
TSS (lbs/yr)	1,275.00	333.50	941.50	74%
TP (lbs/yr)	4.858	1.295	3.563	73%

Watershed Data		Elmwood Park Raingarden	
Target Rainfall	0.75	in	
Soil Type:	B	HSG:	
Soil IR	0.3	in/hr	
Surface	Sq-ft	Acre	CN
Road	8,640	0.198	98
Parking Lot	1,000	0.023	98
Roof	1,856	0.043	98
Sidewalk	550	0.013	98
Driveway	4,478	0.103	98
Turf Grass/Lawn	25,561	0.587	79
Total	42,085	0.966	
% Imp	39%		

Cost Estimate

ALL ITEMS AS SPECIFIED BELOW ARE FOR REFERENCE USE ONLY

Elmwood Park Raingarden
 3892 Elmwood Street
 Vadnais Heights, MN 55127
 BMP Type: Curb Cut Raingarden w/ Pre-Treatment & Overflow Swale
 Number of BMPs: 1 of 1

County: Ramsey
 Date: 9-Jan-24

INSTALLED MATERIALS & LABOR - RAINGARDEN & OVERFLOW SWALE

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Mobilization	1.00	LS	\$ 1,750.00	\$ 1,750.00
Deliveries	1.00	LS	\$ 700.00	\$ 700.00
Excavation, Grading, Ripping Soil (Tracked Equipment only in project area)	145.00	CY	\$ 42.00	\$ 6,090.00
General & Soil Disposal (use excavated soils onsite for berms before soil haul-away)	90.00	CY	\$ 40.00	\$ 3,600.00
Concrete Flume / Curbing Install & Base Material (to connect curb opening to turret)	1.00	LS	\$ 2,600.00	\$ 2,600.00
See plans for flume specs: concrete install, compacted Class V base or equal, rebar as needed, etc.				
Rain Guardian Turret Install & Base Material	1.00	LS	\$ 2,300.00	\$ 2,300.00
Rain Guardian Turret, Concrete Work, Class V Aggregate (or equal) base rock, fabric, etc.				
Aggregate: 3/4" Clear Washed Stone (or equal) [2-3" depth choker course]	11.25	TON	\$ 145.00	\$ 1,631.25
Aggregate: 1.5"-3" Clear Washed Drainage Stone (or equal)	45.25	TON	\$ 155.00	\$ 7,013.75
[rock storage layer, retain 25% Air Space]				
Soil Amendment (80% Washed No.2 Sand; 20% MnDOT Grade II Compost)	34.75	CY	\$ 120.00	\$ 4,170.00
Mixed Size Washed Natural Rock [4-12" sizing or equal] (inlet & overflow swales)	25.75	TON	\$ 145.00	\$ 3,733.75
Non-Woven Geotextile Fabric - Geotex 401/Mirfani 140N or equivalent	715.00	SF	\$ 2.25	\$ 1,608.75
Erosion Control Blanket (C125 / S75BN or equal biodegradable blanket) [for berm]	55.50	SY	\$ 6.85	\$ 380.18
Twice-Shredded Hardwood Mulch (3" Thickness)	36.00	CY	\$ 115.00	\$ 4,140.00
Native Perennial: 2" Plug; or equivalent	633.00	EA	\$ 6.00	\$ 3,798.00
Native Perennial: 4" Pot; or equivalent	721.00	EA	\$ 12.00	\$ 8,652.00
Native Shrubl: #2 Container; or equivalent	22.00	EA	\$ 65.00	\$ 1,430.00
Native Shrubl: #5 Container; or equivalent	11.00	EA	\$ 105.00	\$ 1,155.00
Site Restoration/Turf Repair (truf repair as needed for site disturbance outside project area)	1.00	LS	\$ 800.00	\$ 800.00
Subtotal			\$	55,552.68

ADDITIONAL BID ITEMS AS NECESSARY

<u>OPTIONAL ITEM:</u> Steel Edging (1/8"x6"x8')	222.00	LF	\$ 14.00	\$ 3,108.00
Subtotal				\$ 3,108.00

PROJECT TOTAL

Project Estimate	\$ 58,660.68
:-10%	\$ 52,794.61
:+10%	\$ 64,526.74
Estimated WD/WMO Grant Award:	\$0.00
Estimated RCPR Grant Award:	\$0.00
Potential Grant Award Total:	\$0.00
Estimated Landowner Cost:	\$58,660.68

Bids

Elmwood Park Raingarden Bids Summary

<u>Contractor</u>	<u>Total Bid</u>	<u>Raingarden Install</u>	<u>1yr Maint</u>	<u>2yr Maint</u>	<u>3yr Maint</u>	<u>Total Maint</u>
MNL	\$ 57,906.00	\$ 48,406.00	\$ 3,500.00	\$ 3,200.00	\$ 2,800.00	\$ 9,500.00
Shoreline Landscaping	\$ 54,776.34	\$ 41,233.34	\$ 4,853.00	\$ 4,560.00	\$ 4,130.00	\$ 13,543.00
Sandstrom Land Management	\$ 37,404.50	\$ 33,404.50	\$ 2,000.00	\$ 1,000.00	\$ 1,000.00	\$ 4,000.00
Davey Resource Group	\$ 88,461.75	\$ 72,711.75	\$ 5,000.00	\$ 5,250.00	\$ 5,500.00	\$ 15,750.00