

**General Notes:**

1. Landscape contractor to provide a new irrigation layout plan for the property. See Landscape Notes.
2. See Civil Engineer's plans for grading layout and requirements.
3. Contractor to coordinate any work in the right-of-way with City of Ramsey Public Works Department.
4. Sod all disturbed areas except plant beds and areas noted to receive mulch.
5. Place a minimum of 4" topsoil, with not more than 35% sand content. Topsoil inspection is required prior to installing sod and trees.
6. See Sheet L1.2 for Landscape Details, Notes, and Schedules.
7. Landscape contractor is responsible for verification of soils and graded condition prior to mobilization and shall notify the General Contractor if earthwork is not acceptable. Landscape contractor is responsible for fine grading, or grade to within 1" of final set elevation.

**Landscape Materials Legend:**

- Proposed Turf Sod
- Proposed MnDOT 2024 'Southern Shortgrass Roadside' Native Seed Mix - See Sheet L1.3
- Proposed MnDOT 2024 'Wet Ditch' Native Seed Mix - See Sheet L1.3

**Municipal Landscape Requirements:**

Community Business District-B2

**Site Tree Requirements:**  
 1 Tree per 50 LF of Site Perimeter  
 or  
 1 Tree per 1,000 SF of Building Footprint  
 whichever is greater

**Site Shrub Requirements:**  
 1 Shrub per 30 LF of Site Perimeter  
 or  
 1 Shrub per 300 SF of Building Footprint  
 whichever is greater

**Road Frontage Plantings\*:**  
 1 Overstory Tree per 35 LF of Public Rd Frontage  
 \*These plantings are credited toward the minimum planting requirements

**Parking Lot Plantings\*:**  
 1 Tree per 10 Parking Spaces  
 \*These plantings are credited toward the minimum planting requirements

**Site Requirement Calculations:**

Site Perimeter: approx. 2,647 LF  
 Building Footprint: approx. 71,236 SF

2,647 / 50 = 53 Trees or 71,236 / 1,000 = **71 Trees**

2,647 / 30 = 88 Shrubs or 71,236 / 300 = **237 Shrubs**

Public Rd Frontage: Riverdale Drive NW

Parking Spaces: 20 Stalls

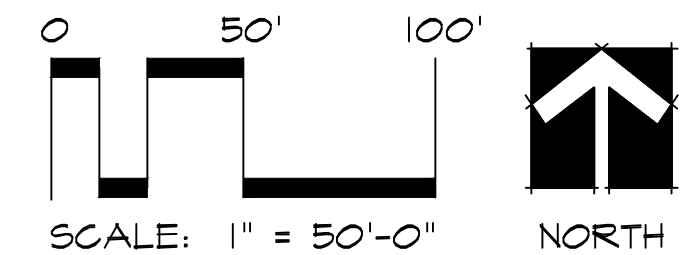
20 / 10 = 2 Parking Lot Trees\*  
 \*These plantings are credited toward the minimum planting requirements

**Additional Requirements:**

**Tree Diversity:**  
 -Minimum 25% Deciduous Overstory  
 -Minimum 25% Coniferous  
 -Maximum 25% Ornamental

**Minimum Plant Sizes:**  
 -2" Deciduous Overstory  
 -6' Hgt. Coniferous Tree  
 -1.5" Ornamental Tree  
 -24" Shrub (width or height)

Landscape rock is prohibited in landscape islands



LANDSCAPE LAYOUT PLAN:

**CALYX DESIGN GROUP**  
 Landscape Architecture & Planning

475 CLEVELAND AVE. N, SUITE 101A, ST PAUL, MN 55104  
 PHONE: 651.788.9018  
 www.calyxdesigngroup.com



**PRELIMINARY**

REVISIONS

06/14/2024	Initial City Submittal
07/08/2024	City Re-submittal
07/17/2024	Driveway Adjustment

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 5555 KIETZKE LANE, SUITE 100  
 RENO, NEVADA 89511  
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U-HAUL OF RAMSEY  
 RIVERSTONE DRIVE  
 RAMSEY, MINNESOTA

LANDSCAPE PLAN

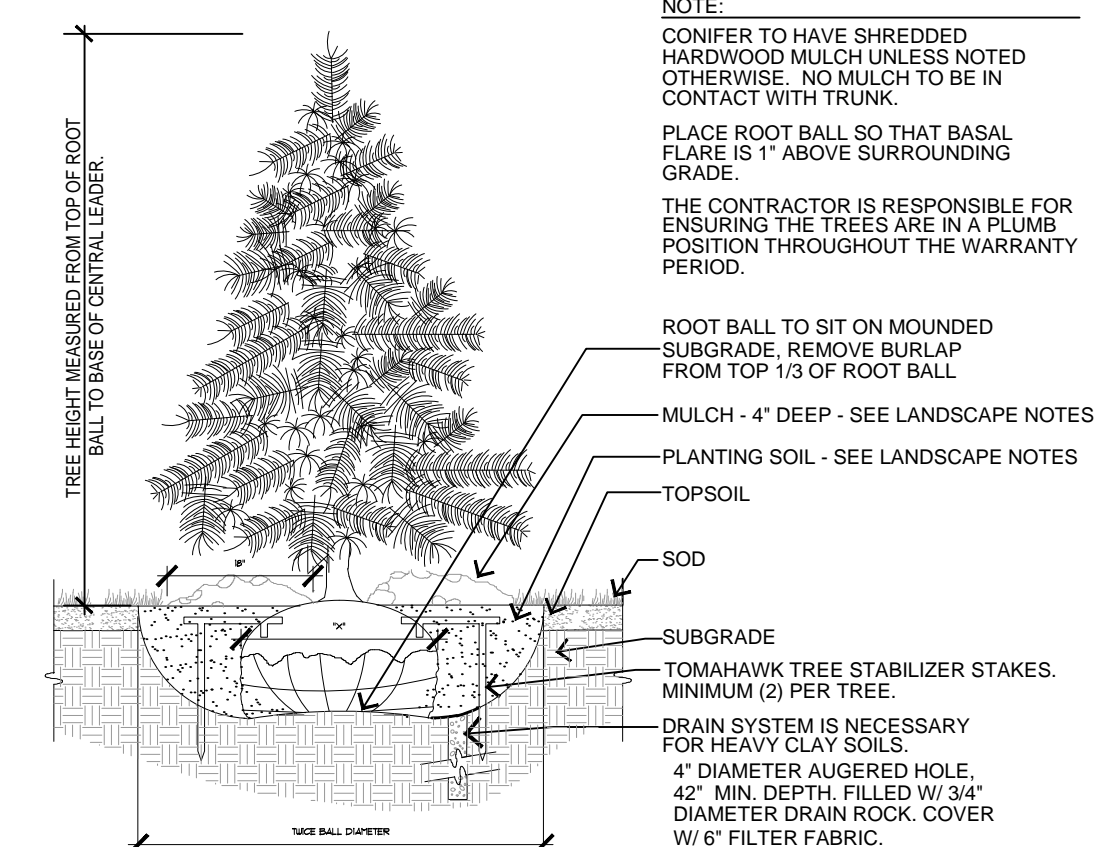
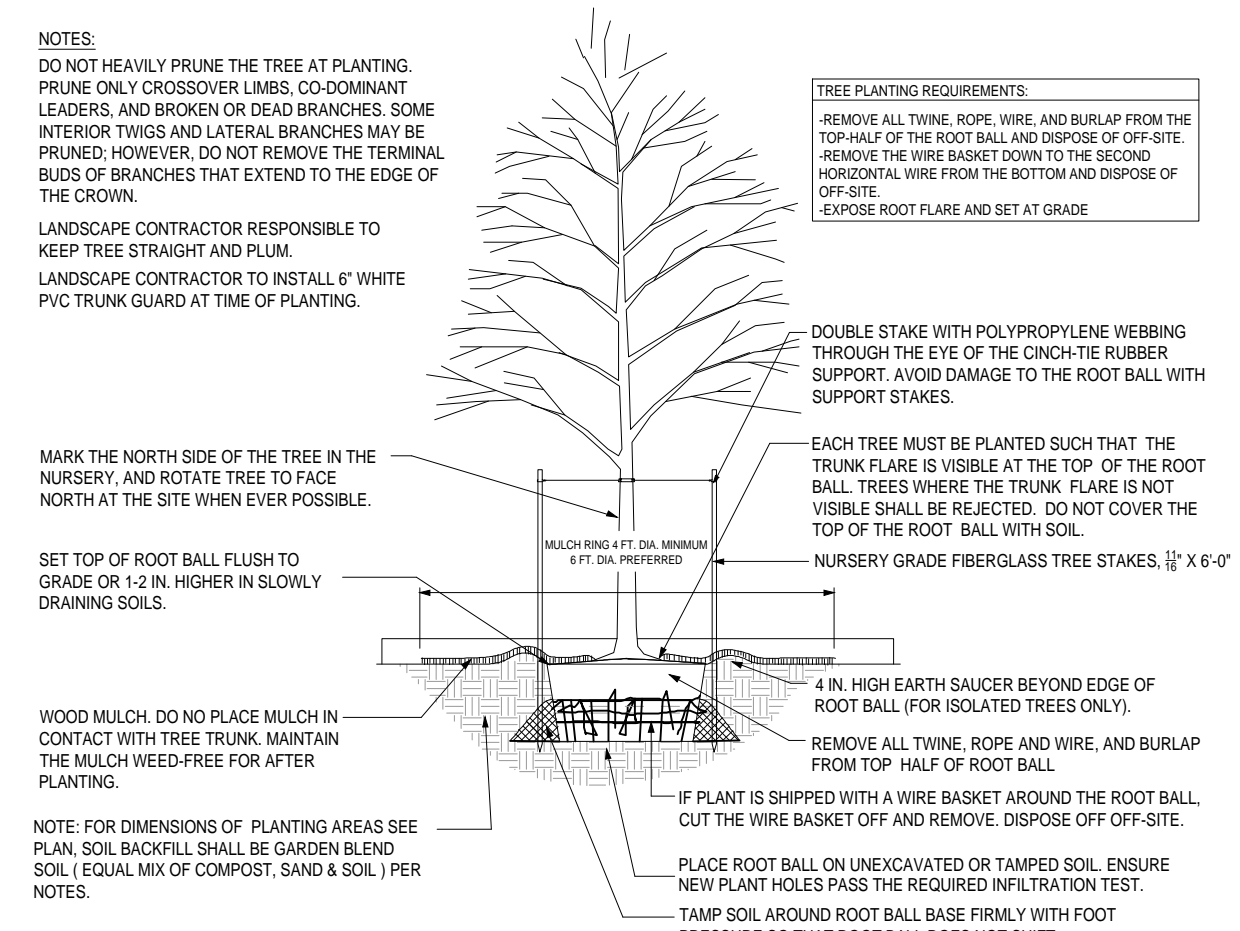
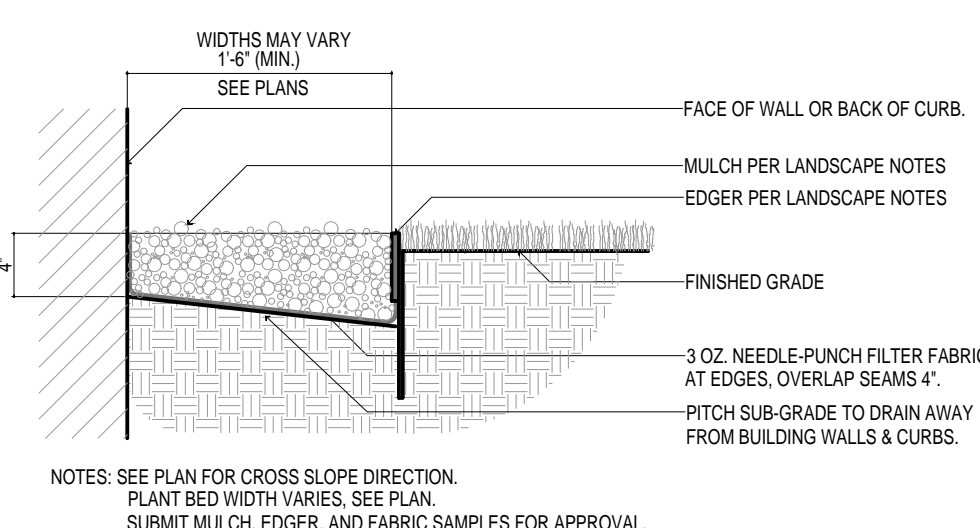
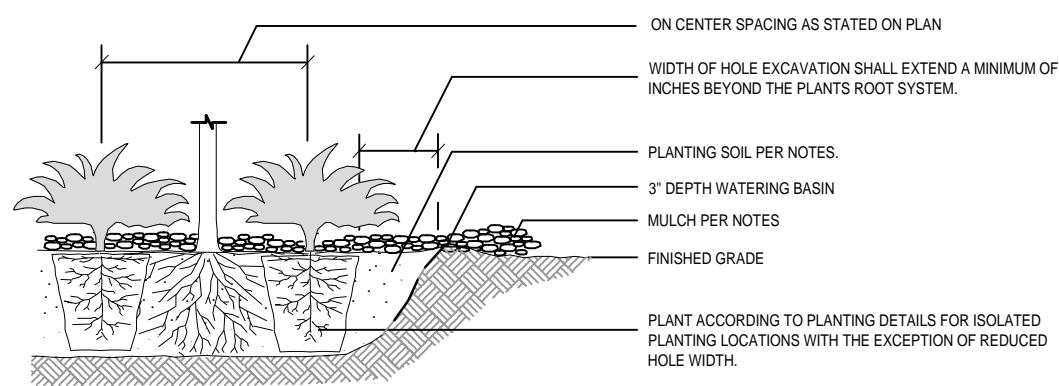
PROJECT: 24131  
 SHEET NO.  
**L1.1**

## Landscape Notes + Requirements:

- Tree saucer mulch to be four inches (4") depth natural single-shred hardwood mulch for trees outside of a plant bed. Install per tree planting detail, including PVC trunk guards.
- Refer to civil plan sheets for grading, drainage, site dimensions, survey, proposed utilities & erosion control.
- All plant material shall comply with the latest edition of the American Standard for Nursery Stock, American Association of Nurserymen. Unless noted otherwise, deciduous shrubs shall have at least 5 canes at the specified shrub height. Plant material shall be delivered as specified. Deciduous tree diameter is measured at breast-height (40" above final grade), in accordance with National Forestry and ANSI standards. Coniferous tree height is measured following planting installation, and is measured from final grade to the tip of the central leader. Bidders submitting pricing accept the above measurement conditions.
- Plan takes precedence over plant schedule if discrepancies in quantities exist.
- All proposed plants shall be located and staked as shown.
- The project landscape contractor shall be held responsible for watering and properly handling all plant materials brought on the site both before and after installation. Schedule plant deliveries to coincide with expected installation time within 36 hours.
- All plant materials shall be fertilized upon installation as specified.
- The landscape contractor shall provide the owner with a watering schedule appropriate to the project site conditions and to plant material growth requirements.
- If the landscape contractor is concerned or perceives any deficiencies in the plant selections, soil conditions, drainage or any other site condition that might negatively affect plant establishment, survival or guarantee, they must bring these deficiencies to the attention of the landscape architect & client prior to bid submission. Plant bed drainage concerns during plant installation shall be brought to the attention of the Owner and General Contractor immediately.
- Contractor shall establish to their satisfaction that soil and compaction conditions are adequate to allow for proper drainage at and around the building site.
- Contractor is responsible for ongoing maintenance of all newly installed material until time of owner acceptance. Any acts of vandalism or damage which may occur prior to owner acceptance shall be the responsibility of the contractor. Contractor shall provide the owner with a maintenance program including, but not limited to, pruning, fertilization and disease/pest control.
- The contractor shall guarantee newly planted material through TWO calendar years from the date of passing the City of Ramsey's landscape inspection. Plants that exhibit more than 20% die-back damage shall be replaced at no additional cost to the owner. The contractor shall provide PVC tree trunk guards for all deciduous trees. Landscape contractor shall provide additional deer browse fencing protection measures for the plantings during the warranty period, as needed.
- This layout plan constitutes our understanding of the landscape requirements listed in the ordinance. Changes and modifications may be requested by the city based on applicant information, public input, council decisions, etc.
- The landscape contractor shall be responsible for obtaining any permits and coordinating inspections as required throughout the work process.
- Both plant species substitutions and plan changes to plant locations will require approval of the City of Ramsey prior to installation. Landscape contractor is required to document approved changes.
- The landscape contractor shall furnish an Irrigation Layout Plan for head-to-head coverage of all tree, turf and shrub planting areas. Use commercial-grade irrigation equipment and provide product cut-sheets and (4) copies of the proposed layout plan to the Owner for review and approval. Coordinate irrigation connection point, controller, back-flow, rain sensor, sleeving, and valve locations with the general contractor. All irrigation systems must include a rain sensor and utilize water efficient technology, such as a weather-smart controller, moisture sensor, etc.
- All edger shall be Commercial Grade 5" Black Polyethylene with 1" bull-nose. Anchor every 48" on-center (minimum). Submit edger sample.
- Landscape Contractor is responsible for coordination with the General Contractor, to protect the new improvements on and off-site during landscape work activities. Report any damage to the General Contractor immediately.
- Mulch: Where noted per plan, wood mulch areas shall receive 4" depth of locally available natural single-shred Western Red Cedar wood mulch over fabric weed mat, per detail. Submit mulch sample for Owner approval. Do not install weed mat under perennials, with the exception of ornamental grasses. Dyed mulch is not accepted.
- Ensure topsoil inspection is scheduled with the City of Ramsey no less than 5 days before planting is scheduled to occur. Corrections required by the city must be made & approved by the city prior to the start of landscape work.
- All planting, seeding, and sodded areas shall be prepared prior to installation activities with a harley power box rake or equal to provide a firm planting bed free of stones, sticks, construction debris, etc.
- Turf installation activity shall conform to all rules and regulations as established in the MnDOT Seeding Manual, 2024 edition, for turf bed preparation, installation, maintenance, and warranty.
- The Landscape Contractor shall furnish samples of all landscape materials for approval prior to installation.
- The Landscape Contractor shall clear and grub the underbrush from within the work limits to remove dead branches, leaves, trash, weeds and foreign materials. Remove trees where noted on the plan, including the stump to 30" below grade.
- The landscape contractor shall contact Gopher State One Call no less than 48 hours before digging for field utility locations.
- The landscape contractor shall be responsible for the removal of erosion control measures once vegetation has been established to the satisfaction of the municipal staff. This includes silt curtain fencing and sediment logs placed in the landscape.
- The landscape contractor shall be responsible for visiting the site to become familiar with the conditions prior to bidding and installation. Coordinate with the general contractors on matters such as fine grading, landscaped area conditions, staging areas, irrigation connection to building, etc.
- See Site and Civil Plans for grading, utilities, and additional information regarding the project.
- Topsoil per City of Ramsey required detail ERO-6 for topsoil requirements. Slope away from building.
- Landscape contractor must prove the open sub-grade of all planting areas after their excavation is capable of infiltrating a minimum requirement of 1/4-inch of water per hour prior to installation of plant materials, topsoil, irrigation, weed mat, and mulch. Planting areas not capable of meeting this requirement shall have 4" diameter X 48" depth holes augured every 36" on-center and filled with MnDOT Free-Draining Coarse Filter Aggregate. Re-test sub-grade percolation for compliance to infiltration minimum requirement.
- Fencing (if noted) per Architect's Plans and Specifications.

## PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
<b>DECIDUOUS ORNAMENTAL TREES</b>						
	AI	Alnus glutinosa 'Imperialis'	Imperial Black Alder	1.5' Cal.	B&B	3
	CI	Crataegus crus-galli inermis	Thornless Cockspur Hawthorn	1.5' Cal.	B&B	3
	MS	Malus x 'Spring Snow'	Spring Snow Crab Apple	1.5' Cal.	B&B	4
	SI	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	1.5' Cal.	B&B	4
<b>DECIDUOUS OVERSTORY TREE</b>						
	AS	Acer x freemanii 'Sienna'	Sienna Glen Maple	2" Cal.	B&B	9
	AA	Acer x freemanii 'Jeffersred'	Autumn Blaze® Freeman Maple	2" Cal.	B&B	6
	BR	Betula nigra	River Birch	2" Cal.	B&B	2
	GI	Gleditsia triacanthos inermis 'Skycote'™	Skyline Thornless Honey Locust	2" Cal.	B&B	4
	QB	Quercus bicolor	Swamp White Oak	2" Cal.	B&B	2
	QR	Quercus rubra	Northern Red Oak	2" Cal.	B&B	5
	UP	Ulmus americana 'Princeton'	Princeton American Elm	2" Cal.	B&B	8
<b>EVERGREEN TREES</b>						
	PD	Picea glauca 'Densata'	Black Hills Spruce	6' Hgt.	B&B	10
	SP	Pinus sylvestris	Scotch Pine	6' Hgt.	B&B	11
<b>SHRUBS</b>						
	Am	Aronia melanocarpa 'Morton'™	Iroquis Beauty Black Chokeberry	5 gal. (Min. 24" Hgt.)	Pot	54
	Cg	Cornus racemosa	Gray Dogwood	5 gal. (Min. 24" Hgt.)	Pot	34
	CI2	Cornus sericea 'Isanti'	Isanti Redosier Dogwood	5 gal. (Min. 24" Hgt.)	Pot	36
	Jf	Juniperus chinensis 'Sea Green'	Sea Green Juniper	5 gal. (Min. 24" Hgt.)	Pot	52
	Vb	Viburnum trilobum 'Bailey Compact'	Compact American Cranberry Bush	5 gal. (Min. 24" Hgt.)	Pot	61



## Irrigation Notes + Requirements:

- LAYOUT WORK AS ACCURATELY AS POSSIBLE TO THE CONTRACTOR PROVIDED AND OWNER-APPROVED IRRIGATION LAYOUT PLANS. THE CONTRACTOR MAY MAKE MINOR ADJUSTMENTS TO THE LOCATION AND SPACING AS NECESSARY TO ACCOMMODATE ACTUAL CONDITIONS. HEAD LOCATIONS SHALL BE FLAGGED AND REVIEWED BY THE OWNER'S REP. PRIOR TO INSTALLATION.
- COORDINATE SLEEVING AND IRRIGATION PIPE / HEAD / INTERNAL PLUMBING INSTALLATION WITH THE WORK OF OTHERS.
- ALL MATERIALS SHALL BE INSTALLED AS DETAILED ON DRAWINGS. (HOWEVER, IF THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS DO NOT THOROUGHLY DESCRIBE THE METHOD OR TECHNIQUES TO BE USED, THE CONTRACTOR SHALL FOLLOW THE INSTALLATION METHODS ISSUED BY THE MANUFACTURER. ALL SUCH LITERATURE MUST BE SUBMITTED 2 WEEKS PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.)
- CHECK AND VERIFY ALL EXISTING AND PROPOSED SITE CONDITIONS, UTILITIES AND SERVICES PRIOR TO TRENCHING.
- LATERAL PIPING TO BE A MINIMUM OF 12 INCHES DEEP AND MAINLINES A MINIMUM OF 18 INCHES DEEP.
- ALL MAIN LINE PIPING AND LATERAL PIPE OF 1-1/2" AND LARGER SHALL BE PVC (SDR 26 / CLASS 160). ALL OTHER LATERAL PIPE OF 1-1/4" AND SMALLER MAY BE POLYETHYLENE, UNLESS OTHERWISE NOTED ON THE PLANS. BUILDING CONNECTIONS ARE TO BE COPPER. TRACER WIRE IS REQUIRED ON ALL MAIN AND LATERAL LINES. SLEEVE LOCATIONS ARE TO BE MARKED ON THE SIDEWALK OR CURB, SO THEY CAN BE FOUND AFTER FINE GRADING.
- ALL TEES AND ELBOWS ON MAIN LINES SHALL BE PVC (160 PSI).
- IRRIGATION EQUIPMENT SHALL HUNTER, RAINBIRD, OR TORO BRAND HEADS, VALVES, AND ROTORS. MATCH EXISTING EQUIPMENT BRAND ON-PROPERTY.
- ADJUST HEADS FOR GRADE, AS NECESSARY, AFTER TURF GRASS HAS BEEN ESTABLISHED AND ALL SETTLEMENT AT HEADS HAS OCCURRED.
- SUBMIT IRRIGATION PRODUCT DATA TO OWNER FOR REVIEW AND APPROVAL.
- USE TEFLON TAPE ON ALL THREADED JOINTS.
- CONDUCT PERFORMANCE TEST IN THE PRESENCE OF OWNER AND ARCHITECT FOLLOWING COMPLETION OF SYSTEM INSTALLATION.
- CONDUCT AND DEMONSTRATE WINTERIZATION AND SPRING START-UP PROCESS TO OWNER IN THE FALL OF COMPLETION.
- IRRIGATION LINE LOCATIONS SUBJECT TO CHANGE IN THE FIELD, AS CONTRACTOR DEEMS NECESSARY.
- OVER-SPRAY OF THE IRRIGATION SYSTEM ON TO ADJACENT WALKS AND ASPHALT PAVING IS NOT ACCEPTABLE. DO NOT INSTALL ANY IRRIGATION EQUIPMENT OUTSIDE OF THIS PROPERTY LIMITS, UNLESS APPROVED BY THE CITY.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A COMPLETE IRRIGATION LAYOUT PLAN SET AND SUBMITTING TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF FIELD INSTALLATION.
- SUBMIT LAYOUT PLAN AND PRODUCT DATA TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- IRRIGATION BID SHALL INCLUDE (1) FALL SHUT-DOWN AND (1) SPRING START-UP.
- PROVIDE THE OWNER WITH AN AS-BUILT PLAN, INCLUDING THE EXISTING SYSTEM AS WELL AS NEWLY INSTALLED MATERIALS.
- IRRIGATION CONTRACTOR TO VERIFY WATER PRESSURE FOLLOWING CONSTRUCTION OF THE BUILDING UTILITIES. ADJUSTMENT OF PIPE AND VALVE SIZES MAY BE REQUIRED, BASED ON ACTUAL GPM AND PSI AVAILABLE.
- PROVIDE A PRINTED 8.5X11 MAP OF ALL ZONES AFTER NEW CONTROLLER IS WIRED AND TESTED.
- IRRIGATION MECHANICALS TO INCLUDE BOILER DRAIN BEFORE BACKFLOW DEVICE FOR WINTERIZATION.
- IRRIGATION DESIGN TO INCLUDE A QUICK-COUPLE VALVE ON THE MAIN BEFORE THE FIRST VALVE FOR WINTERIZATION.
- IRRIGATION IS NOW ALLOWED IN THE BIOFILTRATION BASIN.
- ENSURE THE IRRIGATION SYSTEM INCLUDES A WIRED RAIN SENSOR, PER STATE PLUMBING CODE.
- OBTAIN A PERMIT AS REQUIRED BY THE CITY FOR THE IRRIGATION SYSTEM. INCLUDE COST OF PERMIT IN BID.
- INCLUDE A SEPARATE WATER METER FOR IRRIGATION USE FROM THE CITY. INCLUDE COST IN BID.

**CALYX DESIGN GROUP**  
Landscape Architecture & Planning

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PHONE: 651.788.9018  
www.calyxdesigngroup.com

**PRELIMINARY**

ISSUE DATE: 06/14/2024	HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRAWN BY: HL	
CHECKED BY: BH	
DATE: xx/xx/xxxx	LIC. NO.: 48084

REVISIONS	
06/14/2024	Initial City Submittal
07/08/2024	City Re-submittal
07/17/2024	Driveway Adjustment

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U-HAUL OF RAMSEY  
RIVERSTONE DRIVE  
RAMSEY, MINNESOTA


LANDSCAPE DETAILS,  
NOTES, & SCHEDULES

PROJECT: 24131  
SHEET NO.  
**L1.2**

**STORM BASIN - SEED MIX REQUIREMENTS & MAINTENANCE:**

Wet Ditch					
Abbreviation: WD					
Purpose:	Wet ditches and stormwater plantings in full sun or part shade; areas that get mowed once per year or less. This mix meets pollinator habitat requirements.				
Planting Area:	Statewide				
Replaces:	33-261 Stormwater S & W; 33-361 Stormwater NE				
Cost Estimate:	\$1,000/acre (36-261 averages \$900/acre & 33-361 averages \$1,125/acre)				
Common Name	Scientific Name	Rate (lb/ac)	% of Mix (by weight)	% by Seed	Seeds/ sq ft
Big Bluestem	<i>Andropogon gerardii</i>	1.00	5.00%	1.10%	3.67
Fringed Brome	<i>Bromus ciliatus</i>	1.50	7.50%	1.81%	6.06
Bluejoint	<i>Calamagrostis canadensis</i>	0.05	0.25%	1.54%	5.14
Nodding Wild Rye	<i>Elymus canadensis</i>	2.00	10.00%	1.14%	3.82
Virginia Wild Rye	<i>Elymus virginicus</i>	4.00	20.00%	1.85%	6.17
Tall Fescue	<i>Lolium perenne</i>	0.15	0.75%	1.15%	3.86
Rice Cut Grass	<i>Leersia oryzoides</i>	0.30	1.50%	1.12%	3.75
Perennial Ryegrass	<i>Lolium perenne</i>	6.00	30.00%	8.94%	29.89
Switchgrass	<i>Panicum virgatum</i>	0.50	2.50%	0.77%	2.57
Fowl Bluegrass	<i>Poa palustris</i>	1.00	5.00%	%	47.75
<b>Grasses Subtotal</b>		<b>16.50</b>	<b>82.50%</b>	<b>33.70%</b>	<b>112.68</b>
Porcupine Sedge	<i>Carex hystericina</i>	0.10	0.50%	0.33%	1.10
Awl-fruited Sedge	<i>Carex stipata</i>	0.05	0.25%	0.19%	0.62
Fox Sedge	<i>Carex vulpinoidea</i>	0.10	0.50%	1.10%	3.67
Dudley's Rush	<i>Juncus dudleyi</i>	0.05	0.25%	%	58.77
Dark Green Bulrush	<i>Scirpus atrovirens</i>	0.10	0.50%	0.05%	16.90
Woolgrass	<i>Scirpus cyperinus</i>	0.10	0.50%	%	62.44
<b>Sedges &amp; Rushes Subtotal</b>		<b>0.50</b>	<b>2.50%</b>	<b>42.92%</b>	<b>143.51</b>
Canada Anemone	<i>Anemone canadensis</i>	0.05	0.25%	0.04%	0.15
Marsh Milkweed	<i>Asclepias incarnata</i>	0.25	1.25%	0.13%	0.44
Common Milkweed	<i>Asclepias syriaca</i>	0.20	1.00%	0.09%	0.29
Canada Milkweeth	<i>Astragalus canadensis</i>	0.50	2.50%	0.93%	3.12
Nodding Bur Marigold	<i>Bidens cernua</i>	0.10	0.50%	0.23%	0.77
Canada Tick Trefoil	<i>Desmodium canadense</i>	0.50	2.50%	0.30%	1.01
Flat-topped Aster	<i>Dosiligeria umbellata</i>	0.05	0.25%	0.37%	1.23
Common Boneset	<i>Eupatorium perfoliatum</i>	0.05	0.25%	0.88%	2.94
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	0.03	0.15%	1.15%	3.86
Spotted Joe Pye Weed	<i>Eutrochium maculatum</i>	0.06	0.30%	0.63%	2.09
Autumn Sneezeweed	<i>Helenium autumnale</i>	0.10	0.50%	1.43%	4.78
Sawtooth Sunflower	<i>Helianthus grosseserratus</i>	0.06	0.30%	0.10%	0.33
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.17	0.85%	0.21%	0.69
Great Lobelia	<i>Lobelia siphillica</i>	0.05	0.25%	2.75%	9.18
Blue Monkey Flower	<i>Mimulus ringens</i>	0.03	0.15%	7.56%	25.34
Obedient Plant	<i>Physostegia virginiana</i>	0.06	0.30%	0.07%	0.24
Cut-leaf Coneflower	<i>Rudbeckia laciniata</i>	0.10	0.50%	0.15%	0.51
Stiff Goldenrod	<i>Solidago rigida</i>	0.10	0.50%	0.45%	1.51
Eastern Panicled Aster	<i>Symphoricarpos lanceolatum</i>	0.05	0.25%	0.86%	2.87
Red-stemmed Aster	<i>Symphoricarpos punctum</i>	0.05	0.25%	0.44%	1.47
Tall Meadow Rue	<i>Thalictrum dasycarpum</i>	0.10	0.50%	0.22%	0.73
Blue Vervain	<i>Verbena hastata</i>	0.15	0.75%	1.53%	5.12
Culver's Root	<i>Veronicastrum virginicum</i>	0.03	0.15%	2.64%	8.82
Golden Alexanders	<i>Zizia aurea</i>	0.16	0.80%	0.19%	0.65
<b>Forbs Subtotal</b>		<b>3.00</b>	<b>15.00%</b>	<b>23.37%</b>	<b>78.14</b>
<b>Total</b>		<b>20.00</b>	<b>100%</b>	<b>100%</b>	<b>334.33</b>

**NATIVE SEED MIX:**

 Native Seed Areas noted per plan: (unless otherwise noted on civil plans), shall be: MnDOT 'Wet Ditch' native seed mixture for Stormwater Treatment Basin South & West, drilled into the topsoil layer at 20.0 lbs per acre. Submit seed mix for approval. Grading and Erosion Control per Civil Plans and Specifications.

Add 20lbs per acre of MnDOT 21-111 Oats Cover Crop.

**STORM BASIN - ADDITIONAL NOTES:**

- Contractor to furnish and install MnDOT Seed Mix 'Wet Ditch (WD)' at the specified rate of 20 lbs/acre.
- Add additional oats at time of installation to improve site appearance.
- Certified Prairie Installer to be used for the implementation and 3 year maintenance of the MnDOT seed mix on site.
- DSV Northstar Seed Ltd. can be used for substitution or source of native seed mixes that meet MnDOT standards.


**METHOD OF INSTALLING:**

**Drop Seeding**  
This is the "standard" method for seeding on prepared sites such as those on construction projects where there is suitable access for standard drop seeding equipment.  
A) Seed Installation - Seed should be installed with a drop seeder that will accurately meter the types of seed to be planted, keep all seeds uniformly mixed during the seeding and contain drop seed tubes for seed placement (Brillion-type). The drop seeder should be equipped with a culti-packer assembly to ensure good seed-to-soil contact. For Roadside and Wet Ditch seed mixes, the seeder should contain a minimum of three

**NATIVE SEED - SEED MIX REQUIREMENTS & MAINTENANCE:**

Southern Shortgrass Roadside					
Abbreviation: SSR					
Purpose:	In slopes and medians; full sun to part-shade; any site with dry soils that will get mowed twice per year or less. This mix meets pollinator habitat requirements.				
Planting Area:	Southern 2/3 of MN; MnDOT Districts 3B, 4, 7, 8, & Metro.				
Replaces:	35-221 Dry Prairie General & 36-211 Woodland Edge S & W				
Cost Estimate:	\$950/acre (35-221 averages \$860/acre, 36-211 averages \$1,200/acre)				
Common Name	Scientific Name	Rate (lb/ac)	% of Mix (by weight)	% by Seed	Seeds/ sq ft
Side-oats Grama	<i>Bouteloua curtipendula</i>	3.50	13.46%	5.16%	7.71
Blue Grama	<i>Bouteloua gracilis</i>	0.90	3.46%	8.84%	13.22
Kalm's Brome	<i>Bromus kalmii</i>	0.90	3.46%	1.77%	2.64
Short Sedge	<i>Carex brevior</i>	0.10	0.38%	0.71%	1.07
Nodding Wild Rye	<i>Elymus canadensis</i>	2.50	9.62%	3.19%	4.78
Slender Wheatgrass	<i>Elymus trachycalus</i>	6.00	23.08%	10.16%	15.21
Junegrass	<i>Koeleria macrantha</i>	0.10	0.38%	4.91%	7.35
Perennial Ryegrass	<i>Lolium perenne</i>	6.00	23.08%	19.98%	29.89
Little Bluestem	<i>Schizachyrium scoparium</i>	3.00	11.54%	11.05%	16.53
<b>Grasses Subtotal</b>		<b>23.00</b>	<b>88.46%</b>	<b>65.76%</b>	<b>98.39</b>
Leadplant	<i>Amorpha canescens</i>	0.15	0.58%	0.45%	0.67
Long-headed Thimbleweed	<i>Anemone cylindrica</i>	0.04	0.00%	0.26%	0.38
Prairie Sage	<i>Artemisia ludoviciana</i>	0.05	0.19%	3.07%	4.59
Butterfly Milkweed	<i>Asclepias tuberosa</i>	0.10	0.38%	0.11%	0.16
Whorled Milkweed	<i>Asclepias verticillata</i>	0.05	0.19%	0.14%	0.20
Partridge Pea	<i>Chamaecrista fasciculata</i>	0.60	2.31%	0.40%	0.60
Purple Prairie Clover	<i>Dalea purpurea</i>	0.50	1.92%	1.84%	2.75
Tall Cinerfoil	<i>Dymalis angustifolia</i>	0.06	0.00%	3.39%	5.07
Narrow-leaved Purple Coneflower	<i>Echinacea angustifolia</i>	0.06	0.23%	0.10%	0.15
Stiff Sunflower	<i>Helianthus pauciflorus</i>	0.06	0.23%	0.06%	0.09
Alumroot	<i>Heuchera richardsonii</i>	0.04	0.15%	6.87%	10.28
Round-headed Bush Clover	<i>Lespedeza capitata</i>	0.20	0.77%	0.39%	0.59
Rough Blazing Star	<i>Liatris aspera</i>	0.05	0.19%	0.20%	0.29
Wild Bergamot	<i>Monarda fistulosa</i>	0.05	0.19%	0.86%	1.29
Prairie Coneflower	<i>Ratibida columnifera</i>	0.15	0.58%	1.55%	2.31
Black-eyed Susan	<i>Rudbeckia hirta</i>	0.25	0.96%	5.65%	8.45
Gray Goldenrod	<i>Solidago nemoralis</i>	0.05	0.19%	3.68%	5.51
Stiff Goldenrod	<i>Solidago rigida</i>	0.06	0.23%	0.60%	0.90
Heath Aster	<i>Symphoricarpos ericoides</i>	0.05	0.19%	2.45%	3.67
Sky-blue Aster	<i>Symphoricarpos cullenianus</i>	0.05	0.19%	0.98%	1.47
Prairie Rose	<i>Rosa arkansana</i>	0.10	0.38%	0.02%	0.03
Bracted Goldenrod	<i>Tradescantia bracteata</i>	0.08	0.31%	0.20%	0.29
Hoary Vervain	<i>Verbena stricta</i>	0.10	0.38%	0.69%	1.03
Heart-leaved Alexanders	<i>Zizia aurea</i>	0.10	0.38%	0.29%	0.44
<b>Forbs Subtotal</b>		<b>3.00</b>	<b>11.12%</b>	<b>34.24%</b>	<b>51.23</b>
<b>Total</b>		<b>26.00</b>	<b>100%</b>	<b>100%</b>	<b>149.63</b>

**NATIVE SEED MIX:**

 Native Seed Areas noted per plan: (unless otherwise noted on civil plans), shall be: MnDOT 'Southern Shortgrass Roadside' native seed mixture for areas adjacent to on-site parking, referenced on Landscape Sheet L1.1. Submit seed mix for approval. Grading and Erosion Control per Civil Plans and Specifications.

Add 20lbs per acre of MnDOT 21-111 Oats Cover Crop.

**NATIVE SEED AREA - ADDITIONAL NOTES:**

- Contractor to furnish and install MnDOT Seed Mix 'Southern Shortgrass Roadside (SSR)' at the specified rate of 26 lbs/acre.
- Add additional oats at time of installation to improve site appearance.
- Certified Prairie Installer to be used for the implementation and 3 year maintenance of the MnDOT seed mix on site.
- DSV Northstar Seed Ltd. can be used for substitution or source of native seed mixes that meet MnDOT standards.

**METHOD OF INSTALLING:**

**Drop Seeding**  
This is the "standard" method for seeding on prepared sites such as those on construction projects where there is suitable access for standard drop seeding equipment.  
A) Seed Installation - Seed should be installed with a drop seeder that will accurately meter the types of seed to be planted, keep all seeds uniformly mixed during the seeding and contain drop seed tubes for seed placement (Brillion-type). The drop seeder should be equipped with a culti-packer assembly to ensure good seed-to-soil contact. For Roadside and Wet Ditch seed mixes, the seeder should contain a minimum of three

**NATIVE SEED REQUIRED MAINTENANCE - 3 YRS:**

**Native Grass and Forb Mixtures (mixtures beginning with the number 3)**

**Year 1**

- Establishment (spring seeding):**
- Prepare site - Late April - May
  - Seed - May 1 - June 1

**Maintenance:**

- Mow (6-8 inches) - every 30 days after planting until September 30.
- Weed Control - mowing should help control annual weeds. Spot spray thistles, etc.

**Establishment (fall seeding):**

- Prepare site - Late August - early September
- Seed - late September to freeze-up

**Maintenance (following season):**

- Mow (6-8 inches) - once in May, June, and July
- Weed Control - mowing should keep annual weeds down. Spot spray thistles, etc.

**Evaluation:**

- Cover crop growing within 2 weeks of planting (except dormant plantings).
- Seedlings spaced 1-6 inches apart in drill rows.
- Native grass seedlings may only be 4-6 inches tall.
- If there is a flush of growth from foxtail etc., mow as necessary.

**Year 2**

**Maintenance:**

- Mow (6-8 inches) one time between June 1 - August 15 before weeds set seed.
- Weed Control - mowing should keep annual weeds down. Spot spray thistles, etc.
- Some sites may not require much maintenance the second year.

**Evaluation:**

- Cover crop will be gone unless winter wheat was used in a fall planting.
- Grasses forming clumps 1-6 inches apart in drill rows, but still short.
- Some flowers should be blooming (black-eyed Susans, bergamot, etc.).
- If there is a flush of growth from foxtail etc., mow site.

**Year 3**

**Maintenance:**

- Mow only if necessary.
- Weed Control - Spot spray thistles, etc.
- Sites usually do not require much maintenance the third year.

**Evaluation:**

- Planting should begin looking like a prairie - tall grasses, flowers, etc.

**Long-term**

**Maintenance:**

- Weed Control - Spot spray thistles, etc.
- Burning (3-5 year rotation) alternate spring and fall if possible.
- Haying (3-5 year rotation) late summer or early fall. Alternate with burning (may substitute for burning).
- Burning two years in a row will really "clean up" rough-looking sites.

**NATIVE SEEDING INSTALLATION METHOD:**

**Drop Seeding Onto Tilled Sites**

This is the "standard" method for seeding on prepared sites such as those on construction projects.

- Site Preparation:** The site should be prepared by loosening topsoil to a minimum depth of 3 inches.
- Fertilizer:** Use a fertilizer analysis based on a soil test or a general recommendation is a 10-10-10 (NPK) commercial grade analysis at 200 lbs/acre.
- Seed Installation:** Seed should be installed with a drop seeder that will accurately meter the types of seed to be planted, keep all seeds uniformly mixed during the seeding and contain drop seed tubes for seed placement (Brillion-type). The drop seeder should be equipped with a cultipacker assembly to ensure seed-to-soil contact.
- Seeding Rates:** Rates are specified in the mixture tabulation for the specified mix.
- Packing:** If the drop seeder is not equipped with a cultipacker, the site should be cultipacked following the seeding to ensure seed-to-soil contact.
- Mulch:** Cover soil with a hydromulch consisting of natural wood fiber or paper fiber, water, and M-Binder at 100 lbs per acre.

Note: Heavy equipment is not allowed in the infiltration basins to keep soils from getting compacted. If any compaction occurs due to seeding operations, the soils must be uncompacted.

**CALYX DESIGN GROUP**  
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ISSUE DATE: 06/14/2024	HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.	REVISIONS
DRAWN BY: HL		06/14/2024 Initial City Submittal
CHECKED BY: BH		07/08/2024 City Re-submittal
		07/17/2024 Driveway Adjustment
	DATE: xx/xx/xxxx LIC. NO.: 48084	

**PRELIMINARY**

**DEMARC**  
LAND SURVEYING & ENGINEERING  
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U-HAUL OF RAMSEY  
RIVERSTONE DRIVE  
RAMSEY, MINNESOTA

LANDSCAPE DETAILS,  
NOTES, & SCHEDULES

PROJECT: 24131  
SHEET NO.  
**L1.3**