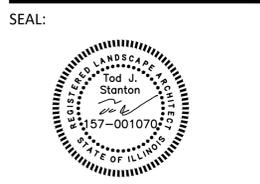


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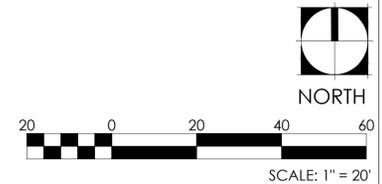


ANY AND ALL LANDSCAPE AREAS WITHIN THE SITE SHALL BE DE-WEEDED, MOWED, TRIMMED, EDGED, DEAD/DAMAGED LANDSCAPE MATERIAL REPLACED, BEDS EDGED, ETC. BY THE LANDSCAPE CONTRACTOR TO PROVIDE AN AESTHETICALLY PLEASING APPEARANCE. (TYPICAL.)

DATE: 3/29/2024
JOB NO.: 24-A321T
DRAWN BY: TS
CHECKED BY: TS

DRAWING TITLE:
LANDSCAPE PLAN-
NORTH

SHEET NO.:
L1.01



Wetland Seed Mixes

WETLAND EDGE

This is a wetland and pond-edge seed mix for sites with stable, saturated soil conditions and good water quality. When established, the deep-rooted native plants will stabilize the soil and provide food and cover for many species of native fauna. Some plant species will spread to water depths of up to four inches. This seed mix includes at least 12 of 15 native permanent grass and sedge species and 19 of 26 native forb species. Apply at 36.63 PLS pounds per acre.

| Botanical Name | Common Name | PLS Oz/Acre |
|--|------------------------|---------------|
| Permanent Grasses/Sedges/Rushes | | |
| <i>Bolboschoenus floridanus</i> | River Bulrush | 4.00 |
| <i>Carex crinitella</i> | Crested Oval Sedge | 0.50 |
| <i>Carex lurida</i> | Bottlebrush Sedge | 2.00 |
| <i>Carex vulpinoidea</i> | Brown Fox Sedge | 2.00 |
| <i>Echinochloa obtusa</i> | Blunt Spike Rush | 0.50 |
| <i>Elymus virginicus</i> | Virginia Wild Ryegrass | 24.00 |
| <i>Glyceria striata</i> | Fowl Manna Grass | 1.00 |
| <i>Juncus effusus</i> | Common Rush | 1.00 |
| <i>Leersia oryzoides</i> | Rice Cut Grass | 0.50 |
| <i>Schoenoplectus purpurascens</i> | Chalkmark's Rush | 1.00 |
| <i>Schoenoplectus tabernaemontani</i> | Great Bulrush | 2.50 |
| <i>Scirpus atrovirens</i> | Dark Green Rush | 1.00 |
| <i>Scirpus cyperinus</i> | Wool Grass | 1.00 |
| | | Total |
| | | 37.00 |
| Temporary Cover | | |
| <i>Arena sativa</i> | Common Oat | 512.00 |
| | | Total |
| | | 512.00 |
| Forbs | | |
| <i>Acorus americanus</i> | Sweet Flag | 1.00 |
| <i>Alisma subcordatum</i> | Common Water Plantain | 2.00 |
| <i>Asclepias tuberosa</i> | Swamp Milkweed | 2.00 |
| <i>Bidens</i> spp. | Bidens Species | 2.00 |
| <i>Eupatorium perfoliatum</i> | Common Boneset | 1.00 |
| <i>Helenium autumnale</i> | Sneezeweed | 2.00 |
| <i>Iris</i> spp. | Blue Flag Species | 4.00 |
| <i>Lycopus americanus</i> | Common Water Horehound | 0.50 |
| <i>Mimulus ringens</i> | Monkey Flower | 1.00 |
| <i>Pentstemon sedoides</i> | Ditch Stonewort | 0.50 |
| <i>Penstemon</i> spp. | Pinkweed Species | 2.00 |
| <i>Rudbeckia subtomentosa</i> | Sweet Black-Eyed Susan | 1.00 |
| <i>Rudbeckia triloba</i> | Brown-Eyed Susan | 1.50 |
| <i>Sagittaria latifolia</i> | Common Arrowhead | 1.00 |
| <i>Senna hebecarpa</i> | Wild Senna | 2.00 |
| <i>Spartanum eurycarpum</i> | Common Bur Reed | 4.00 |
| <i>Symphoricarpos lanceolatum</i> | Panicled Aster | 0.50 |
| <i>Symphoricarpos punctatum</i> | Bristly Aster | 0.50 |
| <i>Thalictrum dasycarpum</i> | Purple Meadow Rue | 0.50 |
| <i>Verbena hastata</i> | Blue Vervain | 1.50 |
| <i>Verbena alternifolia</i> | Wingstem | 2.00 |
| <i>Veronica fasciculata</i> | Common Ironweed | 2.00 |
| | | Total |
| | | 37.00 |

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Specialty Seed Mixes

STORMWATER

A wetland seed mix for saturated soils in a detention pond or for seeding a saturated basin, this mix will tolerate highly fluctuating water levels and poor water quality associated with urban stormwater wetlands and ponds. For detention basins that experience long, dry periods, use the Economy Prairie seed mix in the upper third to half of the basin area in combination with this mix. This seed mix includes at least 10 of 13 native permanent grass and sedge species and 13 of 17 native forb species. Apply at 36.38 PLS pounds per acre.

| Botanical Name | Common Name | PLS Oz/Acre |
|--|------------------------|---------------|
| Permanent Grasses/Sedges/Rushes | | |
| <i>Bolboschoenus floridanus</i> | River Bulrush | 4.00 |
| <i>Carex crinitella</i> | Crested Oval Sedge | 0.50 |
| <i>Carex lurida</i> | Bottlebrush Sedge | 2.00 |
| <i>Carex vulpinoidea</i> | Brown Fox Sedge | 2.00 |
| <i>Echinochloa obtusa</i> | Blunt Spike Rush | 0.50 |
| <i>Elymus virginicus</i> | Virginia Wild Ryegrass | 24.00 |
| <i>Glyceria striata</i> | Fowl Manna Grass | 1.00 |
| <i>Juncus effusus</i> | Common Rush | 1.00 |
| <i>Leersia oryzoides</i> | Rice Cut Grass | 1.00 |
| <i>Panicum virgatum</i> | Switch Grass | 2.00 |
| <i>Schoenoplectus tabernaemontani</i> | Great Bulrush | 3.00 |
| <i>Scirpus atrovirens</i> | Dark Green Rush | 2.00 |
| <i>Scirpus cyperinus</i> | Wool Grass | 1.00 |
| | | Total |
| | | 44.00 |
| Temporary Cover | | |
| <i>Arena sativa</i> | Common Oat | 512.00 |
| | | Total |
| | | 512.00 |
| Forbs and Shrubs | | |
| <i>Alisma subcordatum</i> | Common Water Plantain | 2.50 |
| <i>Asclepias tuberosa</i> | Swamp Milkweed | 2.00 |
| <i>Bidens</i> spp. | Bidens Species | 2.00 |
| <i>Eupatorium perfoliatum</i> | Common Boneset | 1.00 |
| <i>Helenium autumnale</i> | Sneezeweed | 2.00 |
| <i>Iris</i> spp. | Blue Flag Species | 4.00 |
| <i>Lycopus americanus</i> | Common Water Horehound | 0.50 |
| <i>Mimulus ringens</i> | Monkey Flower | 1.00 |
| <i>Pentstemon sedoides</i> | Ditch Stonewort | 0.50 |
| <i>Penstemon</i> spp. | Pinkweed Species | 2.00 |
| <i>Rudbeckia subtomentosa</i> | Sweet Black-Eyed Susan | 1.00 |
| <i>Rudbeckia triloba</i> | Brown-Eyed Susan | 1.50 |
| <i>Sagittaria latifolia</i> | Common Arrowhead | 1.00 |
| <i>Senna hebecarpa</i> | Wild Senna | 2.00 |
| <i>Symphoricarpos lanceolatum</i> | Panicled Aster | 0.50 |
| <i>Symphoricarpos punctatum</i> | Bristly Aster | 0.50 |
| <i>Thalictrum dasycarpum</i> | Purple Meadow Rue | 0.50 |
| | | Total |
| | | 26.00 |

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Prairie Seed Mixes

LOW-PROFILE PRAIRIE

This prairie seed mix provides a wide range of shorter prairie grass, sedge, and wildflower species. Most species will grow to four feet or less, making this an ideal mix for areas where taller forbs and grasses are not appropriate. Once established, this wildflower community displays a variety of colors, blooming from early spring to fall, creating a diverse habitat for birds, butterflies, moths, and other pollinators. This seed mix is suitable for medium-to-dry sites. It includes at least 5 of 6 native permanent grass and sedge species and 28 of 32 native forb species. Apply at a rate of 41.69 PLS pounds per acre.

| Botanical Name | Common Name | PLS Oz/Acre |
|---|--------------------------------|---------------|
| Permanent Grasses | | |
| <i>Bouteloua curtipendula</i> | Side-Oats Grama | 16.00 |
| <i>Carex</i> spp. | Prairie Sedge Species | 4.00 |
| <i>Elymus canadensis</i> | Canada Wild Ryegrass | 32.00 |
| <i>Koeleria macrantha</i> | Jane Grass | 1.00 |
| <i>Panicum virgatum</i> | Switch Grass | 1.00 |
| <i>Schizachyrium scoparium</i> | Little Bluestem | 36.00 |
| | | Total |
| | | 90.00 |
| Temporary Cover | | |
| <i>Arena sativa</i> | Common Oat | 512.00 |
| | | Total |
| | | 512.00 |
| Forbs | | |
| <i>Aster</i> spp. | Aster Species | 0.50 |
| <i>Asclepias tuberosa</i> | Swamp Milkweed | 2.00 |
| <i>Baptisia lactuca</i> | White Wild Indigo | 2.00 |
| <i>Chamaecrista fasciculata</i> | Partridge Pea | 10.00 |
| <i>Coneopogon lanceolatus</i> | Sand Coneopsis | 5.00 |
| <i>Dalea candida</i> | White Prairie Clover | 1.50 |
| <i>Dalea purpurea</i> | Purple Prairie Clover | 1.50 |
| <i>Desmodium illinoense</i> | Illinois Sensitive Plant | 3.00 |
| <i>Echinacea purpurea</i> | Broad-Leaved Purple Coneflower | 8.00 |
| <i>Eryngium yuccifolium</i> | Rattlesnake Master | 2.00 |
| <i>Lappula capitata</i> | Round-Headed Bush Clover | 2.00 |
| <i>Liatris scarpis</i> | Rough Blazing Star | 0.50 |
| <i>Lupinus perennis v. occidentalis</i> | Wild Lupine | 3.00 |
| <i>Monarda fistulosa</i> | Wild Bergamot | 0.50 |
| <i>Oligoneuron rigidum</i> | Stiff Goldenrod | 1.00 |
| <i>Parthenium integrifolium</i> | Wild Quinine | 1.00 |
| <i>Penstemon digitalis</i> | Foxglove Beard Tongue | 0.50 |
| <i>Penstemon hirsutus</i> | Harry Beard Tongue | 1.00 |
| <i>Ratibida pinnata</i> | Yellow Coneflower | 4.00 |
| <i>Rudbeckia hirta</i> | Black-Eyed Susan | 5.00 |
| <i>Rudbeckia subtomentosa</i> | Sweet Black-Eyed Susan | 1.00 |
| <i>Silphium laciniatum</i> | Compass Plant | 2.00 |
| <i>Solidago juncea</i> | Early Goldenrod | 0.25 |
| <i>Solidago speciosa</i> | Showy Goldenrod | 0.50 |
| <i>Symphoricarpos laevis</i> | Smooth Blue Aster | 1.00 |
| <i>Symphoricarpos nove-angliae</i> | New England Aster | 0.50 |
| <i>Symphoricarpos soletangense</i> | Sky Blue Aster | 0.50 |
| <i>Tephrosia virginiana</i> | Goat's Rue | 1.00 |
| <i>Tradescantia ohnensis</i> | Common Spiderwort | 1.00 |
| <i>Verbena stricta</i> | Hairy Vervain | 1.00 |
| <i>Veronicastrum virginicum</i> | Culver's Root | 0.25 |
| | | Total |
| | | 65.00 |

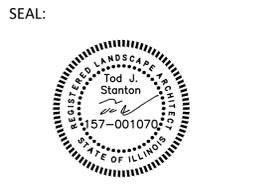
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PRA 1 – WETLAND EDGE NATIVE SEED MIX
SCALE: N.T.S.

PRA 2 – STORMWATER WET-MESIC NATIVE SEED MIX
SCALE: N.T.S.

PRA 3 – LOW PROFILE PRAIRIE NATIVE SEED MIX
SCALE: N.T.S.

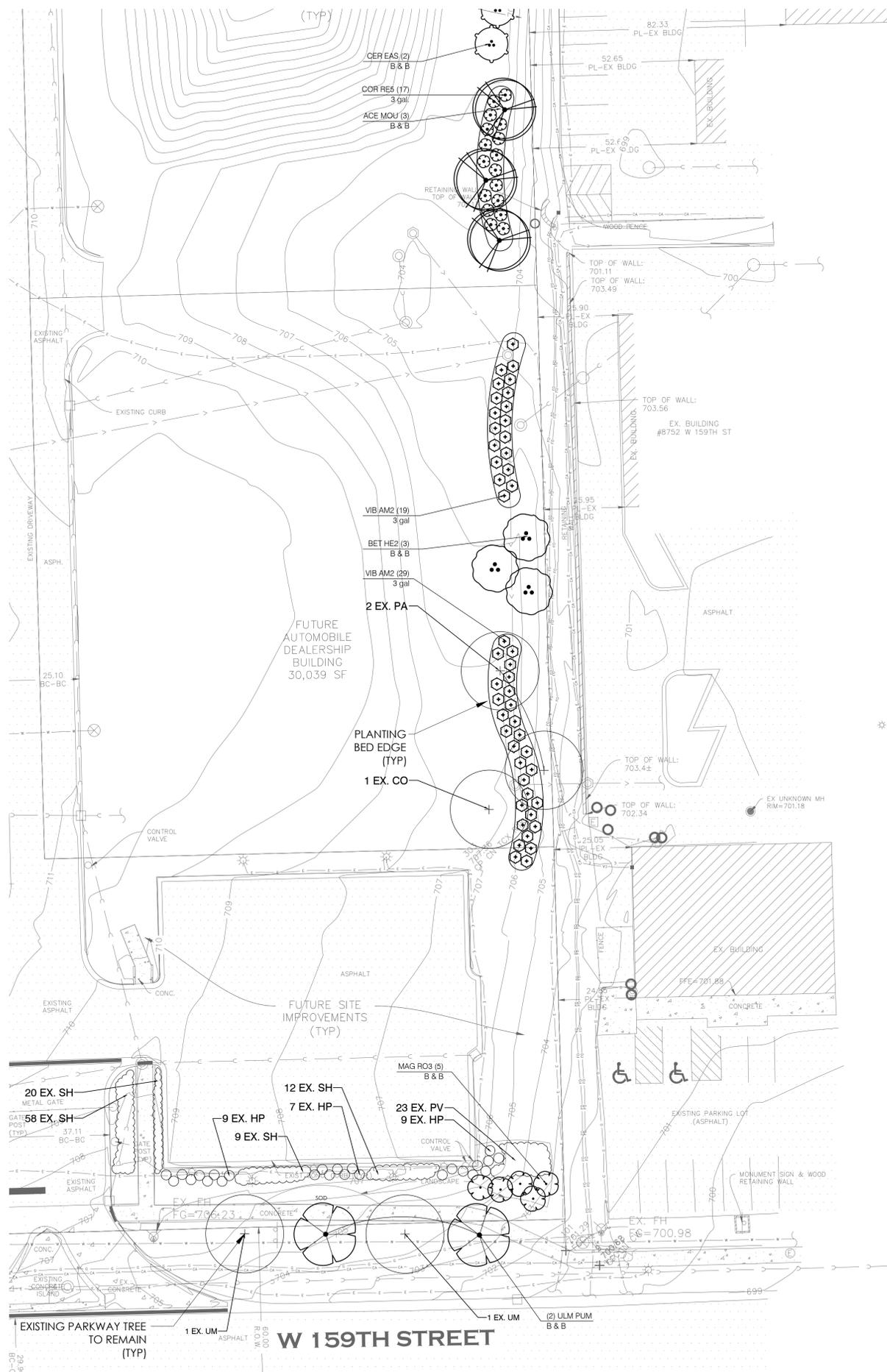
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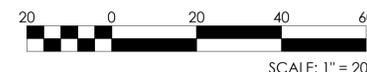
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JOB NO.: 24-A321T
DRAWN BY: TS
CHECKED BY: TS

DRAWING TITLE:
NATIVE SEED MIXES

SHEET NO.:
L1.1



ANY AND ALL LANDSCAPE AREAS WITHIN THE SITE SHALL BE DE-WEEDED, MOWED, TRIMMED, EDGED, DEAD/DAMAGED LANDSCAPE MATERIAL REPLACED, BEDS EDGED, ETC. BY THE LANDSCAPE CONTRACTOR TO PROVIDE AN AESTHETICALLY PLEASING APPEARANCE. (TYPICAL)



| REV. | COMMENT | DATE |
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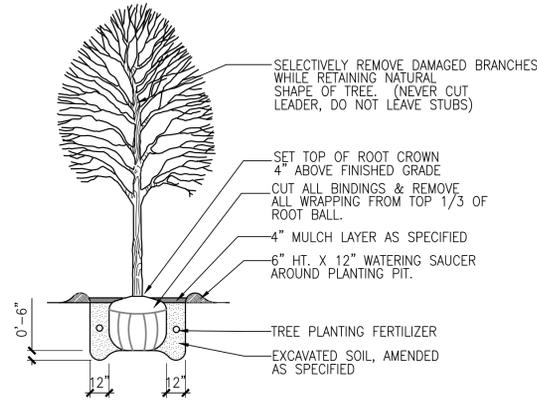
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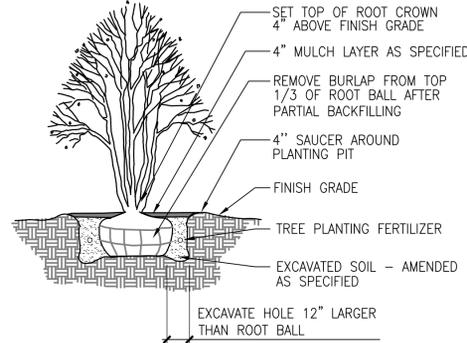
DATE: 3/29/2024
JOB NO.: 24-A321T
DRAWN BY: TS
CHECKED BY: TS

DRAWING TITLE:
LANDSCAPE PLAN-
SOUTHEAST

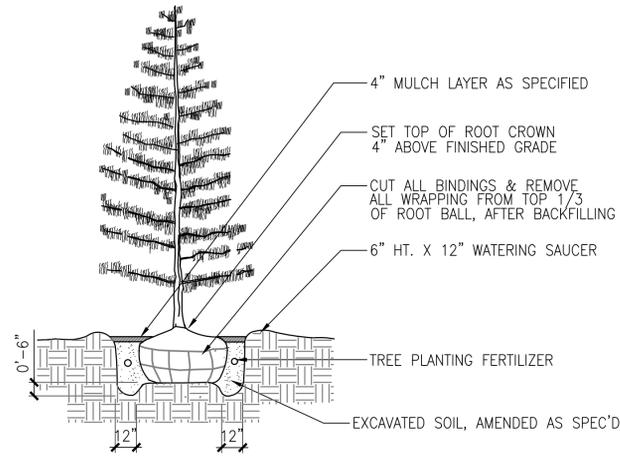
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L1.02



SHADE TREE PLANTING
SCALE: NTS DT-plantnote-gyn

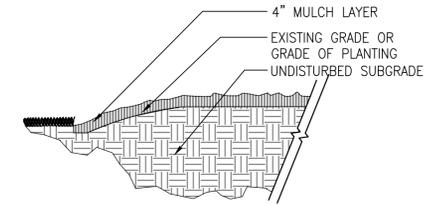


ORNAMENTAL TREE PLANTING
SCALE: 1/4"=1'-0" DT-ornamentaltree-gyn

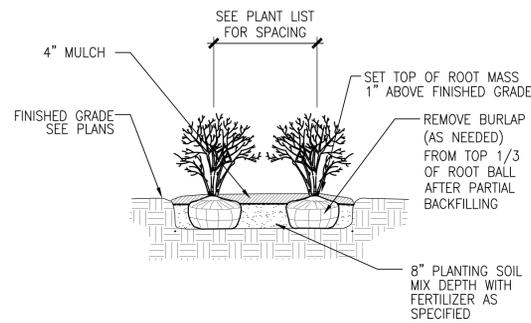


EVERGREEN TREE PLANTING
SCALE: 1/4"=1'-0" DT-evergreen-gyn

NOTES:
1. TRENCH EDGE DETAIL SHALL BE USED AT ALL LAWN EDGES AND AT EDGES OF MULCHED AREAS (FOR CONTAINMENT)
2. TRENCH EDGE SHALL CREATE A CLEAN SEPARATION BETWEEN AREAS, AND SHALL CREATE SMOOTH AND EVEN LINES (AS INDICATED ON PLANS)

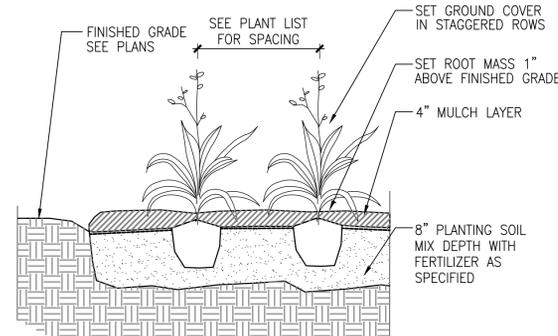


TRENCH EDGE DETAIL
SCALE: 1"=1'-0" DT-ts-trench-gyn

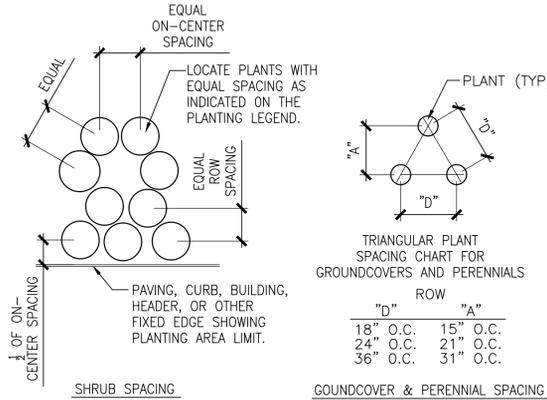


ALL PLANTS TO BE INSTALLED IN STAGGERED ROWS UNLESS OTHERWISE NOTED ON PLANS

SHRUB PLANTING
SCALE: 1/2"=1'-0" DT-shrub-gyn



GROUNDCOVER PLANTING
SCALE: 1"=1'-0" DT-groundcover-gyn



PLANT SPACING DETAIL
SCALE: 1/2"=1'-0" DT-plantspace-gyn

- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES AND STRUCTURES. SEE CONSTRUCTION NOTES.
- DO NOT WILLFULLY PROCEED WITH PLANTINGS AS DESIGNED WHEN IT IS OBVIOUS THAT OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING THE DESIGN PROCESS. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER. THE LANDSCAPE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY NECESSARY REVISIONS AND COSTS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AND/OR SUPPLIERS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- THE LANDSCAPE CONTRACTOR IS TO RECEIVE THE SITE AT +/- 1/10TH OF AN INCH. THE LANDSCAPE CONTRACTOR SHALL OBTAIN A LETTER OF GRADE FROM THE GENERAL CONTRACTOR PRIOR TO BEGINNING WORK.
- REFER TO SPECIFICATIONS FOR PLANTING REQUIREMENTS, MATERIALS, AND EXECUTION.
- ALL TREES SHALL BE TAGGED BY THE PROJECT MANAGER AT A NURSERY SELECTED BY THE LANDSCAPE CONTRACTOR OR AT THE DISCRETION OF THE PROJECT MANAGER.

PLANTING NOTES
SCALE: NTS DT-plantnote-gyn

- FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE SUBJECT TO APPROVAL OF THE PROJECT MANAGER PRIOR TO DIGGING ANY HOLES. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROJECT MANAGER ADEQUATE ADVANCE NOTICE FOR ON-SITE APPROVALS. THE LANDSCAPE CONTRACTOR IS TO FOLLOWING BEFORE BEGINNING INSTALLING PLANTINGS:
SHRUBS - LAY OUT THE ACTUAL CONTAINERS ON-SITE BEFORE DIGGING HOLES.
TREES - STAKE THE LOCATIONS BEFORE DIGGING HOLES. ANY TREE PLANTED WITHOUT ITS FINAL LOCATION APPROVED BY THE PROJECT MANAGER MAY BE REQUESTED TO BE RELOCATED AT THE SOLE EXPENSE OF THE LANDSCAPE CONTRACTOR.
- THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER AT LEAST 48 HOURS IN ADVANCE PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT OBSERVATION SCHEDULES.
- IF CONFLICTS ARISE BETWEEN THE ACTUAL SIZE OF AREAS ON THE SITE AND THE DRAWINGS, CONTACT THE PROJECT MANAGER FOR RESOLUTION.
- IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO FURNISH PLANTS FREE OF PESTS AND/OR DISEASES. PRE-SELECTED OR "PROJECT MANAGER TAGGED" PLANT MATERIAL MUST BE INSPECTED BY THE LANDSCAPE CONTRACTOR AND CERTIFIED PEST AND DISEASE FREE. IT IS THE LANDSCAPE CONTRACTOR'S OBLIGATION TO WARRANTY ALL PLANT MATERIAL PER THE SPECIFICATIONS.

- GROUNDCOVERS AND SHRUBS ARE TO BE TRIANGULARLY SPACED UNLESS INDICATED ON THE PLANS.
- ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM, UNLESS OTHERWISE NOTED.
- ALL TREES, SHRUB AND GROUNDCOVER AREAS (EXCLUDING TURF AND SLOPE AREAS) ARE TO BE MULCHED PER DETAILS.
- ALL MULCH TO BE DOUBLE SHREDDED HARDWOOD MULCH, BROWN IN COLOR MINIMUM 4" THICK.
- TREES SHALL BE SET BACK A MINIMUM OF TEN FEET (10') HORIZONTALLY FROM UTILITY STRUCTURES, INCLUDING, BUT NOT LIMITED TO, MANHOLES, VALVE VAULTS, VALVE BOXES, FIRE HYDRANTS, TRANSFORMERS AND SWITCH CANS. TREES SHALL BE SET BACK A MINIMUM OF FIVE (5') HORIZONTALLY FROM SANITARY SEWER AND WATER SERVICES. CONTRACTOR TO MAKE NECESSARY ADJUSTMENTS UNDER THE APPROVAL OF OWNER.
- PLANTING RESTRICTIONS: PLANT DURING ONE OF THE FOLLOWING PERIODS. COORDINATE PLANTING PERIODS WITH MAINTENANCE PERIODS TO PROVIDE REQUIRED MAINTENANCE FROM DATE OF SUBSTANTIAL COMPLETION.
 - SPRING PLANTING: 5/1 - 6/15
 - FALL PLANTING: 9/15 - 12/1

SEAL:



DATE: 3/29/2024
JOB NO.: 24-A321T
DRAWN BY: TS
CHECKED BY: TS

DRAWING TITLE:
LANDSCAPE DETAILS

SHEET NO.:
L1.2

SECTION 02920 - LANDSCAPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Furnish all trees, shrubs, and other plant materials, labor equipment, and non-plant materials required to complete installation of planting indicated on the Landscape Drawings and Details.

Furnish all soil preparation, fertilizer, soil mulching, trees, shrubs, groundcovers, sodding, bed mulching, labor and equipment required to landscape all areas as indicated on the Landscape Drawings.

B. Section Includes:

1. Trees
2. Shrubs
3. Perennials
4. Annuals
5. Ornamental grasses
6. Mulch
7. Pruning
8. Guying and Staking
9. Landscape Edging
10. Tree Watering Devices
11. Seeding.
12. Hydroseeding.
13. Sodding.
14. Plugging.
15. Meadow grasses and wildflowers.
16. Turf renovation.
17. Erosion-control material(s).

C. Related Requirements (If Used):

1. Section 02231 "Tree Protection and Trimming" for protecting, trimming, pruning, repairing, and replacing existing trees to remain that interfere with, or are affected by, execution of the Work.
2. Section 02810 "Design-Build Irrigation System".
3. Section 02300 "Earthwork".

1.3 ALLOWANCES

- A. Perform planting work under quantity allowances and only as authorized. Authorized work includes work required by Drawings and the Specifications and work authorized in writing by the Project Manager.
- B. Notify Project Manager weekly of extent of work performed that is attributable to quantity allowances.
- C. Furnish trees as part of tree allowance.

1.4 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 01270 "Unit Prices."
- B. Unit prices apply to authorized work covered by quantity allowances.
- C. Unit prices apply to additions to and deletions from the Work as authorized by Change Orders.

1.4 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Ball and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- D. Finish Grade: Elevation of finished surface of planting soil.
- E. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- F. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- G. Planting Area: Areas to be planted
- H. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. Plant; Plants; Plant Material: The terms refer to vegetation in general, including trees, shrubs, vines, groundcovers, ornamental grasses, bulbs, plugs, or herbaceous vegetation.
- I. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- J. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- K. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.6 COORDINATION

- A. Coordination with turf areas (lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.7 SUBMITTALS

- A. Qualification Data: For landscape Installer.
- B. Product Data: For each type of product.
 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
 2. Plant Photographs: Include color photographs in digital format of each species and size of plant materials as it will be furnished to the Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include scale rod or other measuring device in each photograph. For species where more than ten (10) plants are required, include a minimum of three (3) photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full botanical name of the plant, plant size, and name of the growing nursery.
- C. Grower or Nursery Certifications
 1. All State, Federal, or other certificates shall be submitted to the Project Manager prior to acceptance of plant material along with other information showing the source or origin.
 2. Current grower or nursery certifications indicating that all contractor supplied plant material is healthy, vigorous, and free from insects, pests, plant diseases, and injuries.
- D. Certification of Topsoil Mixture: Submit topsoil mix test reports to Project Manager for review. If existing material is to be re-used, topsoil to be tested and reviewed by Project Manager
- E. Certification of each sod/seed mixture. Include identification of source and name and telephone number of supplier.
- F. Product Certificates: For fertilizers, from manufacturer.
- G. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
- H. Samples: Submit physical samples of each of the following materials for approval. All samples shall be submitted in a one quart, clear, plastic bag (Ziploc type) or appropriate container. Submittals must be made prior to commencing any activities. All samples shall be clearly labeled with the following information.
 - Project Name Site Improvements
 - Material name as shown on plans and specifications
 - Supplier or distributor's name
 - Supplier or distributor's product name and/or order number
 Required samples are as follows
 1. Mulch
 2. Compost

- I. Slow-Release, Tree-Watering Device: One (1) unit of each size required.

J. Edging Materials and Accessories:

1. Manufacturer's product information sheet.
2. 12" length of Manufacturer's standard size, to verify color selected.

1.8 CONSTRUCTION SCHEDULE

- A. Prior to beginning installation of the landscape, the Contractor is to submit a project construction schedule to the Project Manager for approval. The schedule should include the areas and types of construction to be undertaken and the sequence which will be used to accomplish the completion of the project. Schedule must be submitted prior to commencing any activities.
- B. At the completion of the work, furnish three (3) copies of written maintenance instructions to the Owner for maintenance and care of the landscaping. Instructions shall include directions for irrigation, weeding, pruning, fertilization, and spraying as required for continuance of proper maintenance through a full growing season and dormant period.
- C. Guarantee of Warranty: At completion of work, furnish written guarantee, and warranty, to the Owner based on the requirements of this section.

1.9 QUALITY ASSURANCE

- A. Reference Standards
 1. U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act and equal in quality to standards for Certified Seed.
 2. Requirements for measurements, grading, branching, quality, and the balling and burlapping of plants listed in the plant list shall follow the current issue of American Standards for Nursery Stock issued by the American Association of Nurserymen, Inc. (ANSI-Z 60.1-1990)
 3. Plants shall equal or exceed the measurements specified in the plant list, which are minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.
- B. Quality of Materials
 1. All materials shall be subject to inspection and approval. The Project Manager reserves the right to reject at any time or place, prior to acceptance, the work and all materials which in the Project Manager's opinion fails to meet these specification requirements.
 2. Inspection is primarily for quality, however, other requirements are not waived even though visual inspection at the place of growth shall not preclude the right of rejection at the site. Inspection may be made periodically during installation of materials, at completion, and at the end of guarantee periods by the Project Manager. Plants shall have a habit of growth that is normal for the species. They shall be healthy, vigorous, and free from insect pests, plant diseases, and injuries. All plant material shall be inspected stock conforming to all State and Federal Regulations.
 3. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.
 4. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- C. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.
 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 2. Experience: Five years' experience in landscape installation in addition to requirements in Section 01400 "Quality Requirements."
 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
 - a. Landscape Industry Certified Technician - Exterior.
 - b. Landscape Industry Certified Horticultural Technician.
 5. Pesticide Applicator: State licensed, commercial.
- D. Plant Material Observation: Project Manager may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Project Manager may also observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
 1. Notify Project Manager of sources of planting materials five days in advance of delivery to site.

- E. Vandalism: The Contractor will not be responsible for malicious destruction of plantings after final acceptance of the project. He will, however, be responsible for replacement of vandalized materials stored but not yet installed, and vandalized material prior to final acceptance. All cases of vandalism shall be promptly reported to the Owner. The Contractor shall inform the Owner in writing if additional protection must be installed to protect the landscaping from damage after installation.

1.1 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping
 1. Deliver fertilizer to site in original unopened containers bearing the manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to State law. Notify Project Manager of delivery schedule in advance so material may be inspected upon arrival at the job site.
 2. Deliver packaged materials in original, unopened containers showing weight, analysis and name of manufacturer, and indication of compliance with state and Federal laws, if applicable. Provide copies of delivery receipts for materials to be incorporated into the construction to the Project Manager as deliveries are made. Materials to be accounted for include: fertilizers, soil amendments, peat moss, manure, grass seed, plant tabs, and mulch.
 3. Plants shall be containerized with limbs bound, properly wrapped and prepared for shipping in accordance with recognized standard practice. The root system shall be kept moist and plants shall be protected from adverse conditions due to climate and transportation, between the time they are dug and actual planting.
 4. Each plant shall be identified by means of a grower's label affixed to the plant. The grower's label shall give the data necessary to indicate conformance to specifications. Use durable waterproof labels with water resistant ink which will remain legible for at least 60 days. Notify the Project Manager prior to delivery of plant materials to the site so that a pre-planting inspection may be made or indicate delivery schedule in advance so plant material may be inspected upon arrival at job site, whichever is more appropriate. Grower's labels shall be removed prior to the walk through for initial acceptance.
 5. Do not prune trees and shrubs before delivery.
 6. Handle planting stock by root ball. Do not drop plants. Do not lift plants by the trunk, stems, or foliage. The ball of the plant shall be natural, and the plant shall be handled by the ball at all times. All plants shall be protected at all times from drying out or other injury. Minor broken and damaged roots shall be pruned before planting.
- B. Acceptance at Site
 1. Remove unacceptable plant material immediately from job site.
 2. Major damage shall be cause for rejection.
 3. No balled or burlapped plant shall be accepted if the ball is broken or the trunk is loose in the ball.
- C. Storage and Protection
 1. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, shade), protect from weather and mechanical damage, and keep roots moist.
 - a. Heel-in bare-root stock. Soak roots that are in less than moist conditions in water for two hours. Reject plants with dry roots.
 - b. Set balled stock on ground and cover ball with soil, peat moss, mulch, or other acceptable material.
 - c. Do not remove container-grown stock from containers before time of planting.
 - d. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.
 2. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as they destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
 3. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
 - a. If deciduous trees or shrubs are moved in full leaf, spray with antiesiccant at nursery before moving and again two weeks after planting.
 4. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
 5. Protect all existing and newly planted trees, shrubs, and groundcover within the areas of construction and related excavation as herein specified. Provide suitable barricades and/or fences as required.
 6. Store bulbs in a dry place at 60 to 65 deg. F (16 to 18 deg. C) until planting.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.
- C. Bulk Materials:
 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 3. Accompany each delivery of bulk materials with appropriate certificates.

1.11 PROJECT CONDITIONS

- A. The Contractor must examine the subgrade upon which work is to be performed, verify subgrade elevations, observe the conditions under which work is to be performed, verify suitability of the soil and notify the Project Manager in writing of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Project Manager. Commencement of work shall mean acceptance of the site conditions.
- B. Existing Conditions
 1. The site will be provided to the contractor within +/-0.2 foot finish grades.
 2. Utilities - Determine location of underground utilities and perform work in a manner which will avoid possible damage. Do not permit heavy equipment such as trucks, rollers, or bulldozers to damage utilities. Hand excavate when called for to minimize the possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by all parties concerned. Any damage to utilities that may result in spite of protective measures must be completely corrected and repaired by the Contractor at no additional cost to the Owner.

1.12 SEQUENCING AND SCHEDULING

- A. Planting Schedule

Schedule each type of landscape work required during the normal season for such work in the area of the site. Establish dates for each type of work and establish a completion date. Correlate work with specified maintenance periods to provide maintenance until accepted by the Owner. Do not depart from the accepted schedule, except with written authorization. Submit request to the Project Manager for changes in the planting schedule. When delays in the planting schedule are unavoidable, include documentation of the reason for delay.
- B. Plant trees and shrubs during normal season for such work in the location of the project.
- C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.
- D. Coordination with Lawns

Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to the Project Manager. If planting of trees and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

Porsche Orland Park
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SEAL:



DATE: 3/29/2024
JOB NO.: 24-A321T
DRAWN BY: TS
CHECKED BY: TS

DRAWING TITLE:
LANDSCAPE
SPECIFICATIONS

SHEET NO.:
L2.1

- C. Mow-Strip/Maintenance Edge Installation:
 1. Excavate for mow strip or maintenance edge as indicated on Drawings.
 2. Compact subgrade uniformly beneath mow strip or maintenance edge.
 3. For mow strips, apply nonselective, pre-emergent herbicide that inhibits growth of grass and weeds. For maintenance edges, install 6-oz non-woven geotextile fabric as shown on the Drawing Details.
 4. Install steel edging, delineating the edge of the mow strip or maintenance edge.
 5. Place indicated thickness of mulch or stone.
 6. Rake mulch to a uniform surface level with adjacent finish grades.

- D. Outline Edger lines with stakes or paint for acceptance by Landscape Architect before installing irrigation.
- E. Spade cut edger shall be in all locations identified on the Drawings. Minor fine tuning of these lines may be required after the placement of sod.

3.8 MULCHING

- A. Fine grade all planting beds to be mulched allowing for full depth of specified mulch.
- B. Place specified mulch evenly over all areas at depth indicated on plans.
- C. Rake and feather finish grade of mulch level and 1/2" below adjacent edger surfaces (if edger is specified).
- D. Make sure mulch is at full depth at adjacent walks and paved surfaces and that mulch doesn't protrude above these surfaces.
- E. Mulch a 36" diameter ring around all trees in turf areas with specified depth of wood mulch, after irrigation areas have been watered in.
- F. All trees and shrubs in native areas are to have a mulch ring equal to the diameter of the planting pit. Mulch shall be a uniform four inches in depth. Do not remove saucer (or berm) around plants in native areas when mulching.

3.9 PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Do not cut tree leaders, and remove only injured or dead branches from flowering trees, if any.
- C. Prune shrubs to retain their natural character and shape, and to accomplish their use in the landscape design.
- D. Do not apply pruning paint to wounds.
- E. Required shrub sizes are the size after pruning.
- F. Remove and replace excessively pruned or deformed stock resulting from improper pruning.

3.10 GUYING AND STAKING

- A. Standard guying system
 1. Pound stakes into undisturbed soil beyond the planting pit so that stake is secure (2' deep minimum). Secure wire through metal grommets on nylon strap and wrap above first branch or at mid-point of tree. Secure guy wire to stake so that it is taut but allows some movement and so that no sharp projection of wire are extending from post. Adjust tension on wire if needed. Flag guy wire with 3/4" PVC pipe for visibility.
- B. Alternate (conifer) guying system
 1. Pound stakes into undisturbed soil beyond the planting pit so that stake is secure (2' deep min.), angling away from planting pit and so that top is flush with finish grade. Secure wire through metal grommets on canvas strap and wrap at mid-point of tree. Secure guy wire to stake so that it is taut but not overly tight and so that no sharp projection of wire are extending from post. Adjust tension on wire if needed. Flag guy wire with 3/4" PVC for visibility.

3.11 INSTALLING SLOW-RELEASE WATERING DEVICE

- A. Provide one device for each tree.
- B. Place device on top of the mulch at base of tree stem and fill with water according to manufacturer's written instructions.

3.12 MECHANIZED TREE-SPADE PLANTING (FOR ON-SITE TRANSPLANTS, IF INDICATED ON PLANS)

- A. Trees may be planted with an approved mechanized tree spade at the designated locations. Do not use tree spade to move trees larger than the maximum size allowed for a similar field-grown, balled-and-burlapped root ball diameter according to ANSI Z60.1, or larger than manufacturer's maximum size recommendation for the tree spade being used, whichever is smaller.
- B. Use the same tree spade to excavate the planting hole as will be used to extract and transport the tree.
- C. When extracting the tree, center the trunk within the tree spade and move tree with a solid ball of earth.
- D. Cut exposed roots cleanly during transplanting operations.
- E. Plant trees following procedures in "Tree, Shrub, Ornamental Grass, and Perennial Planting" Article.
- F. Where possible, orient the tree in the same direction as in its original location (north side north).

3.13 PLACING SOIL IN PLANTERS

- A. Place a layer of drainage gravel at least 4 inches thick in bottom of planter. Cover bottom with filter fabric and wrap filter fabric 4 inches up on all sides. Duct tape along the entire top edge of filter fabric to secure the filter fabric against the sides during the soil-filling process.
- B. Fill planter with planting soil. Place soil in lightly compacted layers to an elevation of 1-1/2 inches below top of planter, allowing natural settlement.

3.14 TURF AREA PREPARATION

- A. General: Prepare planting area for soil placement and mix planting soil as indicated on the Drawings.
- B. Placing Planting Soil: Place planting soil as indicated on the Drawings.
 1. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.15 PREPARATION FOR EROSION-CONTROL MATERIALS

- A. Prepare area as specified in "Turf Area Preparation" Article.
- B. For erosion-control mats, install planting soil in two lifts, with second lift equal to thickness of erosion-control mats. Install erosion-control mat and fasten as recommended by material manufacturer.
- C. Fill cells of erosion-control mat with planting soil and compact before planting.
- D. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.
- E. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.16 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h).
 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate according to the written recommendations of the seed supplier.
- C. Rake seed lightly into top 1/8 inch (3 mm) of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blanket installed and stapled according to manufacturer's written instructions.
- E. Protect seeded areas with erosion-control mats where indicated on Drawings; install and anchor according to manufacturer's written instructions.
- F. Protect seeded areas with slopes not exceeding 1:4 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre > to form a continuous blanket 1-1/2 inches (38 mm) in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
 1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
 2. Bond straw mulch by spraying with asphalt emulsion at a rate of 10 to 13 gal./1000 sq. ft. (38 to 49 L/92.9 sq. m) Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.
- G. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch (4.8 mm) and roll surface smooth.

3.17 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
 1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
 2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre (15.6-kg/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate.
 3. Spray-apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry coat at a rate so that mulch component is deposited at not less than 500-lb/acre (5.2-kg/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate. Apply slurry cover coat of fiber mulch (hydromulching) at a rate of 1000 lb/acre (10.4 kg/92.9 sq. m).

3.18 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 1. Lay sod across slopes exceeding 1:3.
 2. Anchor sod on slopes exceeding 1:6 with bio-degradable stakes spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

3.19 PLUGGING

- A. Plant plugs in holes or furrows, at spacings indicated on the Drawings in triangular pattern. On slopes, contour furrows to near level.

3.20 TURF RENOVATION

- A. Renovate existing turf where indicated.
- B. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
 2. Install new planting soil as required.
- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- H. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches (150 mm).
 1. Apply soil amendments as required based on site-specific soil conditions and initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches (100 mm) of existing soil. Install new planting soil to fill low spots and meet finish grades.
 1. Initial Fertilizer: Slow-release fertilizer applied according to manufacturer's recommendations.
 2. Apply seed and protect with straw mulch or sod (see Drawings) as required for new turf.
 3. Water newly planted areas and keep moist until new turf is established.

3.21 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 2. In areas where mulch or blanket has been disturbed by wind or maintenance operations, add new mulch/blanket and anchor as required to prevent displacement.
 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering:
 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 2. Water turf with fine spray at a minimum rate of 1 inch (25 mm) per week unless rainfall precipitation is adequate.

- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain proper grass height

- D. Turf Post-fertilization: Apply as noted in Materials Article, I. Fertilizer, based on season.

3.22 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Landscape Architect:
 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm)
 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.23 NATIVE PRAIRIE, BIOSWALE, DETENTION AREA, AND WETLAND SEEDING

- A. All work deemed native prairie, bioswale, detention area, and/or wetland seeding shall be performed by an ecological restoration contractor with at least 5 years of documented experience in selective brush clearing, planting of native species, and natural areas management for the purpose of ecological restoration, and shall be able to demonstrate their knowledge through references and in the field.
- B. Seedbed shall be well settled and firm, but friable enough that seed can be placed at the seeding depth required.
 1. The seedbed shall be reasonable free of weeds.
 2. Soils that have been over-compacted by traffic or equipment shall be tilled to breakup root restrictive layers and then harrowed, rolled, or packed to prepare the required seedbed.
- C. Sow seed at rate indicated on the Drawings.
 1. Seed shall be drill seeded in a manner such that the surface is raked and rolled, seed shall have 1/4" of cover.
 2. Accomplish seeding by "Rangeland" type drills.
 3. Any furrows left by drill seeding shall be left in place to discourage erosion and encourage seed and soil contact.
- D. When using a drill type seeder, the seeder should cover the area in two passes, perpendicular to each other. Each pass of the seeder should apply approximately 1/2 of the required seed.
- E. Standard erosion control blanket shall be applied to all seeded areas.
- F. Final Acceptance of seeded areas will not be granted until Landscape Architect is satisfied with germination and a full stand of vegetation is in vigorous growing condition, with consistency and completion of coverage. During this time, contractor is responsible for watering, mowing, spraying, weeding, fertilizing, and all related work as necessary to ensure that seeded areas are established in a vigorous growing condition.

3.24 NATIVE PRAIRIE, BIOSWALE, DETENTION AREA, AND WETLAND MAINTENANCE

SHORT & LONG TERM MAINTENANCE

NATIVE BASIN SPECIFICATIONS

Project Name: Rizza Porsche (8760 W. 159th Street, Orland Park, IL 60462)
 Owner: Rizza Porsche
 ENCAP, Inc. #: 23-0320A
 Document Preparer: S. Rowley, ENCAP, Inc.
 Date Prepared: April 24, 2023

1.0 PURPOSE

The purpose of this plan is to restore and re-establish a previously constructed and planted naturalized detention basin located on the Rizza Porsche site. The previously constructed basin was created for stormwater management purposes and was intended for water quality treatment through the native plantings. The basin is currently in disrepair and the restored plantings will provide improved water quality functions, soil stabilization, wildlife habitat, and aesthetics for the area.

2.0 CONTRACTOR QUALIFICATIONS

1. The Native Landscape Contractor chosen for the establishment and enhancement of the natural areas must be experienced in the restoration, installation, and management of said areas. They must have a minimum of five years of experience conducting ecological restoration and management projects.
2. There shall be a supervisor available at all times that can identify non-native and native plants by genus and species. The goal of installing successful native plant communities is a long-term process. Therefore, it is imperative that a qualified Native Landscape Contractor perform the initial installation and maintenance.

3.0 QUALITY AND CONDITION

1. All native seed proposed for the project shall be provided as Pure Live Seed (PLS) and sourced from within a 200-mile radius of the project location. Plant origins outside of this range must be approved by the Wetland Consultant.
2. Native seeds shall be blended by the vendor, and the mixture and ratio shall be guaranteed in writing to be as specified. The amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre for all species listed. It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.
3. Native Landscape Contractor shall provide the Wetland Consultant with the name and location of the seed supplier, origin of the various kinds of plants, and a statement of the purity of the seed.
4. Seed shall conform to applicable State and Federal regulations as in effect on the date of letting. Unless otherwise specified, seed shall not contain in excess of 1 percent weed seeds; 0 percent is desirable.
5. All storage requirements, stratification, and scarification considerations shall be the sole responsibility of the Native Landscape Contractor.
6. If specified for the seed mixture, mycorrhizal inoculants shall be pelletized and mixed at 1 lb. per acre with the fine seeds before installation. The inoculants shall contain a diverse mixture of Glomales fungal species (Glomus spp.) in pelletized form.
7. Under no circumstances shall Wheat (Triticum aestivum), Cereal Rye (Secale cereale), Perennial Rye (Lolium perenne), or Barley (Hordeum vulgare) be used as a temporary cover crop.

Porsche Orland Park
 8760 159th Street
 Orland Park, IL 60462



1167 Hobson Mill Drive
 Naperville, Illinois 60540
 Telephone: (630) 606-0776
 www.design-perspectives.net

| REV. | COMMENT | DATE |
|------|----------------------|-----------|
| 1 | VILLAGE RE-SUBMITTAL | 5/10/2024 |
| | | |
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| | | |
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| | | |
| | | |

SEAL:



DATE: 3/29/2024
 JOB NO.: 24-A321T
 DRAWN BY: TS
 CHECKED BY: TS

DRAWING TITLE:
 LANDSCAPE
 SPECIFICATIONS

SHEET NO.:

L2.3

| | | | | |
|--|--------------|-----------------|-------------------|-------------------------|
| Rizza Porsche Orland Park | | | | Date prepared: 5/8/2024 |
| Landscape Cost Estimate | | | | |
| Description | Units | Quantity | Unit Price | Extended Cost |
| Acer saccharum `Green Mountain` TM / Green Mountain Sugar Maple | EA | 3 | \$ 800.00 | \$ 2,400 |
| Carpinus caroliniana `Native Flame` / Native Flame Hornbeam | EA | 3 | \$ 600.00 | \$ 1,800 |
| Celtis occidentalis `Chicagoland` / Chicagoland Common Hackberry | EA | 4 | \$ 550.00 | \$ 2,200 |
| Gymnocladus dioica `Espresso` / Kentucky Coffeetree | EA | 4 | \$ 550.00 | \$ 2,200 |
| Taxodium distichum / Bald Cypress | EA | 4 | \$ 650.00 | \$ 2,600 |
| Quercus rubra / Red Oak | EA | 4 | \$ 700.00 | \$ 2,800 |
| Tilia americana `Redmond` / Redmond American Linden | EA | 4 | \$ 650.00 | \$ 2,600 |
| Ulmus x `Homestead` / Elm | EA | 4 | \$ 650.00 | \$ 2,600 |
| | | | | |
| Picea glauca / Black Hills Spruce | EA | 4 | \$ 550.00 | \$ 2,200 |
| Pinus strobus / White Pine | EA | 3 | \$ 450.00 | \$ 1,350 |
| | | | | |
| Amelanchier canadensis `Autumn Brilliance` / Autumn Brilliance Serviceberry | EA | 8 | \$ 450.00 | \$ 3,600 |
| Betula nigra `Heritage` / Heritage River Birch | EA | 11 | \$ 425.00 | \$ 4,675 |
| Cercis canadensis / Eastern Redbud | EA | 5 | \$ 425.00 | \$ 2,125 |
| Malus x `Prairifire` / Prairifire Crab Apple | EA | 2 | \$ 425.00 | \$ 850 |
| Magnolia stellata `Royal Star` / Royal Star Magnolia | EA | 5 | \$ 500.00 | \$ 2,500 |
| | | | | |
| Aronia melanocarpa `Autumn Magic` / Autumn Magic Black Chokeberry | EA | 35 | \$ 75.00 | \$ 2,625 |
| Aronia melanocarpa `Morton` TM / Iroquis Beauty Black Chokeberry | EA | 9 | \$ 75.00 | \$ 675 |
| Cornus sanguinea `Cato` TM / Arctic Sun Bloodtwig Dogwood | EA | 10 | \$ 55.00 | \$ 550 |
| Cornus sericea / Red Twig Dogwood | EA | 17 | \$ 55.00 | \$ 935 |
| Cornus sericea `Isanti` / Isanti Red Twig Dogwood | EA | 8 | \$ 55.00 | \$ 440 |
| Viburnum carlesii `Compactum` / Korean Spice Viburnum | EA | 9 | \$ 75.00 | \$ 675 |
| Viburnum trilobum / American Cranberrybush | EA | 72 | \$ 75.00 | \$ 5,400 |
| | | | | |
| Ilex glabra `Shamrock` / Inkberry | EA | 9 | \$ 90.00 | \$ 810 |
| Juniperus chinensis `Kallays Compact` / Kallay Compact Pfitzer Juniper | EA | 13 | \$ 75.00 | \$ 975 |
| Juniperus horizontalis `Blue Chip` / Blue Chip Juniper | EA | 12 | \$ 75.00 | \$ 900 |
| Thuja occidentalis `Little Giant` / Little Giant Arborvitae | EA | 7 | \$ 75.00 | \$ 525 |
| Thuja occidentalis `Woodwardii` / Woodward Arborvitae | EA | 20 | \$ 75.00 | \$ 1,500 |
| | | | | |
| Achillea millefolium `Strawberry Seduction` / Strawberry Seduction Common Yarrow | EA | 32 | \$ 21.00 | \$ 672 |
| Alchemilla mollis / Lady's Mantle | EA | 29 | \$ 21.00 | \$ 609 |
| Allium x `Millenium` / Millenium Ornamental Onion | EA | 24 | \$ 21.00 | \$ 504 |
| Echinacea x `Pixie Meadowbrite` / Pixie Meadowbrite Purple Coneflower | EA | 22 | \$ 21.00 | \$ 462 |
| Eupatorium dubium `Baby Joe` / Dwarf Joe-Pye Weed | EA | 42 | \$ 21.00 | \$ 882 |
| Hemerocallis x `Hyperion` / Hyperion Daylily | EA | 25 | \$ 21.00 | \$ 525 |
| Hemerocallis x `Ruby Sentinel` / Ruby Sentinel Daylily | EA | 26 | \$ 21.00 | \$ 546 |
| Nepeta x fasseni `Blue Wonder` / Blue Wonder Catmint | EA | 30 | \$ 21.00 | \$ 630 |
| | | | | |
| Pennisetum alopecuroides `Hameln` / Hameln Dwarf Fountain Grass | EA | 6 | \$ 28.00 | \$ 168 |
| Schizachrium scoparium `Carousel` / Carousel Little Bluestem | EA | 8 | \$ 28.00 | \$ 224 |
| Schizachyrium scoparium `Prairie Blues` / Prairie Blues Little Bluestem | EA | 7 | \$ 28.00 | \$ 196 |
| Sesleria autumnalis / Autumn Moor Grass | EA | 12 | \$ 28.00 | \$ 336 |
| Sporobolus heterolepis / Prairie Dropseed | EA | 10 | \$ 28.00 | \$ 280 |
| | | | | |
| Turf Sod | SF | 10,500 | \$ 1.25 | \$ 13,125 |
| PRA1 Wetland Edge Seed Mix with Lightweight Erosion Control Blanket | SF | 3,100 | \$ 1.50 | \$ 4,650 |
| PRA2 Stormwater Wet-Mesic Seed Mix with Lightweight Erosion Control Blanket | SF | 11,000 | \$ 1.50 | \$ 16,500 |
| PRA3 Low Profile Prairie Seed Mix with Lightweight Erosion Control Blanket | SF | 9,000 | \$ 1.50 | \$ 13,500 |
| | | | | |
| Existing Landscape Renovation (Removals, Edging, Trimming, Etc) | LS | 1 | \$ 7,500.00 | \$ 7,500 |
| | | | | |
| Contingency | | 1 | 10% | \$ 11,142 |
| TOTAL | | | | \$ 122,561 |

NATIVE BASIN SPECIFICATIONS

Project Name: Rizza Porsche (8760 W. 159th Street, Orland Park, IL 60462)
Owner: Rizza Porsche
ENCAP, Inc. #: 23-0320A
Document Preparer: S. Rowley, ENCAP, Inc.
Date Prepared: April 24, 2023

1.0 PURPOSE

The purpose of this plan is to restore and re-establish a previously constructed and planted naturalized detention basin located on the Rizza Porsche site. The previously constructed basin was created for stormwater management purposes and was intended for water quality treatment through the native plantings. The basin is currently in disrepair and the restored plantings will provide improved water quality functions, soil stabilization, wildlife habitat, and aesthetics for the area.

2.0 CONTRACTOR QUALIFICATIONS

1. The Native Landscape Contractor chosen for the establishment and enhancement of the natural areas must be experienced in the restoration, installation, and management of said areas. They must have a minimum of five years of experience conducting ecological restoration and management projects.
2. There shall be a supervisor available at all times that can identify non-native and native plants by genus and species. The goal of installing successful native plant communities is a long-term process. Therefore, it is imperative that a qualified Native Landscape Contractor perform the initial installation and maintenance.

3.0 QUALITY AND CONDITION

1. All native seed proposed for the project shall be provided as Pure Live Seed (PLS) and sourced from within a 200-mile radius of the project location. Plant origins outside of this range must be approved by the Wetland Consultant.
2. Native seeds shall be blended by the vendor, and the mixture and ratio shall be guaranteed in writing to be as specified. The amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre for all species listed. It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.
3. Native Landscape Contractor shall provide the Wetland Consultant with the name and location of the seed supplier, origin of the various kinds of plants, and a statement of the purity of the seed.
4. Seed shall conform to applicable State and Federal regulations as in effect on the date of letting. Unless otherwise specified, seed shall not contain in excess of 1 percent weed seeds; 0 percent is desirable.
5. All storage requirements, stratification, and scarification considerations shall be the sole responsibility of the Native Landscape Contractor.

6. If specified for the seed mixture, mycorrhizal inoculants shall be pelletized and mixed at 1 lb. per acre with the fine seeds before installation. The inoculants shall contain a diverse mixture of Glomales fungal species (*Glomus* spp.) in pelletized form.
7. Under no circumstances shall Wheat (*Triticum aestivum*), Cereal Rye (*Secale cereale*), Perennial Rye (*Lolium perenne*), or Barley (*Hordeum vulgare*) be used as a temporary cover crop.

4.0 HANDLING

1. Native Landscape Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing, or screening operations.
2. All native seeds shall be packed and covered in such a manner as to ensure adequate protection against damage and maintain dormancy while in transit, storage, or during planting operations.
3. Seed shall be kept dry and unopened until needed for use. Seed shall not be stored or temporarily stored in locations or vehicles where the temperature will be in excess of 90 degrees F.

5.0 SITE PREPARATION

1. The site shall be cleared of all undesirable vegetation prior to seeding. If necessary, non-selective herbicide (Aquatic-approved Glyphosate formulation) should be applied within the proposed planting zones at least 2 weeks prior to seedbed preparation. At least two (2) separate herbicide applications shall occur prior to planting to ensure adequate spray coverage and plant mortality. Cutting and removal of plant materials is required prior to planting.
2. The Native Landscape Contractor shall be responsible for performing all work necessary to achieve and maintain an acceptable seedbed prior to seeding. All areas must be properly prepared before seeding begins. Underground utility location maps and plans should be reviewed prior to work. Equipment having low unit pressure ground contact shall be utilized within the planting areas.
3. Unless the Wetland Consultant agrees to another approach, the seedbed shall be prepared by working the topsoil to a depth of 3 inches. Site preparation equipment shall be of a design that can be utilized efficiently by the Native Landscape Contractor to meet the requirements for the work specified. The equipment proposed for use by the Native Landscape Contractor for disking and herbicide applications shall be subject to approval by the Wetland Consultant.
4. Prior to seeding, at least 6 inches of topsoil shall be present and free of all clods, stones, roots, sticks, rivulets, gullies, crusting, and cracking. The soil aggregate size will be no greater than 2 inches in the largest diameter.

5. If present, compacted soils shall be disked or raked prior to seeding. Remedial measures for the access area may, at the direction of the Wetland Consultant, involve ripping from 12 to 18 inches of the soil horizon prior to disking. If compaction is not a concern and the seedbed needs to be loosened prior to seeding to ensure good seed-soil contact, disking or raking shall be performed using equipment and the approach recommended by the Native Landscape Contractor, subject to approval by the Wetland Consultant.
6. If needed, cultivation shall occur within 24 hours prior to seeding. Seeding should occur immediately after the last cultivation, preferably before a rain.

6.0 PLANT MATERIALS – See Design Perspectives, Inc. Plans

7.0 SEED INSTALLATION

1. Except where site conditions preclude their use, seeding shall be performed using a Truax drill, Truax Trillion seeder, or comparable equipment designed specifically for installation of native seed. For areas where site conditions preclude the use of specialized equipment, seed may be installed through hand broadcasting and lightly raking in the seed. **Hand broadcast seed shall be spread at twice the specified rate.** Other methods of seed installation may be used with prior approval from the Wetland Consultant.

2. Seasonal Considerations:

November 1 through February 28: Seed must be protected from displacement due to water and wind erosion. Seeding on bare, graded surfaces must be protected with double netted erosion control blankets on slopes. Less cover crop will be observed during the following spring due to frost damage.

March 1 through June 29: Seeding during this period is appropriate but germination of a portion of the seed may not occur until the following season due to lack of cold stratification to break seed dormancy. Cover crop generally germinates within 2-3 weeks of seeding operation. Seeding on bare, graded surfaces must be protected with erosion control blankets on slopes.

June 30 through September 15: Installation of native seed should be suspended unless irrigation can be provided, or unseasonably cool conditions persist. Also, any annual forbs planted with the mix during this time period may germinate but not have sufficient time to flower before fall senescence. Seeding on bare, graded surfaces must be protected with erosion control blankets on slopes.

September 15 through October 31: Seeding on bare, graded surfaces must be protected with double netted erosion control blankets on slopes. Less cover crop will be observed during the following spring due to frost damage.

3. Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. In general, the optimum seeding depth is 0.25 inch below the soil surface. Areas where the seed has not been incorporated into the soil to the proper depths will not be accepted, and no

compensation for materials or labor for the rejected work will be made by the Owner.

4. Equipment shall be operated in a manner to ensure complete, uniform coverage of the entire area to be seeded and to avoid damage to existing woody plants. Any area inadequately covered, as solely determined by the Wetland Consultant, shall be retreated at no additional cost to the Owner.
5. Seeding and soil tracking/firming shall not be done during periods of rain, severe drought, high winds, excessive moisture, frozen ground, or other conditions that preclude satisfactory results.
6. To achieve the best results, seed boxes should be kept more than one-quarter full at all times and ground speed should be no more than 2 to 3 mph.
7. Seeding operations must occur when soil moisture is appropriate for seeding operation.
8. Native plant seed shall not receive fertilizer.
9. Wet seed that is moldy or otherwise damaged in transit or storage shall not be used.
10. After seeding operation is completed, install erosion control blanket per manufacturer's specifications as necessary.

8.0 PLUGGING IMPLEMENTATION

1. Plugging shall only be implemented to supplement seeding. Plugs shall not be installed until the second growing season unless otherwise specified by the Wetland Consultant. Plugs shall be installed in the spring or other date guaranteed by the Native Landscape Contractor.
2. Plugs shall be planted in a hole dug with a trowel, spade, planting bar, or suitable instrument such that the hole is of a minimum diameter and depth to accommodate the plug, with its roots, without damage.
3. The soil excavated from the planting hole should be used to backfill around the plant and lightly packed to secure the roots in the soil.
4. If planting is delayed more than six hours after delivery, store plugs in the shade, protect from the weather and mechanical damage, and keep them moist and cool. All plugs should be planted within 24 hours of delivery unless a watering and monitoring regime is implemented by the Contractor to ensure plant vitality.
5. Plugs shall be obtained from a reputable nursery or grown from seed. Plugs shall not be collected from wild populations of plants.
6. Plugs shall be installed in areas approximately 8 feet by 12 feet in size. Waterfowl exclusion shall be constructed around plug areas in a manner to protect new plantings from depredation. Fencing shall be constructed of 1" wire

mesh or comparable material two feet in width. Posts shall be metal t-post or 2"x 2" wood stakes. Posts shall be 4 to 6 feet in length depending on soil structure within the emergent planting area. String shall be strung across the tops of the exclusion structures to prevent aerial entry by waterfowl. Contractor will be responsible for removing exclusion fencing after areas are successfully established.

9.0 EROSION CONTROL

1. The Native Landscape Contractor shall be fully responsible for implementing erosion control measures within prescribed planting areas.
2. All disturbed areas or areas of bare soil are recommended to be covered with erosion control blanket; North American Green S-75 or equivalent will be used at a minimum. Fall-winter plantings and/or 3:1 slopes require North American Green S-150 or equivalent. Erosion control blanket shall be installed within 24 hours after an area is seeded. See manufacturer's specifications for erosion control blanket composition.

10.0 CLEAN-UP AND PROTECTION

1. During landscape work, store materials and equipment where directed. Keep pavements clean and work areas and adjoining areas in an orderly condition.
2. Protect landscape work and materials from damage due to landscape operations or operations by other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed by the Wetland Consultant.

11.0 INSPECTIONS AND ACCEPTANCE

1. Owner reserves the right to inspect all seeds and plants either at place of growth or at site before planting for compliance with requirements for name, variety, size, quantity, quality or mix proportion.
2. Native Landscape Contractor is to keep records of the certificates of composition or invoices of seed mixtures and integrity of plant materials with respect to species, variety, and source after purchase.
3. Native Landscape Contractor is to notify Owner within five days after completing initial and/or supplemental plantings in each area.

MONITORING AND MANAGEMENT PLAN

Project Name: Rizza Porsche (8760 W. 159th Street, Orland Park, IL 60462)
Owner: Rizza Porsche
ENCAP, Inc. #: 23-0320A
Document Preparer: S. Rowley, ENCAP, Inc.
Date Prepared: April 24, 2023

1.0 MONITORING METHODOLOGY

The planted areas will be monitored annually for a three-year period to ensure successful establishment of the plantings. The primary objective of the monitoring program is to track the success of the planted species over the 3-year period of regularly scheduled monitoring sessions. The monitoring documents changes in plant community composition and reveals the need for management changes to improve floristic quality. Specific goals of the monitoring are to determine the vegetative species present, the percent cover by vegetation, and identify hydrology and erosion problems.

Annual vegetation monitoring will occur in August, September, or early October. Meander survey methodology will involve taking five (5) to ten (10) representative site photographs and performing a review of at least 20 percent of each vegetative community to identify the following:

1. the limits of all vegetation areas by general community type and dominant species within each planting zone (e.g., wetland and prairie zones),
2. all plant species (native and non-native) in each planting zone,
3. the approximate percent ground cover by native species within each planting zone,
4. the percent ground cover by non-native or invasive species in each planting zone,
5. erosion and sedimentation problems,
6. water level or drainage problems,
7. areas of bare soil larger than one square-meter, and
8. observations on specific management strategies necessary to achieve acceptance requirements.

2.0 PERFORMANCE STANDARDS

Satisfactory landscape development associated with naturalized vegetation in the stormwater basin will be based on the following items. If these standards are met at the end of the initial near-term monitoring and management period, as determined by the Village of Orland Park, the Village will approve the naturalized landscape areas and return the letter of credit. If these standards are not met at the end of the initial near-term

monitoring and management period, the time period will be extended until the performance standards are met and the letter of credit will be held until the performance standards are met.

1. **First Year:** Within three months of seed installation (or three months after the start of the growing season following dormant seeding), at least 90 percent of the seeded area, as measured by aerial cover, will be vegetated or otherwise stabilized against erosion. The cover crop may be included in this measurement.
2. **Second Year:** By the end of the second growing season, the planted areas shall have a minimum of 50 percent ground cover by species in the approved plant list and/or native species with native coefficient of conservation (C-) values of 2 or greater (per Swink and Wilhelm 1994 or more current version).
3. **Third Year:** By the end of the third growing season, the planted areas (e.g. wetland, prairie) shall have a minimum of 75 percent ground cover and emergent areas shall have minimum of 35 percent ground cover (by species in the approved plant list and/or native species with native coefficient of conservation (C-) values of 2 or greater. The cumulative plant list, across all vegetative communities, shall have a minimum native floristic quality index (FQI) of 20 and a (C-) value of 3.5 or greater.

Second- and Third-Year Additional Performance Standards:

4. Naturalized landscapes shall not have more than one square-meter devoid of vegetation, as measured by aerial coverage.
5. Seeded/planted areas (Excluding emergent zone) shall have no rills or gullies greater than four inches wide by four inches deep.
6. Areas seeded to turfgrass or low-maintenance turf shall have 95 percent ground cover.
7. Installed woody materials within the naturalized landscape area shall be alive, in healthy condition, and representative of the species.
8. No more than 25 percent of any specific plant community shall be individually or collectively dominated by non-native or weedy species.
9. None of the three-most dominant species may be non-native or weedy, including but not limited to the following:

Woody Plants

| | |
|-----------------------------|-----------------|
| <i>Acer negundo</i> | Box Elder |
| <i>Alnus glutinosa</i> | Black Alder |
| <i>Elaeagnus umbellata</i> | Autumn olive |
| <i>Euonymus alatus</i> | Burning Bush |
| <i>Lonicera</i> spp. | Honeysuckle |
| <i>Rhamnus</i> spp. | Buckthorn |
| <i>Robinia pseudoacacia</i> | Black locust |
| <i>Rosa multiflora</i> | Multiflora Rose |

| | |
|------------------------------|---------------------|
| <i>Ulmus pumila</i> | Siberian elm |
| <u>Broadleaf Plants</u> | |
| <i>Alliaria petiolata</i> | Garlic Mustard |
| <i>Ambrosia</i> spp. | Ragweed |
| <i>Arctium</i> spp. | Burdock |
| <i>Carduus nutans</i> | Musk Thistle |
| <i>Centaurea maculosa</i> | Spotted Knapweed |
| <i>Cirsium arvense</i> | Canada Thistle |
| <i>Conium maculatum</i> | Spotted Hemlock |
| <i>Coronilla varia</i> | Crown Vetch |
| <i>Daucus carota</i> | Wild Carrot |
| <i>Dipsacus</i> spp. | Teasel |
| <i>Euphorbia escula</i> | Leafy Spurge |
| <i>Hesperis matronalis</i> | Dame's Rocket |
| <i>Lotus corniculatus</i> | Bird's-foot Trefoil |
| <i>Lythrum salicaria</i> | Purple Loosestrife |
| <i>Medicago</i> spp. | Alfalfa/Medick |
| <i>Melilotus</i> spp. | Sweet Clover |
| <i>Pastinaca sativa</i> | Wild Parsnip |
| <i>Polygonum cuspidatum</i> | Japanese Knotweed |
| <i>Solidago altissima</i> | Tall Goldenrod |
| <i>Solidago sempervirens</i> | Seaside Goldenrod |
| <i>Trifolium</i> spp. | Clover |
| <i>Typha</i> spp. | Cattails |
| <u>Grass-like Plants</u> | |
| <i>Agropyron repens</i> | Quackgrass |
| <i>Bromus tectorum</i> | Cheatgrass |
| <i>Bromus japonicus</i> | Japanese Brome |
| <i>Bromus inermis</i> | Smooth Brome |
| <i>Phalaris arundinacea</i> | Reed Canary Grass |
| <i>Phragmites australis</i> | Common Reed |
| <i>Poa pratensis</i> | Kentucky Bluegrass |

10. Common Reed (*Phragmites australis*) is an aggressive invasive species that is especially problematic in the Orland Park region and is extremely difficult to control once established. Therefore, particular attention should be made for the early detection and eradication of Common Reed across the entire project property.

11. Cattails (*Typha* spp.) do not count towards the 25 percent weed criterion provided they represent no more than 20 percent cover.

3.0 REPORTING

An annual vegetation monitoring report will be submitted to the Owner and the Village of Orland Park by February 28th following the monitoring season each year. This report will be used to determine if the natural areas are meeting performance standards. The report shall include information on site location; permit numbers; methodology used (including monitoring dates); data results; summary relative to performance criteria; a

summary of the annual monitoring observations; a description of the management performed during the year; a list of recommendations for management during the upcoming year; and representative photographs of the natural areas. The naturalized detention basin shall meet certification requirements, associated performance standards, and will be monitored and maintained for a period of three years or until performance standards have been met and sign-off is granted by the Village of Orland Park.

4.0 NEAR TERM MANAGEMENT PLAN

1. First Year. Mow the planted areas to a height of 6-8 inches 2-4 times during the early growing season or as needed to control non-native and invasive species. Mowing (including weed whipping) shall take place prior to or when non-native and invasive species are flowering to prevent seed set. Control undesirable plant species, when present in small quantities, by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all aboveground and belowground stems, roots and flower masses prior to development of seeds. Apply herbicide (as necessary) to non-native and invasive perennial species within the naturalized areas with appropriate herbicide. Management site visits should be conducted at a minimum of 3-4 times annually.
2. Second Year. Control of undesirable plant species during the second growing season shall consist primarily of herbicide application. Mowing (including weed whipping) shall be conducted two to four times during the early growing season and as needed to a height of 6 to 8 inches to prevent annual weeds from producing seed. Management site visits should be conducted at a minimum of 3-4 times annually.
3. Third Year. Undesirable plant species will be controlled (as necessary) by mowing (including weed whipping), hand pulling, and/or spot herbicide application. At the completion of the third growing season (dependent on fuel availability and site conditions), fire **may** be introduced to the planted areas as a supplemental management tool. The Contractor and/or Wetland Consultant will collectively determine whether the areas would benefit from a prescribed burn considering its state of establishment. Trained professionals experienced in the fuel types present shall conduct burning. State and local permits shall be obtained prior to prescribed burning. Prior to a prescribed burn, surrounding property owners as well as local police and fire departments will be notified. A burn plan designating the preferred wind direction and speed, location of firebreaks, and necessary personnel and equipment shall be prepared and utilized in planning and burn implementation. The burn season generally runs from November 1 through April 30 and burns shall be conducted whenever conditions are suitable.

Continue to perform management site visits at least 3-4 times annually during the growing season.

If site and/or weather conditions preclude the use of prescribed burning for the site, it is recommended to conduct a late fall mowing with mulching/thatch removal at the completion of the third growing season. This regimen will mimic the conditions and benefits of a controlled burn.

5.0 HERBICIDE APPLICATION

This section applies to all site preparation and management herbicide application that is proposed to occur onsite.

1. Any person applying herbicide shall hold appropriate licensure for pesticide application in the state of Illinois. A licensed Illinois Pesticide Applicator shall be on-site at all times when herbicide is being applied.
2. Herbicide usage will vary based on site conditions and target species. The following herbicides are allowed for use in natural areas; aquatic approved Glyphosate formulations (Aquaneat®, Rodeo®, etc.), Clethodim (Intensity®, etc.), aquatic approved Imazapyr (Habitat®, etc.), Triclopyr 3A (Tahoe 3A®, Garlon 3A®, etc.), Garlon 4 Ultra® (no substitutions), and Aminopyralid (Milestone®) to control target species. It is the sole responsibility of the Contractor to evaluate the site and select the appropriate herbicide for both site conditions and target species in accordance with herbicide labeling.

6.0 LONG-TERM MANAGEMENT PLAN

Stormwater infrastructure requires long-term management to maintain its function as designed. It is expected that the stormwater detention basin will be maintained in its permitted condition in perpetuity. The long-term manager for the stormwater detention basin will be the Property Owner. An annual letter report documenting the completion of inspection and management tasks based on the information herein should be submitted to the Owner each year.

Management tasks should be preceded by a site inspection to determine if remedial measures are required and to recommend procedures to correct any deficiencies. The site inspection should be conducted by a qualified individual knowledgeable in native plants and management of native plantings. Areas of observation during the site inspection should include but are not limited to: dominant species within distinct planting communities; erosion or herbivory concerns that develop over time; changes in hydrology that may require additional planting to adjust for higher or lower water levels; or the appearance of invasive species in the managed area that require alternative management methods.

The following management tasks should be completed annually, unless otherwise specified below:

1. Debris Removal: All debris shall be removed, via non-invasive methods, from within the special management area.
2. Herbicide Application: Selective herbicide to control invasive species should be completed 1-2 times annually. A certified and licensed pesticide applicator shall select herbicide, appropriate for the area of use (such as wetlands or other special management area), and shall apply the herbicide by the appropriate method, to prevent killing of desirable native species. Invasive and non-native species, and woody plant species not specified as part of the planting plan, shall be controlled by appropriate management practices of the approved plan.

3. **Prescribed Burning:** If possible, a prescribed burn is suggested every 3-5 years in late fall/early spring. Controlled burns are essential for even germination, establishment of deep root systems, and maintenance of non-native invasive species. These burns should only be performed by a qualified burn contractor.
4. **Mowing:** Selective mowing is a preferred method for control of annual non-native and invasive species to prevent seed proliferation. Mowing with a specialty flail-type mower to mulch thatch or weed whip with thatch removal (or combination) may be substituted for prescribed burns in instances where a burn is not permissible, or weather does not allow for a safe/effective burn.
5. **Erosion Control & Stabilization:** When conducting the annual inspection, it is important to observe and note areas of bare soil and other early warning signs of erosion. If caught early enough, they may be easily stabilized with seed and erosion control blanket.
6. **Brush Clearing:** Management of woody species is not likely necessary if prescribed burns and herbicide applications are successful and continued each year. If invasive shrubs become a problem they should be cut and all remaining stumps should be treated with an appropriate herbicide to prevent resprout, either through a basal oil treatment, hand wick applicator, or other approved method. Brush clearing should be conducted in the winter months with frozen ground conditions.

Table 1: Typical Management Schedule for Stormwater Basin

| Management Task | Spring | Summer | Fall | Winter |
|--------------------------------------|---------------|---------------|-------------|---------------|
| Annual Site Inspection | | X | | |
| Annual Letter Report | | | | X |
| Debris Removal (As Necessary) | X | X | X | X |
| Herbicide Application | X | X | X | |
| Mowing | X | | X | |
| Prescribed Burning/Off-Season Mowing | X | | X | X |
| Erosion Control & Stabilization | X | X | X | |
| Brush Clearing | | | X | X |

7.0 PROHIBITED ACTIVITIES

This section outlines various activities restricted or prohibited within areas of naturalized landscaping except as needed to achieve and maintain a naturalized landscape consistent with the approved plan as directed by a natural landscape maintenance specialist:

1. dumping of yard waste or debris,
2. replacement of approved vegetation with non-approved materials,
3. construction or placement of structures,

4. application of pesticides, fertilizer, or herbicides,
5. mowing other than for meeting specific management goals,
6. commercial, industrial, agricultural, residential developments, buildings, or structures, including but not limited to signs, billboards, other advertising material, or other structures,
7. removal or destruction of trees or plants, mowing, draining, plowing, mining, removal of topsoil, sand, rock, gravel, minerals or other material, and
8. operation of snowmobiles, dune buggies, motorcycles, all-terrain vehicles or any other types of motorized vehicles.