

Consultant:

Revisions:

No.	Date	Description
1	02/04/2015	Attendm
2	02/10/2015	Attendm
	02/16/2015	City Submit

Graphic Scale	
Project Number	130014
Set Type	CD
Date Issued	01/07/15
Sheet Number	L500

General Notes

- All landscape installation & maintenance to conform with all applicable local codes & ordinances, including (but not limited to) City of Bismarck Municipal Code.
- See Site & Civil dwgs. for work limits, scope of construction, dimensions &/or construction notes. See Civil dwgs. for all hardscape, grading, stormwater management, site utilities & erosion control. See Landscape dwgs. for landscape plans, coverage/restoration requirements, landscape details, schedules & notes. See Site electrical dwgs. for exterior power, circuiting & lighting. See Architectural dwgs. for all building construction & signage.
- Contractor shall provide shop drawings and material submittals of all hardscape & landscape construction elements shown in plan set for Landscape Architect review prior to construction.
- Contractor to provide samples for Owner approval on all colors, finishes & materials (including but not limited to imported topsoil, gravels, mulches, seed mixes et al) prior to installation.
- Caution: underground utilities are present on site. The Contractor shall verify location of all above- and below-grade utilities, both public & private, prior to commencement of site construction. If unanticipated above- or below-grade conditions are encountered, notify Client & Landscape Architect prior to proceeding. Coordinate with local public utility locating entity as needed.
- Contractor to verify layout prior to construction. Contact Architect, Landscape Architect and/or Civil Engineer if discrepancies are found.
- Contractor to limit construction traffic to within work limit lines. All adjacent damage shall be the responsibility of the contractor to restore. See Civil drawings for limits of disturbance. Note the flood plain limits and earthwork / grading restrictions as such.
- All written dimensions supersede scaled dimensions. All dimensions are taken from face of curb, wall or existing building foundations.
- All existing trees to remain shall be protected. Install snow fencing @ tree driplines or 15' R from trunks, whichever is farther. No earthwork, compaction, equipment storage, traffic or other disturbance to occur in fenced zones for the duration of the project, except what is specifically outlined in the plans.

Landscape Notes

- Rough grading, utility installation & topsoil placement shall be completed by others. Landscape contractor shall coordinate with GC and/or earthwork contractor to ensure that fine grading is properly completed. Seed restoration & ornamental planting bed area preparation shall be the landscape contractor's responsibility. Verify all existing site and grading conditions prior to construction.
- All areas disturbed by grading or site construction shall be fine graded and restored with vegetative cover as shown in the plans. Areas outside of the work limit lines are to be left as-is unless disturbed by contractor's staging or stockpiling. See plans for cover types & locations.
- Contractor shall verify plant quantities shown on plan. Provide a material list to the LA prior to construction identifying the species, sizes & plant sources to be used throughout the project.
- The LA reserves the right inspect all woody & herbaceous nursery stock prior to installation and will reject any substandard material, whether installed or not. Such rejected material shall be removed from the project site immediately and replaced with material meeting the specifications set forth in the plans & schedules.

- All nursery tags/labels shall be left on plant materials until the project punch-list inspection is completed. Untagged materials will be assumed to be deficient.
- All ornamental planting beds shall contain blended topsoil mix to a min. depth of 18". All seeded coverage areas shall have a min. depth of 6". Suitable existing soil may be used & mixed if it conforms to the requirements of Section 32 90 00. Prior to planting, contractor is responsible for obtaining soil tests for all topsoil (existing stockpile or newly imported.) Soil testing results shall include (but are not limited to) soil pH, % organic matter, nitrogen, phosphorus, potassium, calcium, cation exchange ratio & texture (percentages of sand, silt and/or clay.) Test lab shall make recommendations if species changes are necessary. Contaminated soil shall be removed from the project site if discovered. Remove excessive clay, gravel, stones, materials detrimental to healthy plant growth and/or debris greater than 1" dia. Mix new topsoil mix into existing soil if needed.
- Contractor is responsible for ensuring that all tree pits & planting areas drain properly. Notify Architect, Landscape Architect and/or Civil Engineer if drainage or moisture problems are encountered while planting.
- Contractor shall backfill all trees, shrubs & evergreens with a mix of 1/3 plant starter mix & 2/3 remaining soil. Plant Starter Mix shall be comprised of 40% organic brown topsoil, 30% composted manure, 20% black peat & 10% washed sand. Provide material sample & source information prior to ordering.
- All perennial and groundcover areas shall receive a 3" layer of plant starter mix and perennial starter fertilizer, rototilled into the top 6" of blended topsoil in beds.
- All perennial areas shall receive a 1-2" layer of shredded hardwood bark mulch. Do not allow mulch to touch stems or leaves of perennials! All woody planting areas shall receive a 3" layer. Unless otherwise shown in the plans, no landscape fabric or weed barrier is to be installed.
- Unless otherwise shown, all perennials & shrubs to be planted in triangular arrangements. For plants not shown individually, refer to the spacing shown in the plant schedule.
- Where noted, stone mulch areas to contain 2-3" of washed, round 'river rock' stone mulch, min. 1-1/2" dia., installed over poly weed barrier. All other mulch areas to be shredded hardwood bark mulch.
- All planting beds & maint. strip shall be edged with 3/16" x 4" mill-finish aluminum edging or 12-ga / 1/8" x 4" painted steel edging.
- Contractor shall warranty all woody plantings for one year after installation and all herbaceous plantings for one season after installation. At the end of the warranty period, if plants need replacement, they will be subject to one additional warranty period from date of replacement.
- Contractor shall provide comprehensive maintenance services (i.e. temporary watering, mulching, weeding, trimming, mowing, fertilizing, etc.) for the durations below. Maintenance calendars with all anticipated activities shall be submitted to the LA for review / approval prior to beginning installation. For non-Bluegrass areas, maintenance activities shall be based on the seed supplier's recommendations, or as based on contractor's professional expertise, whichever is more rigorous:
 - Bluegrass seeded areas: one full growing season
 - Low-mow areas & security berms @ bldg. perimeter: one full growing season
 - Ornamental planting areas (trees, shrubs, perennials etc.): 12 months
 - Slope & wet-tolerant seed mix areas within / adjacent to stormwater basins: 24 months

- Contractor shall provide positive drainage away from all structures for a minimum of 10'.

Seeding Notes & Mixes

- This work shall consist of preparing the seed beds and furnishing, sowing and mulching the required seed on the various seeded areas, as outlined in the site plans and specifications. All seed installations shall conform to select portions of the following codes:
 - Sections 1201, 1202 & 1204 of Bismarck's "Construction Specifications for Municipal Public Works Improvements"
 - Section 7.4.3.1 of Bismarck's "Stormwater Design Standards Manual."
- Rough grading, drainage work, topsoiling and fine grading shall be completed before sowing the seed mixes. The areas to be seeded shall be worked with plow chisels, discs & harrows, soil finishers and/or other appropriate equipment until a reasonably even and loose seedbed is obtained. Seed beds shall be prepared immediately in advance of the seeding. If proposed seed areas are weedy, contractor to apply herbicide or other weed control measures to eliminate weeds. Conform with seed supplier's seed bed preparation requirements as needed.
- Confirm that anticipated project schedule date(s) fall within the respective seed supplier's approved calendar prior to installation. Installations completed outside of acceptable seeding dates shall be performed at the sole responsibility and expense of the contractor.
- Seeds shall be min. 85% PLS and mixed in accordance w/ mfr's specifications. Provide invoices, bag-tags and/or mix analysis results to the LA as part of the submittal process for approval prior to installation.
- The seed mixtures shall be sown by means of equipment adapted to the purpose. Mechanical distribution of seed (i.e. Truax seed drill, Brillion seeder, cultipacker, slit-seeder, drop spreader or broadcast spreader) are the only accepted methods. Utilize the proper equipment as based on the seed type (i.e. seed drills specifically intended for chaffy native grass seed.) No hand-broadcasting of seed shall be accepted. If desired, the contractor can install Bluegrass via hydroseed process.
- No seeding shall occur if the wind exceeds 15 MPH.
- Coordinate erosion control and/or mulching with Civil dwgs. In sloped areas steeper than 4:1, erosion matting shall be installed by others; installation coordination will be required. In areas with slopes flatter than 4:1, the landscape contractor shall apply hydromulch after seed bed prep & mechanical sowing. Hydromulch application shall conform to the requirements in Section 1204 of Bismarck's "Construction Specifications for Municipal Public Works Improvements," including (but not limited to) application at 1,500 to 2,000 lbs of mulch per AC and mixing in an organic soil stabilizer. The contractor shall submit specs on the desired mulch materials for review / approval prior to use.
- See Civil dwgs for erosion control devices. Coordinate with erosion control contractor where required to ensure that topsoil, seeding and/or mat installations are properly coordinated.
- Contractor is responsible for obtaining soil tests for all seeded areas. Soil testing results shall include (but are not limited to) soil pH, % organic matter, nitrogen, phosphorus, potassium, calcium, cation exchange ratio & texture (percentages of sand, silt and/or clay.) Contaminated soil shall be removed from the project site if discovered. If necessary, supply soil amendments required for specified seed mixes and/or coordinate alternate mixes if soils cannot be properly conditioned prior to sowing.
- Seed mixes are as follows. Mix or source substitutions shall be considered only if submitted for approval prior to 7 days before the close of bidding. All mixes shall be installed & maintained per supplier's specifications. For all seeding other than Bluegrass, contractor shall apply a cover crop of Canada Wild Rye (15-30 lbs per AC), Common Oats (20-30 lbs per AC), Winter Wheat (12 lbs per AC) or locally typical variant depending on season & preference. Discuss with LA prior to furnishing.

BLUEGRASS MIX:
"Class II Turfgrass for Sunny Areas" mix as specified in Section 1202. Contractor shall furnish the proposed species blend & source for LA review/approval prior to installation. Apply @ 6 lbs per 1000 GSF.

LOW-MOW MIX:
"Shortgrass Prairie for Dry Soils" shall be supplied by Agrecol, Evansville WI, 608-223-3571. Species list shall be modified by Agrecol horticultural staff to increase grasses and reduce forbs. Provide modified species list to LA for review/approval prior to application. Apply @ 10 lbs per AC.

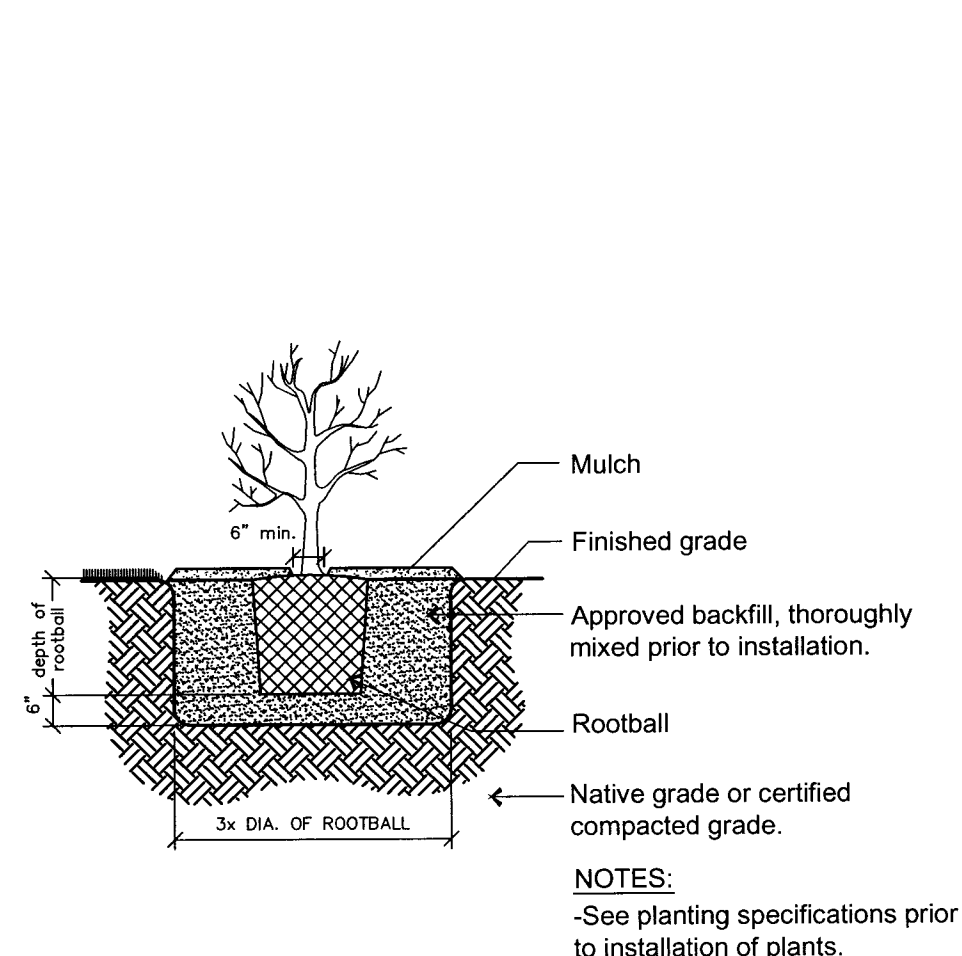
Alternate low-mow mix: "Class III Level Surface / Gentle Slopes" mix as specified in Section 1202.

SLOPE MIX:
"Class IV Slope Areas" mix as specified in Section 1202. Contractor shall furnish the proposed species blend & source for LA approval. Apply @ 50 lbs per AC.

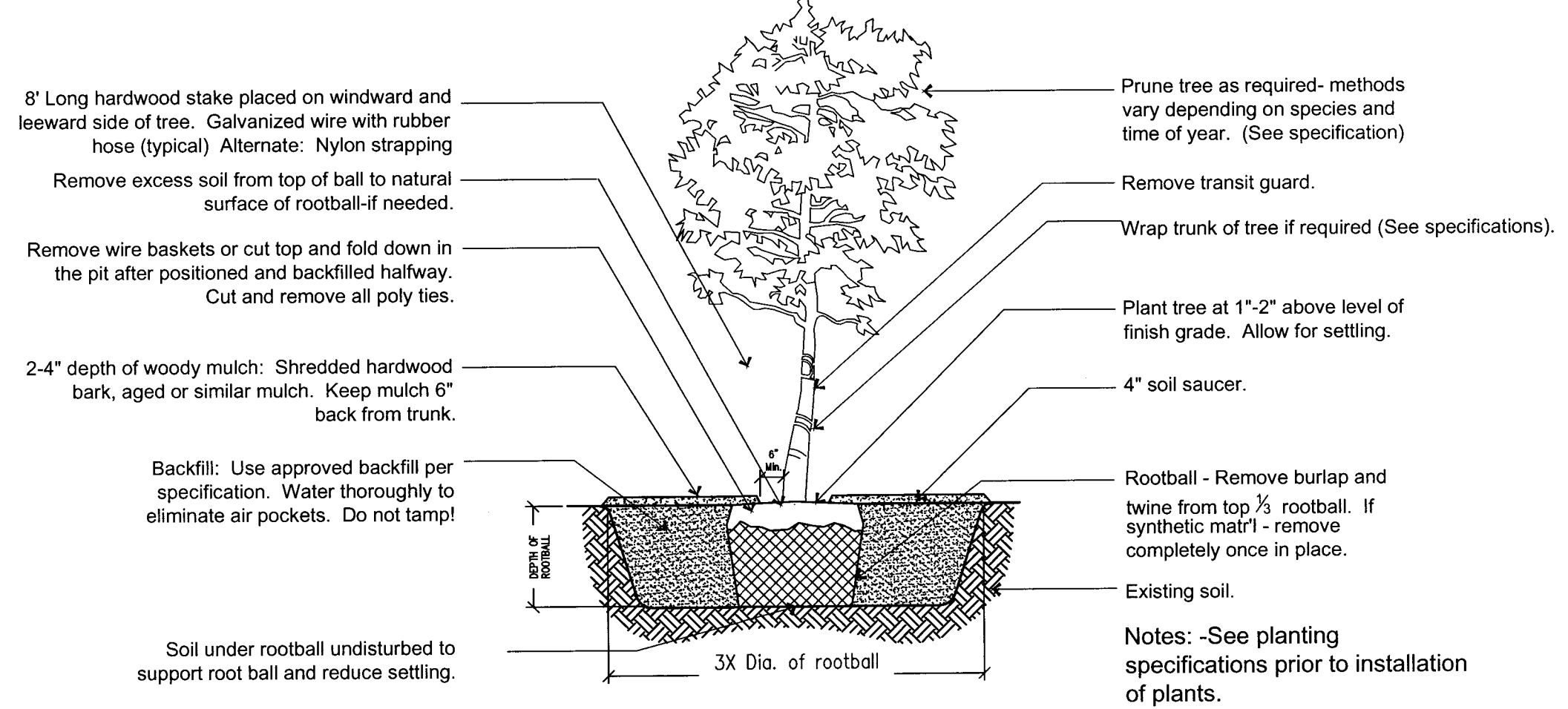
WET MIX:
"Infiltration Swale Mix" shall be supplied by Agrecol. Species list shall be modified by Agrecol horticultural staff to reduce moisture-loving species and boost drought-tolerant varieties. Provide modified species list to LA for review/approval prior to application. Apply @ 10 lbs per AC.

Landscape Calculations

Code Item	Measurement	Required	Provided	Notes
Street Trees:	800 LF	24 trees	24 trees	Measured from western work limits to eastern floodplain @ Hwy 10
Perimeter Parking:				
Southern public lot:				
Trees:	211 LF	09 trees	09 trees	
Shrubs:	211 LF	43 shrubs	41 shrubs	Includes mat's between public & staff lots, plus shrubs in southern parking lot islands
Southern staff lot:	N/A	N/A	N/A	due to distance from ROW
Interior Parking:				
Southern public lot:				
Green space area:	-	N/A	3,860 SF	No internal parking landscape req's due to less than 50 spaces
Trees:	-	0 trees	7 trees	"
Shrubs:	-	0 shrubs	20 shrubs	"
Southern staff lot:				
Green space area:	-	N/A	3,650 SF	No internal parking landscape req's due to less than 50 spaces
Trees:	-	0 trees	5 trees	"
Shrubs:	-	0 shrubs	20 shrubs	"
Northern lots:	N/A	N/A	N/A	due to less than 50 spaces
Buffers:	N/A	N/A	N/A	due to no adjacent residential zoning
Trash Encl. Screening:	N/A	N/A	N/A	due to location internal to site
Opinion of Cost:	Approx. \$200,000,			pending final bid results available after 02/18/2015



2 Shrub Planting Detail
Not To Scale



1 Tree Planting Detail
Not To Scale

NOTE: Where trees are installed on sloped areas, grading shall be terraced above & below tree pit to allow for flat installation @ root ball. Flat area to be min. 2x the width of the rootball, then sloped equally to match slope above & below, typ.

