CITY OF FARGO SPECIFICATIONS
LANDSCAPING

PART 1
DESCRIPTION OF WORK

The work to be done under this section of the Specifications and the accompanying plans consists of furnishing and installing nursery-grown trees, shrubs, perennials, edging, benches, concrete paving, and other related material in the City of Fargo.

Certified Arborist Required:

Trees must be planted by a firm having an International Society of Arboriculture Certified Arborist on staff (not contracted nor consultant). A copy of the current and valid certificate shall be submitted to the Engineer prior to tree planting work (in the case of subcontracted tree planting work, attach the certificate to the Sublet Request Form G6 for the tree planting subcontractor).

PART 2
MATERIAL

All materials shall be obtained from sources approved by City Forestry or Project Manager. The plant material used in connection with this work shall conform to the latest edition of the "American Standard for Nursery Stock", sponsored by American Association of Nurserymen, Inc.

2.1. PLANT MATERIALS

2.1.1. GENERAL

All plant material shall comply with all applicable State and Federal laws, including inspection certificates, which shall include the project number and plant material that the certification covers. All plant material is subject to inspection by representatives of the State and Federal Government.

All plant materials and specified shall conform to the sizing and grading standards as developed by the American Association of Nurseryman.

All plant material furnished shall be true to name and type and legible labels shall be furnished to insure that all species, varieties, boxes, bundles, bales or other containers are identified. The information on the label shall cover the botanical genus, species, common name and size of each species.

All plant material shall be sound, healthy specimens and first class representatives of their species or variety, and shall have well-formed tops and healthy root systems.

All container-grown, and balled and burlapped (B&B) plant material is subject to internal examination of the ball at any time to ascertain the condition of the roots and the ball.

All plants shall be nursery grown and shall be root-pruned, maintained and/or cultivated for a minimum of two (2) years prior to the contract date in similar climatic conditions as the project location.

If a Contractor is unable to locate sufficient plant material in specified sizes, negotiation for unit price reduction shall be concluded prior to planting.

All plant materials shall be "Nursery Grown" unless otherwise specified.

No substitutions of specified sizes, grades, species, qualities or forms shall be made without written permission of the City Forester or Project Manager.

2.1.2. REJECTION

Plant materials which lack proper proportions, have serious injuries to the bark or roots, broken branches, objectionable disfigurements, shriveled dry roots, broken balls, insect pests, diseases, or which are not found to comply with the Specifications in any way will be rejected. Rejected plant material shall be removed from the project as soon as practical.

Plant materials, which are planted and later discovered to be not true to name, may be allowed to remain in place without payment being made.

Any plant material, which does not meet the specified minimum size, shall be rejected.

Fresh dug material is given preference over plant material held in storage. Plant material held in storage shall be rejected if excessive growth has occurred.

Unnecessary injury to or removal of fibrous roots from the plant material is cause for rejection of the plant material. The soil for balled, container-grown, or pot-grown material shall be in such condition so as to insure no crumbling or cracking. Balls shall be wrapped with burlap prior to removal from the ground. The burlap shall be held in place with cork or pinning nails. Handling of balled and burlapped material shall be in such a manner as to keep the earth intact. Plant material on which earthen balls do not hold together or which crack in handling shall be rejected.

Containerized plants shall have been growing in a container for a minimum of two seasons and have a healthy, vigorous root system. Root balls that crumble when removed from the container will be rejected.

2.2. MULCH

City of Fargo mulch shall be used and is available at the compost site at no cost to the Contractor. Contractor to load and haul. If applicable, in all common planting beds the existing lawn is to be 'weed-killed' with a chemical herbicide suitable for use for killing lawn, prior to the placement of mulch. The cost for this item shall be included in the contract price per planting.

2.3. STAKES

Stakes shall be steel and will be notched or drilled to retain guy wires. Steel post will be placed outside of the planting pit. The Contractor shall be responsible for the removal of the stakes after the plant material has adjusted to its site conditions (typically 2 full growing seasons). Contact the City Forester in advance for approval. The cost for this item shall be included in the contract price per tree.

2.4. WIRE

The minimum size of wire used for guying shall be 12 gauge. Substitution requests for standard hose and wire guying will not be approved. Wire should be level from stake to tree tie. The cost for this item shall be included in the contract price per tree.

2.5. TREE TIES

Trees will be anchored to stakes by a 16" long polypropylene 1 ½" strap. The cost for this item shall be included in the contract price per tree.

2.6. BACKFILL FOR PLANT MATERIAL

The backfill shall be a suitable loam/clay mixture. When possible, use existing soil as backfill. In heavy clay soils amendments may need to be added to improve soil structure. Mix amendments prior to filling the hole to prevent stratification. The cost for this item shall be included in the contract price per tree.

2.7. LANDSCAPING EDGING

Edging shall be 'bullet' style commercial grade precast concrete edging where shown on plans and as indicated on details. Concrete shall be 3,500 minimum PSI, natural gray (without integral color). Contractor installing edging must have a minimum of 3 years experience installing 'bullet' style concrete edging and shall provide documentation of such experience.

2.8. BIO-BARRIER LANDSCAPE WEED BARRIER

Weed barrier shall be Bio-Barrier II weed barrier or approved equal. Place in perennial, shrub, and ornamental grass planting areas as indicated on plans.

2.9. BENCH

6' metal bench to be Wausau Tile model #MF 2200, or Sitescapes, Inc. model #CV1-1000PF, or Dumor Model #93, or approved equal. Bench to be powder coated by manufacturer. Color to be black. Bench to be surface mounted to concrete pad with manufacturer's recommended surface mounting hardware.

2.10. CONCRETE PAD FOR BENCH

Concrete pad to be 4" thick, natural colored concrete, 4,000 minimum PSI. Pad to have #4 rebar 24" O.C. centered in slab, each way. Pad finish to be medium broom. Install pad over 2" thick, class 5 crushed aggregate base, over compacted subgrade. Dowel into adjacent bike path as indicated in detail. Refer to plans and details for additional information. The cost for the concrete pad shall be included in the contract price per bench.

2.11. ROCK MULCH

2" to 4" diameter, washed granite rock mulch. Install to a depth of 3" over a 5 oz. woven weed barrier fabric. In all areas where rock mulch and weed barrier fabric is used, the existing lawn that is stripped and removed shall become property of the Contractor. The planting bed shall be thoroughly tilled and fine graded. Utilize rock mulch where specifically called out on plans. The 5 oz. woven weed barrier fabric shall be included in the contract price for rock mulch.

2.12. IMPORT FILL

All clay fill required to be imported shall meet the requirements set forth for IMPERVIOUS FILL specified in Section 2000 of these Specifications

2.13. TOPSOIL

All topsoil required to be imported shall meet the requirements set forth for TOPSOIL – IMPORT SPECIAL specified in Section 2000 of these Specifications.

PART 3
CONSTRUCTION

3.1. GENERAL

The Contractor shall furnish all necessary machinery, tools, labor and materials required and shall fully complete the work in accordance with the contract.

Contractor shall provide all necessary means and measures to protect storm drain inlets from erosion caused by their activities.

The entire work to be performed under the agreement is to be at the Contractor's risk, and the Contractor is to assume responsibility for all damages to the work or to contiguous property.

The Contractor shall have charge of and be responsible for the entire project until its completion and acceptance. It shall be the Contractor's responsibility to maintain all stages of work in a safe and suitable condition at all times including nights, weekends and holidays.

The Contractor shall make observations of their work during such periods as are necessary to ensure proper performance thereof.

The Contractor shall designate one person who shall have charge of the job and to whom the City Forester or Project Manager shall give directions and communicate with.

The Contractor shall be insured against liability for injury to employees in accordance with the laws of the State of North Dakota pertaining thereto.

Precautions shall be exercised at all times for the protection of persons (including employees) and property. The safety provision of applicable laws shall be observed.

The project is to be completed under the direction of the City Forester, Project Manager or designated representative, and all material used and the method of performing the work shall, at all times, be subject to review. This individual shall have the authority to decide questions, which arise as to quality and acceptability of material furnished and work performed.

3.2. GENERAL PREPARATION

Planting holes must be prepared by Gramegna spading machine, or approved equal tilling method, at specified locations to a depth of approximately 8 inches. Walls of the planting hole shall be roughed up to remove the glazing affects of the tilling. The bottom of the hole shall be rough, flat

and deep enough so that the flare roots are even with the existing ground line or slightly higher. Some hand digging in the center of the hole may be necessary to achieve proper depth.

3.3. B&B AND CONTAINERIZED MATERIAL

The hole shall be partially backfilled and firmed. The bottom ring of wire is to be removed; tree placed in the hole, then the remainder of the wire basket is to be cut away and removed. The ball shall be set carefully into the hole & plumbed. The burlap shall be pulled back two-thirds the depth of the root ball and removed. Rope and twine should also be cut from the trunk. Then the backfilling process shall be completed. Balled and burlapped material which is dropped into the planting holes so as to cause the ball to crack and pull away from the roots shall be rejected. All containers including biodegradable or decomposable pots must be removed. If roots are growing in a spiral around the soil ball, the roots need to be severed. Using a sharp knife, make a crisscross cut across the bottom of the ball and vertical cuts on the sides of the ball deep enough to cut the net of roots.

When completed, planting site shall have convex shape, stopping water from pooling around the tree trunk.

3.4. BARE ROOT PLANT MATERIAL

All bare root plant installation work shall be completed before May 15. Bare root planting stock has had the soil removed from the root system. The root system must be kept cool and moist at all times up until the moment of planting. Watering shall occur immediately after installation. Refer to standard bare root tree planting details for additional information.

3.5. LOCATION AND PROTECTION OF EXISTING UTILITIES

The location of the public or private utilities may be shown on the plans, as reported by the various utility companies and the City, but this does not relieve the Contractor of the responsibility of determining the accuracy or completeness of said locations. North Dakota law requires the Contractor to contact ND One-Call at 800-795-0555 prior to any underground interference. The Contractor shall protect all trees, shrubs, manholes, water shut-off, survey monuments, or any other existing utilities from damage. Any utilities that are damaged during the course of the work shall be repaired or replaced to the satisfaction of the Engineer at the Contractor's expense.

3.6. STAKING OF PLANT MATERIAL

When the first watering of the plant material is complete, all trees shall be staked and guyed as shown in the detail. The stakes shall be driven so they support the trees and are firm. Guys shall be sufficiently tight and horizontal to transfer support from stake to tree.

3.7. MULCHING OF PLANT MATERIAL

Place wood chips loosely around boulevard trees within 24 hours after planting to uniform depth of three (3) inches and a minimum diameter of six (6) feet. All planting beds will be fully mulched. 'Round-up' or approved equal shall be applied according to manufacturer's recommendations prior to plant and mulch installation. These costs shall be included in the contract price per tree.

3.8. LAYOUT AND STAKING

The Contractor shall be responsible for staking the locations for individual plantings and bed alignments, and shall contact the Project Manager or City Forester prior to staking. All stakes shall be labeled as to identify proper specie at planting site.

The City Forester or Project Manager must approve changes in field locations or procedures.

3.9. PLANTING PROCEDURES

The tree-planting Contractor shall maintain a communication with the City Forester or Project Manager and verify when:

a) Planting stock has been ordered.
b) Planting stock has been received.
c) All other material required for the planting are on hand.

Contractor is to demonstrate to City Forester, per Specifications, how each tree and/or shrub will be planted. This is mandatory before any planting is to begin. Contractor shall make available the crew foreman, project representative, or any other Contractor staff that will be involved with the planting process.

The planting pit shall be excavated to the following dimensions:

Trees	72" x 72" x depth to flare root
Shrubs/Perennials	24" x 24" x depth to flare root

Each plant pit shall be backfilled with the approved planting soil placed in layers around the roots. Each layer shall be tamped carefully in a manner to avoid injury to the roots or disturbing the position of the tree. When approximately 2/3 to ¾ of the planting pit has been backfilled, the hole shall be watered so as to settle the soil in and around all of the roots. After the water has been absorbed, the planting pit shall be filled with the planting soil, tampered lightly to grade and watered thoroughly again. Any further settlement now, or during the maintenance/establishment period, shall be brought to grade with additional planting soil.

Trees shall be staked immediately upon being planted and the staking shall be considered and organized as part of the planting process. Stakes shall be snug after settling has taken place. No part of any wire shall be in contact with any part of each tree. All excess wire shall be removed or wrapped in such a way as to eliminate any loose ends. Wire shall be level.

PART 4
GUARANTEE, MEASUREMENT & PAYMENT

4.1. GUARANTEE

The Contractor shall maintain all plantings for a period of 1-year from the time of project acceptance. The cost is incidental to the bid price of the project. During this establishment period, the Contractor shall properly maintain all plant material planted under this contract, and shall replace all unacceptable plant material in the spring planting season or as directed by the City Forester or Project Manager.

4.2. ESTABLISHMENT PERIOD

The maintenance procedures shall include: protective measures against pests and diseases (including rabbit and/or other rodent protection); watering as often as required by necessity or direction of the City Forester/Project Manager or both; repairing damage to the watering basins; and other maintenance procedures as deemed necessary by the City Forester or Project Manager including the removal of any dead plant material from the project. A DETAILED INSPECTION FORM INCLUDING WORK PERFORMED WILL NEED TO BE INCLUDED WITH ALL BILLING STATEMENTS. If these duties are not satisfactorily performed, the City Forester or Project Manager will find means for the work to be completed and the cost deducted from the retainage.

Watering trees and related plant material must be completed in a timely fashion. Trees and shrubs must not be allowed to become stressed due to water deficit.

All plant material shall be watered each week unless soil moisture is adequate or excessive.

It is the Contractor's responsibility to determine when to apply water and when to refrain from applying water. Watering frequency is dependent upon weather and soil conditions.

When watering plants, application rate and pressure must be sufficient to allow water to soak into the soil to the full root depth without washing away any mulch, plants, seed or soil.

4.2.1. The City Forester or Project Manager will make an inspection of the plant material and establishment procedures. Establishment procedures that have not been performed shall

be brought to the Contractor's attention and may cause the establishment period to be extended.

4.2.2. Upon completion of the establishment period the City Forester or Project Manager will make an inspection of the plant material for acceptability. The inspection will normally be made during the week that the establishment period terminates.

4.2.3. Any plant material that is 25% dead or more shall be considered dead and must be replaced by the Contractor. Trees shall be considered dead when the main leader has died back, or 25% of the crown is dead. Shrubs shall be considered dead when 25% of the branching is dead. Removal of dead plant material shall occur right away with replacement taking place immediately or as soon as possible during the next planting season.

4.3. INSPECTION AND ACCEPTANCE

The tree-planting Contractor shall be responsible for all inspections and approval of plant materials that may be required by state, federal and/or other authorities and shall secure permits and certificates as may be required.

Each item furnished shall be within specified size, grade, species, height, form, spread, uniformity, health, condition, and free from damage, dehydration, and disease. The rejection of plant materials may take place at any time during the execution of the contract. The rejected plants or materials shall be removed immediately from the project site. All replacements of rejected plants and materials shall be subject to approval by the City Forester or Project Manager prior to use on the project.

4.4. COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall secure plant materials upon receiving the notice to proceed to guarantee specified species and sizes. Planting operations shall be conducted under favorable weather conditions during the planting seasons herein defined:

Spring …… May 1 to June 15
Fall …….. September 1 to October 15

All plant installation work shall be completed by the last day of the season.

All plantings shall be maintained, watered and be in a healthy condition 1 year after project acceptance. Replacement trees shall also be guaranteed for 1 year.

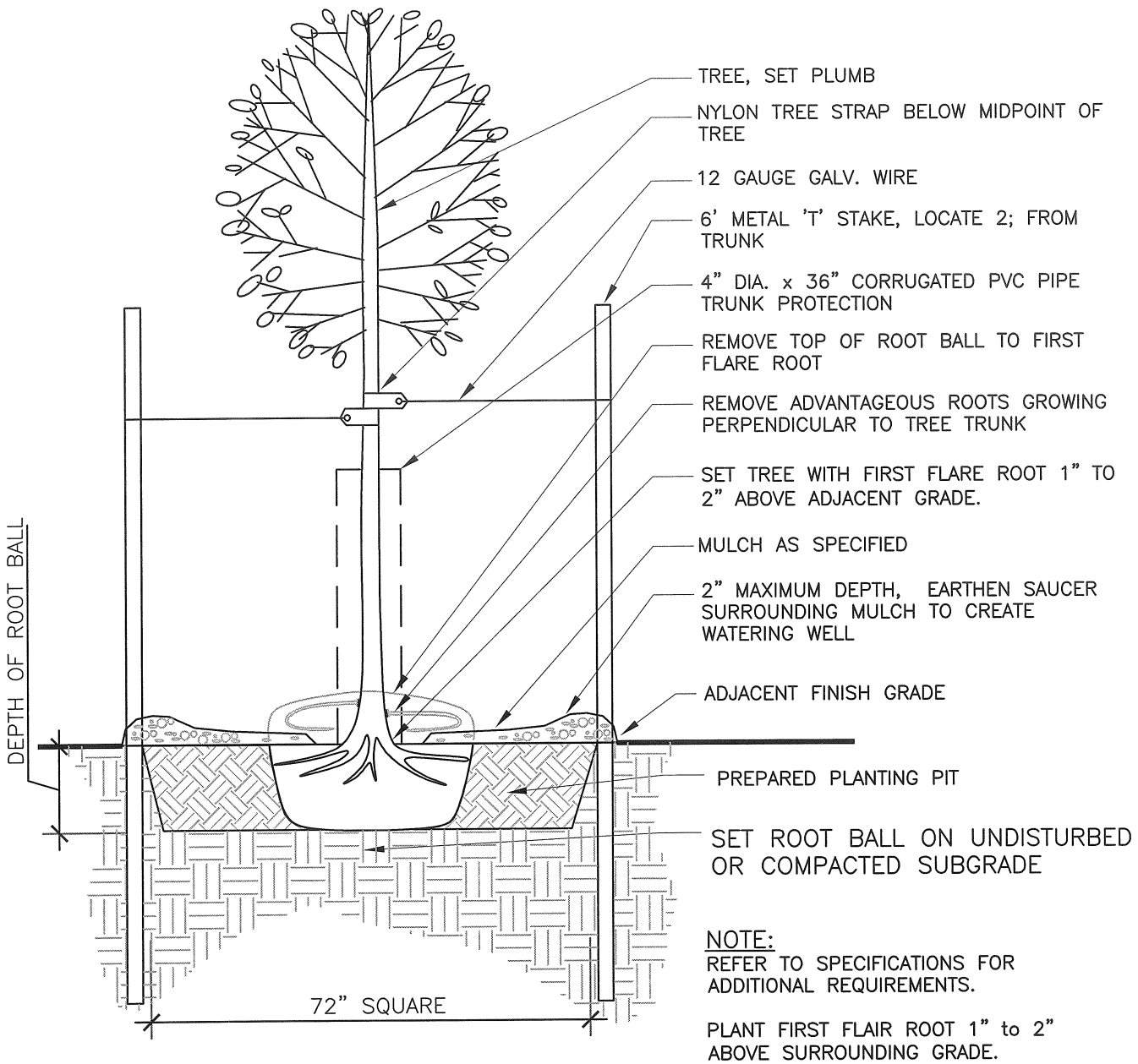
4.5. MEASUREMENT AND PAYMENT

Payment will not be made for work covered under this Section of the Specifications, whether performed by the Contractor or a subcontractor, unless the certification requirements described in PART 1 of this Section of the Specifications are met.

The specific items measure as provide herein, will be paid for at the contract unit price per each. This price shall be full compensation for furnishing and applying water, and for all materials, equipment, tools, labor, and incidentals necessary to complete the work as specified herein.

Payment shall be made on the following basis:

1) 85% of contract sum upon completion of project acceptance.
2) 100% of contract sum one year after project acceptance.
3) Contractor is responsible for notifying City Forester and/or Project Manager prior to scheduled watering. A detailed inspection form including work performed and watering dates will need to be included with all billing statements. IF THESE ITEMS HAVE NOT BEEN COMPLETED, NO PAYMENT WILL BE MADE.



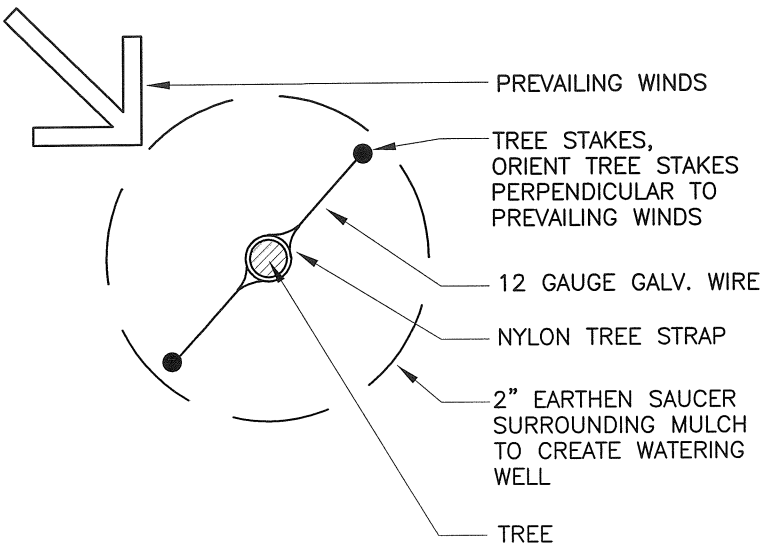
NOTE:
REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

PLANT FIRST FLAIR ROOT 1" to 2" ABOVE SURROUNDING GRADE.

TREES LOCATED IN LAWN TO HAVE 4" DEPTH BY 6' DIAMETER WOOD MULCH, UNLESS OTHERWISE NOTED.

KEEP MULCH 6" AWAY FROM TRUNK.

REFER TO 'TREE ROOT BALL PREPARATION' FOR ADDITIONAL INFORMATION.

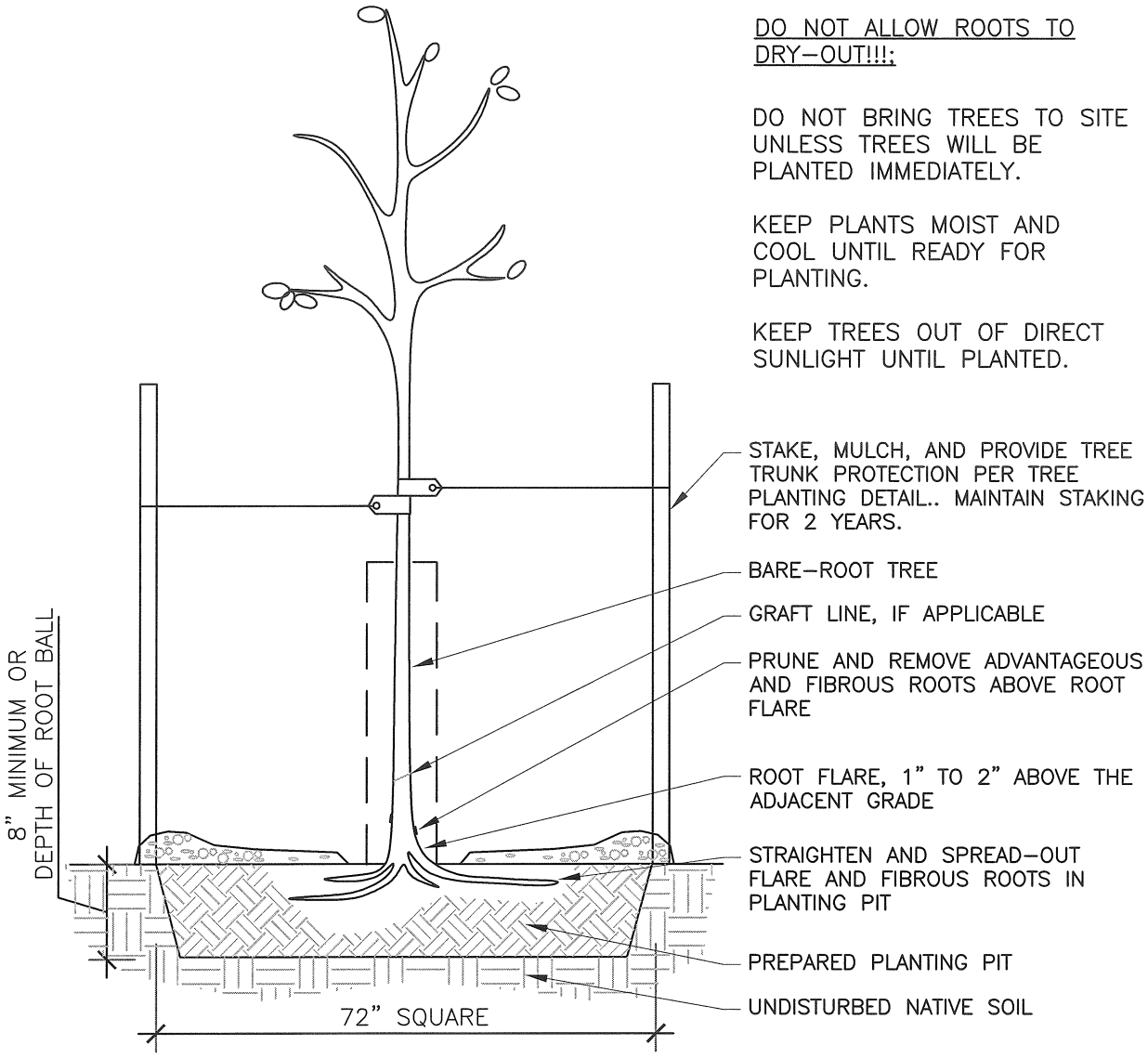


SECTION NO. 7000	DRAWING NO. 5.1
REV,D.	

TREE PLANTING DETAIL

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012



DO NOT ALLOW ROOTS TO DRY-OUT!!!;

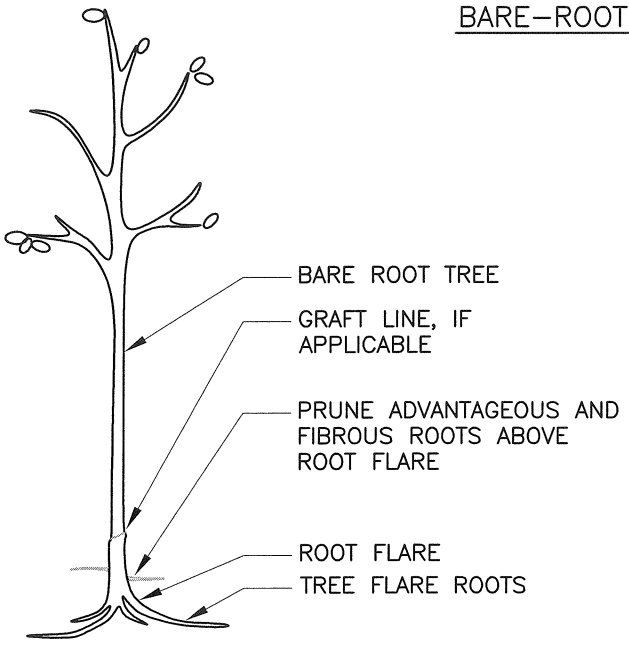
DO NOT BRING TREES TO SITE UNLESS TREES WILL BE PLANTED IMMEDIATELY.

KEEP PLANTS MOIST AND COOL UNTIL READY FOR PLANTING.

KEEP TREES OUT OF DIRECT SUNLIGHT UNTIL PLANTED.

BARE-ROOT PREPARATION AND PLANTING

NOT TO SCALE



TYPICAL BARE-ROOT

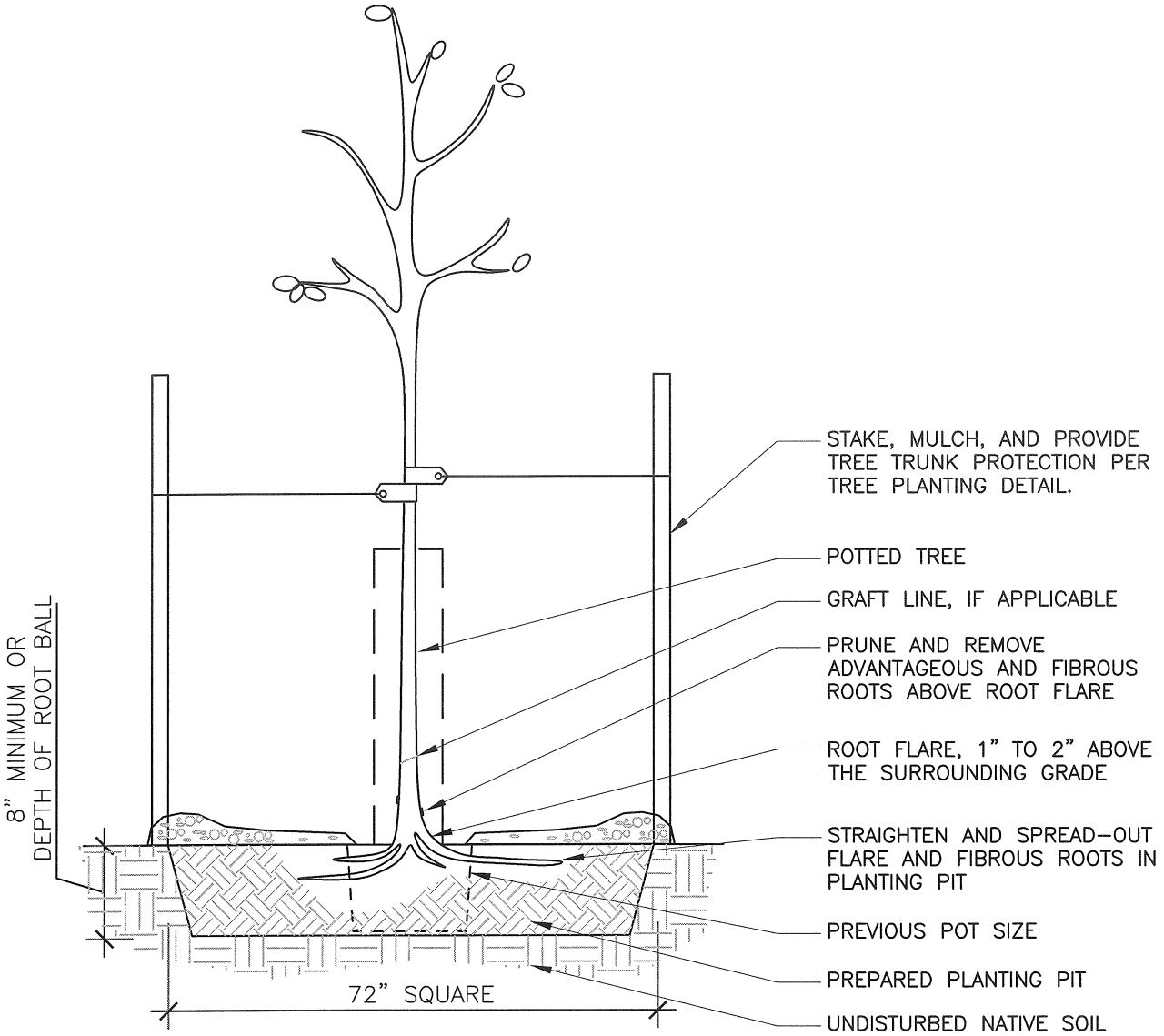
NOT TO SCALE

SECTION NO. 7000	DRAWING NO. 5.2
REV,D.	

BARE ROOT TREE PLANTING DETAIL

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012



POTTED TREE ROOT BALL PREPARATION AND PLANTING

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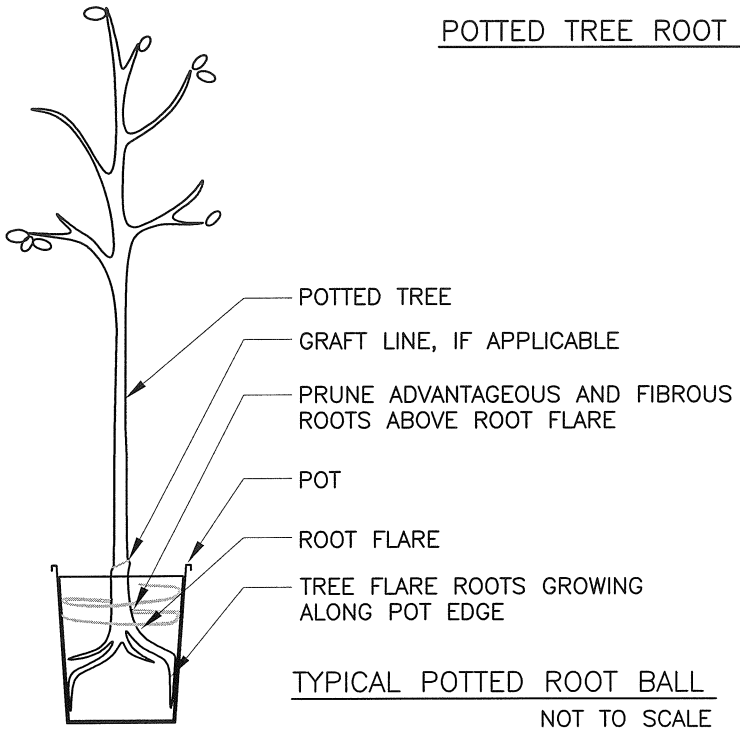


TYPICAL POTTED ROOT BALL

NOT TO SCALE

SECTION NO. 7000	DRAWING NO. 5.3
REV,D.	

POTTED TREE ROOT BALL PLANTING DETAIL

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012

REMOVE WIRE BASKET AND BURLAP;

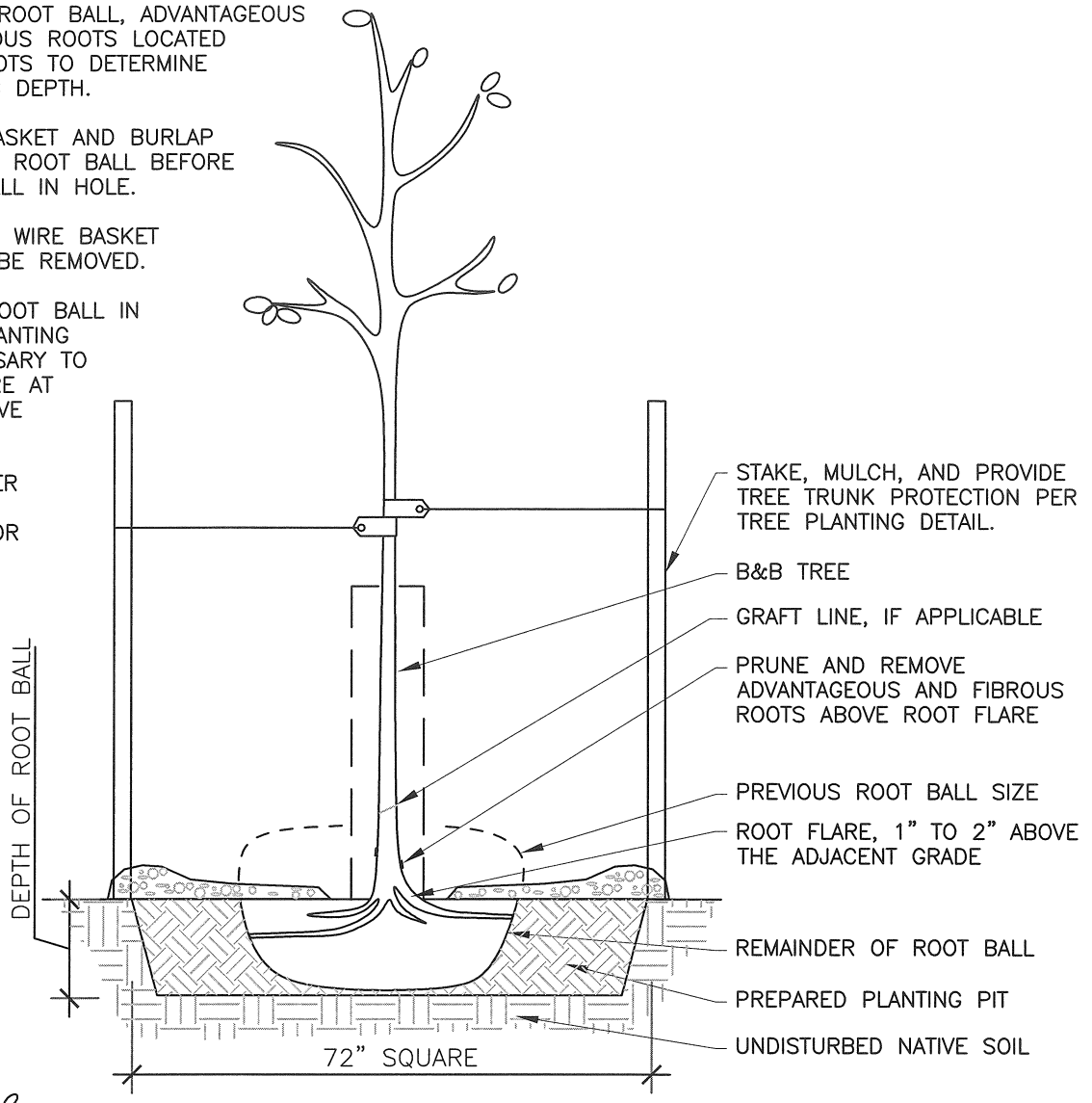
REMOVE TOP OF ROOT BALL, ADVANTAGEOUS ROOTS AND FIBROUS ROOTS LOCATED ABOVE FLARE ROOTS TO DETERMINE PROPER PLANTING DEPTH.

REMOVE WIRE BASKET AND BURLAP FROM BOTTOM OF ROOT BALL BEFORE PLACING ROOT BALL IN HOLE.

ALL TWINE, ROPE, WIRE BASKET AND BURLAP TO BE REMOVED.

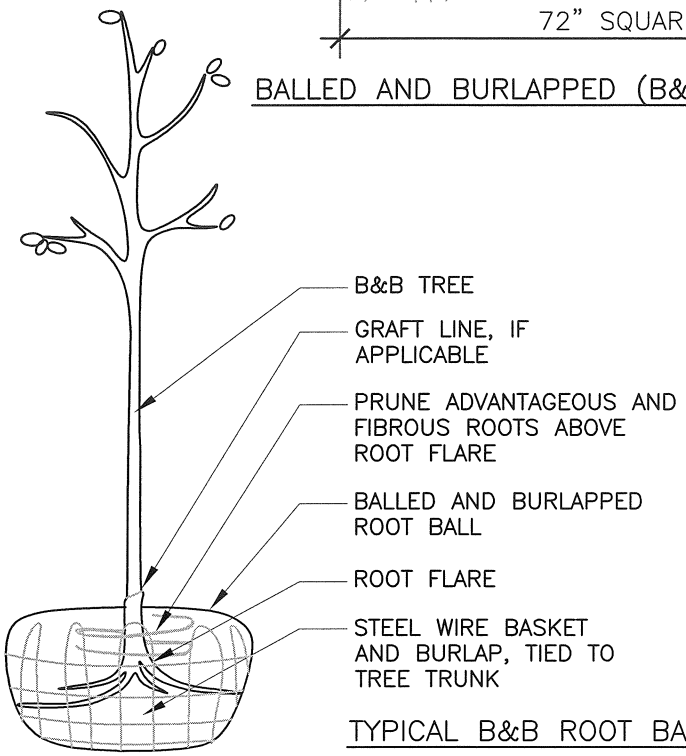
AFTER PLACING ROOT BALL IN HOLE, ADJUST PLANTING DEPTH AS NECESSARY TO PLACE ROOT FLARE AT OR SLIGHTLY ABOVE ADJACENT GRADE.

REMOVE REMAINDER OF WIRE BASKET AND BURLAP PRIOR TO BACKFILLING.



BALLED AND BURLAPPED (B&B) ROOT BALL PREPARATION AND PLANTING

NOT TO SCALE



TYPICAL B&B ROOT BALL

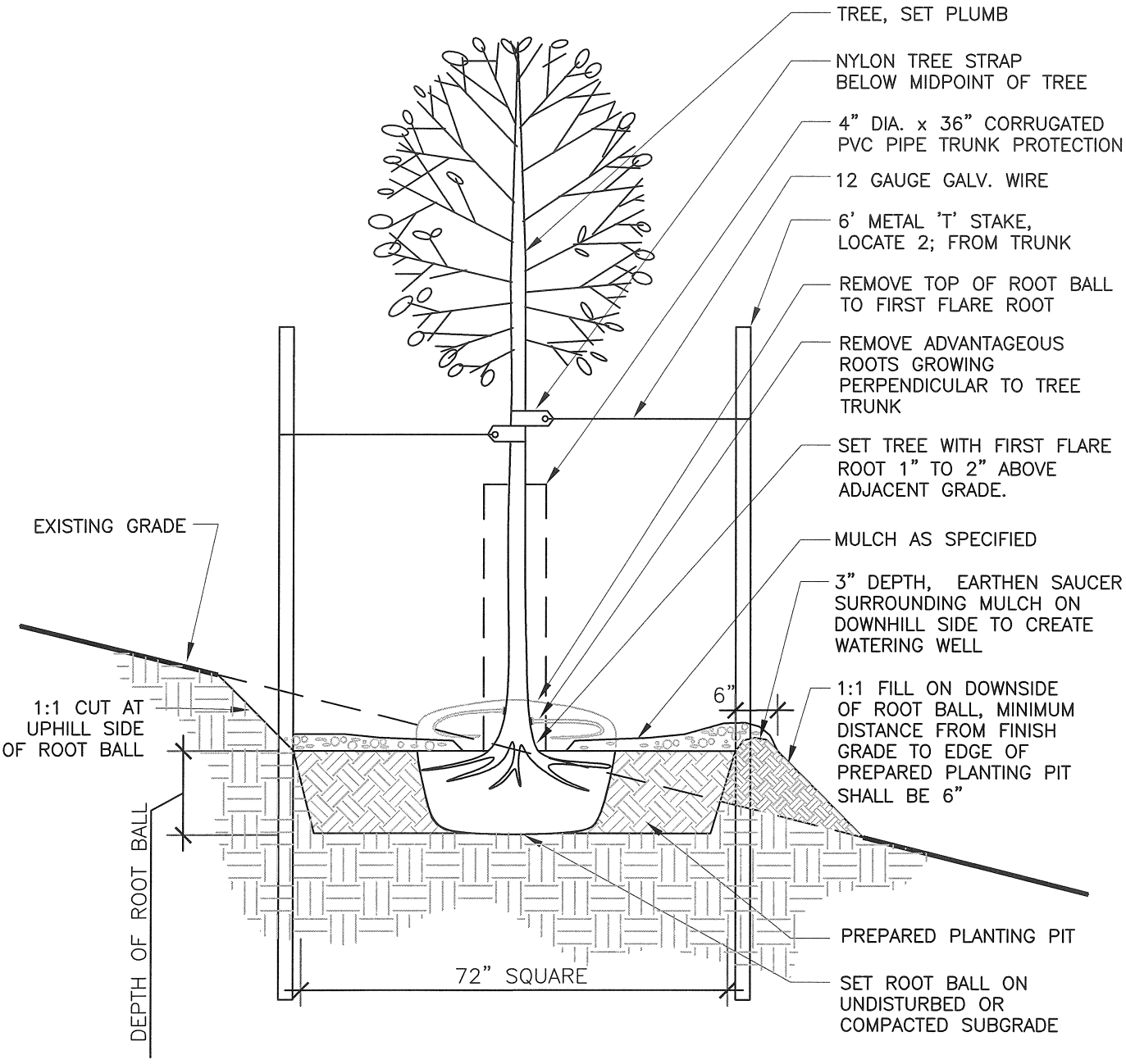
NOT TO SCALE

SECTION NO. 7000	DRAWING NO. 5.4
REV,D.	

BALLED & BURLAPPED (B&B) TREE ROOTBALL PLANTING DETAIL

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012



SECTION NO. 7000	DRAWING NO. 5.5
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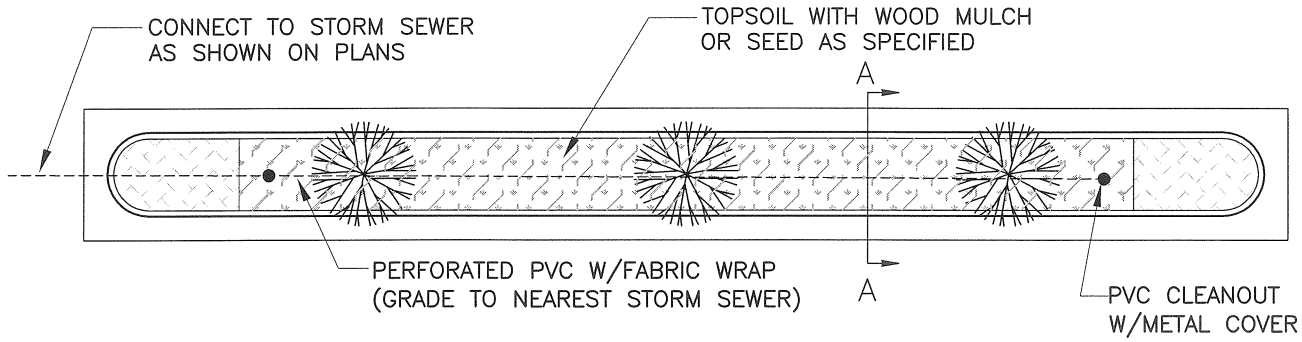
ON SLOPE TREE PLANTING DETAIL

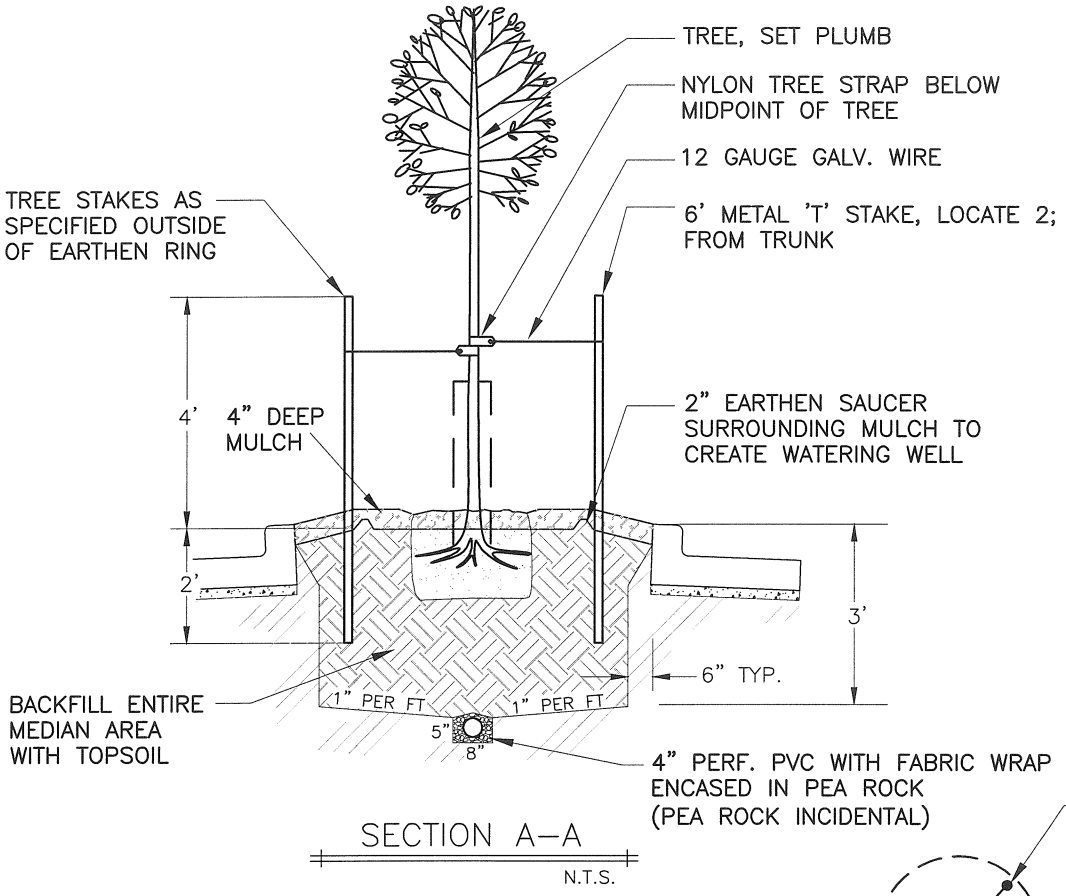
CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012



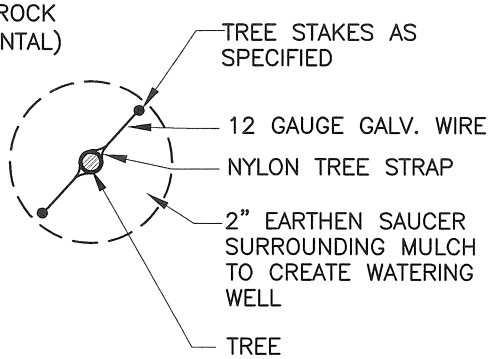
TYPICAL MEDIAN

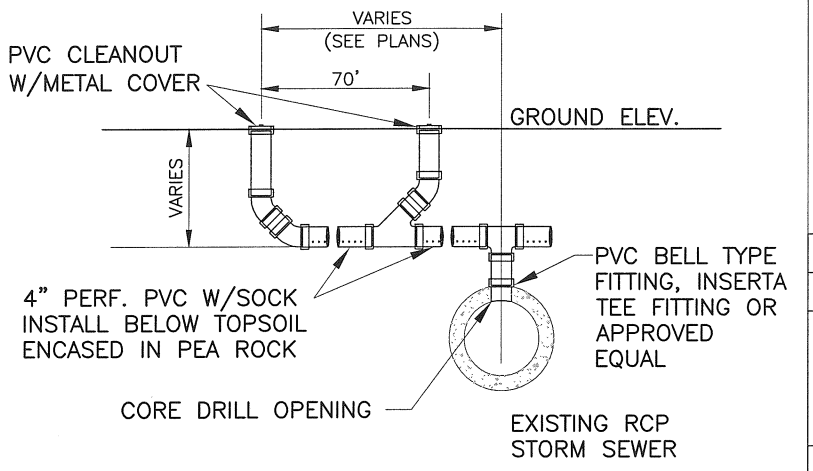
N.T.S.



SECTION A–A

N.T.S.





DRAIN TILE DETAIL

N.T.S.

SECTION NO. 7000	DRAWING NO. 5.6
REV,D.	

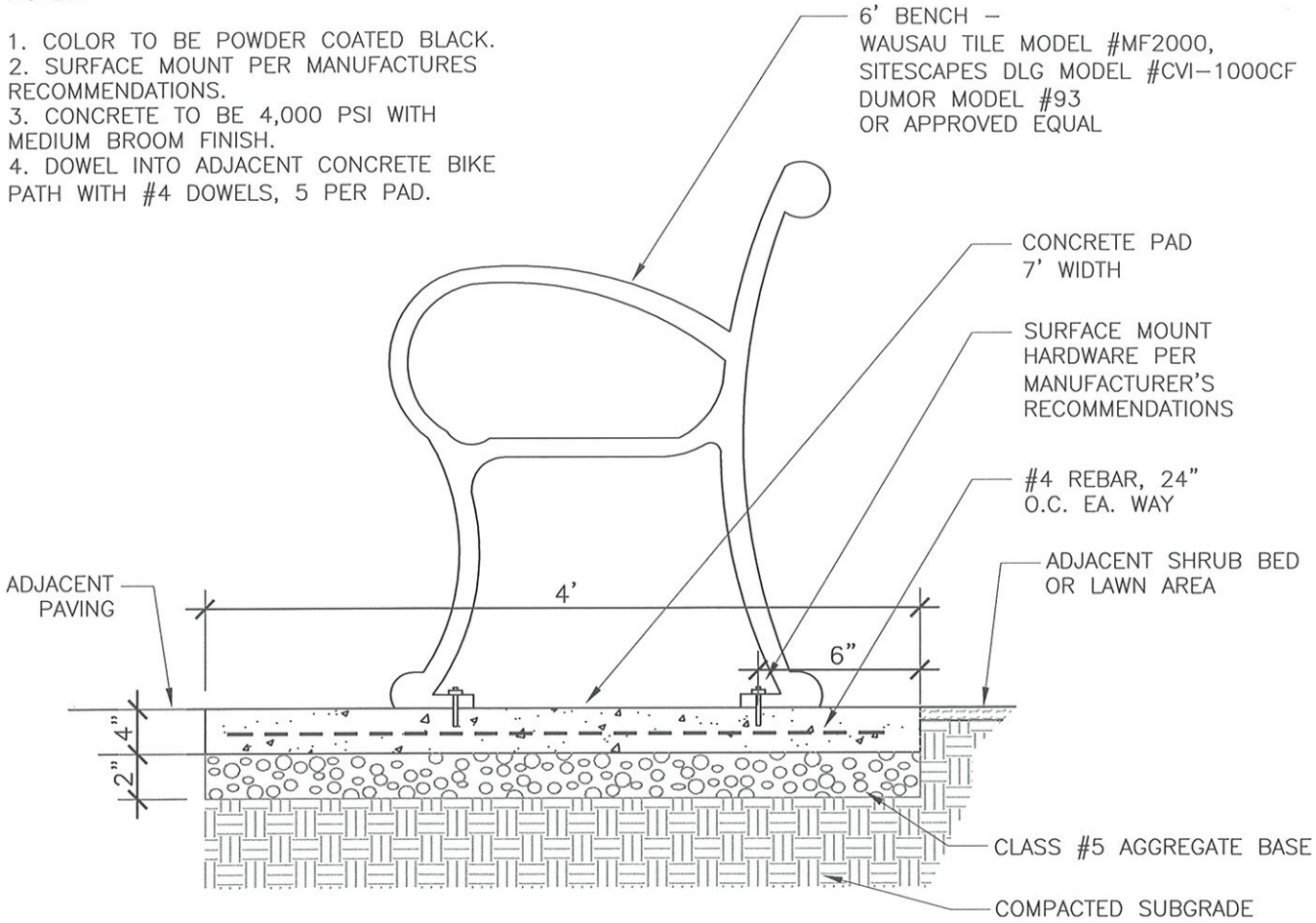
TYPICAL MEDIAN TREE PLANTING W/DRAIN TILE

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012

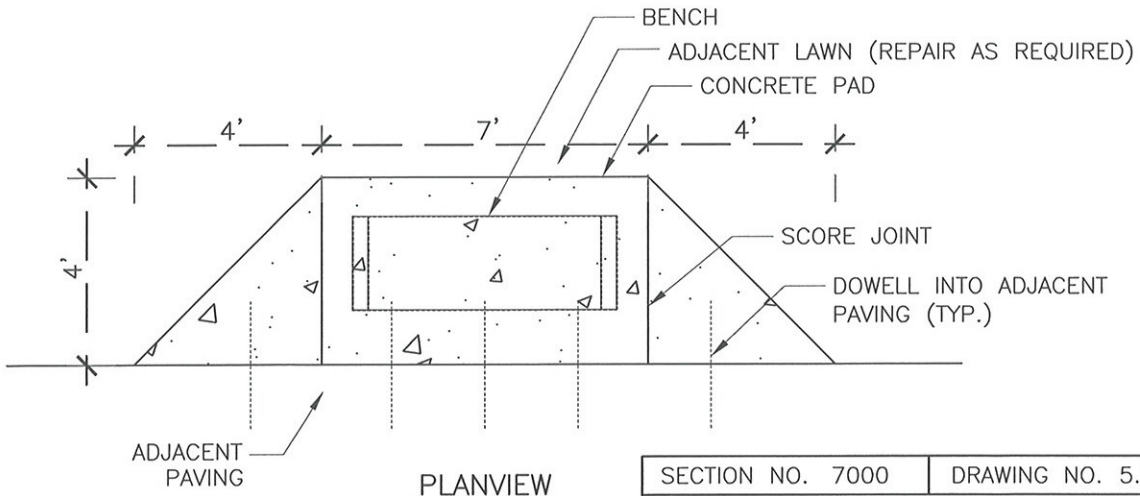
NOTES:

1. COLOR TO BE POWDER COATED BLACK.
2. SURFACE MOUNT PER MANUFACTURES RECOMMENDATIONS.
3. CONCRETE TO BE 4,000 PSI WITH MEDIUM BROOM FINISH.
4. DOWEL INTO ADJACENT CONCRETE BIKE PATH WITH #4 DOWELS, 5 PER PAD.



BENCH AND CONCRETE PAD DETAIL

NOT TO SCALE



PLANVIEW

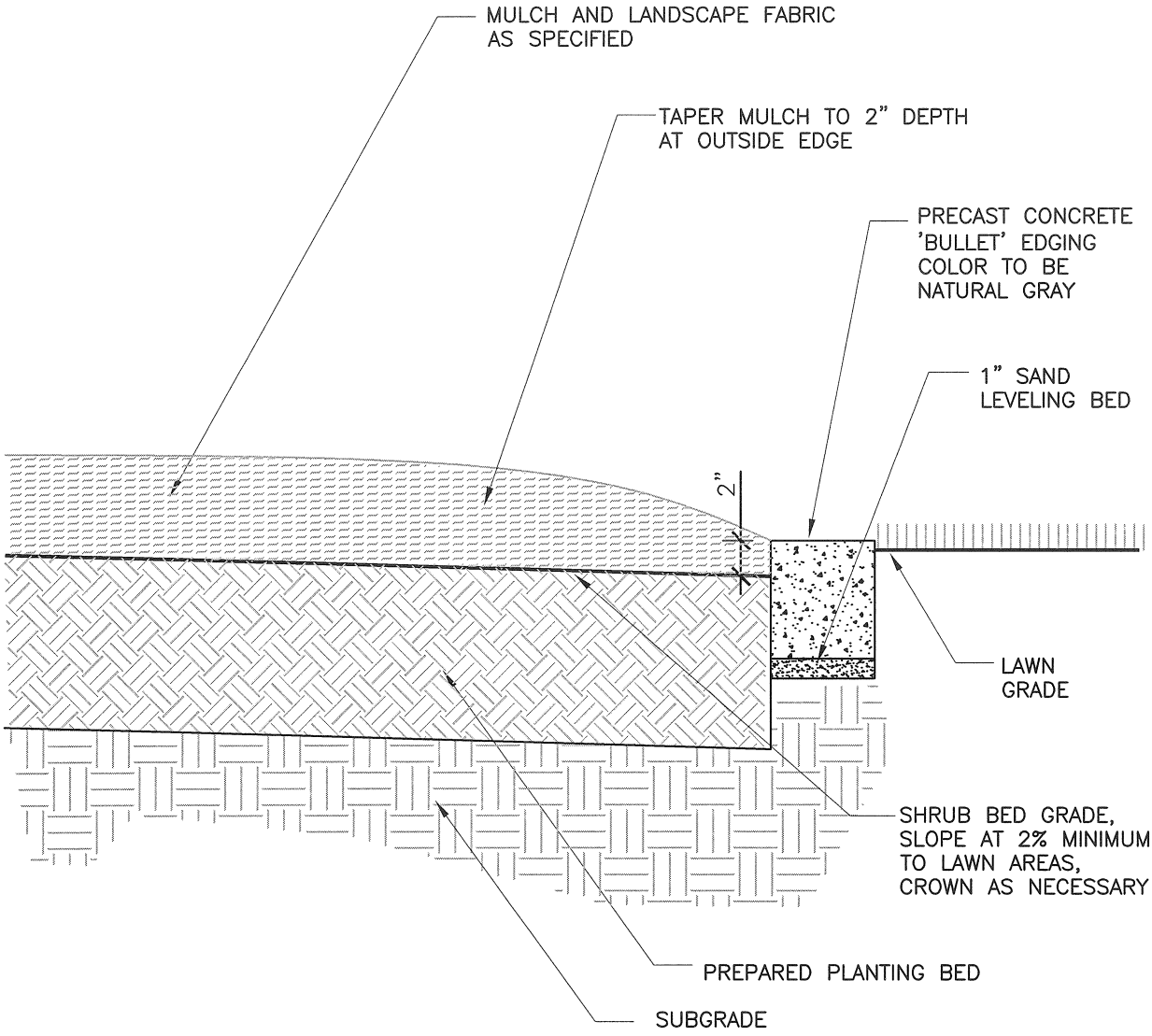
N.T.S.

SECTION NO. 7000	DRAWING NO. 5.7
REV,D. 2013	

BENCH DETAIL

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED JME	DATE 1-2-13



NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. INSTALL EDGING LEVEL, EVEN AND UNIFORM.

SECTION NO. 7000	DRAWING NO. 5.8
REV,D.	

EDGING DETAIL

CITY OF FARGO
ENGINEERING DEPARTMENT

APPROVED BED	DATE 2-21-2012