10-4-7: PROTECTED AREAS:

Where land proposed for subdivision is deemed environmentally sensitive by the city due to the existence of wetlands, drainageways, watercourses, floodable areas, significant trees, steep slopes or wooded areas, the design of said subdivision shall clearly reflect all necessary measures to ensure against adverse environmental impacts. (Ord. 847, sec. 4, 11-17-2008)

Based upon the necessity to control and maintain certain sensitive areas, the city shall determine whether said protection will be accomplished through lot enlargement and redesign or dedication of those sensitive areas in the form of outlots.

In general, measures of protection shall include design solutions that allow for construction and grading involving a minimum of alteration to sensitive areas. Such measures, when deemed appropriate by the city, may include, but shall not be limited to, the following:

A. The establishment of buffers designed consistent with adopted management plans, easements and/or outlots over wetlands, drainageways and watercourses. (Ord. 673, sec. 1, 7-17-2000)

B. The implementation of flood control measures, including stormwater basins and infiltration design standards as specified in adopted management plans. (Ord. 866, sec. 37, 5-17-2010)

C. The enlargement of lots or redesign of the subdivision. (Ord. 673, sec. 1, 7-17-2000)

D. The submission of a tree preservation plan subject to the review of the parks, recreation, and natural resources committee and the approval of the city council. (Ord. 698, sec. 5, 12-17-2001)

E. The utilization of appropriate erosion control measures subject to approval by the city engineer.

F. Soil testing to determine the ability of the proposed subdivision to support development.

G. The limitation of development on slopes steeper than three to one (3:1).

H. Structure conformance to the natural limitations presented by the topography and soil so as to create the least potential of soil erosion. (Ord. 673, sec. 1, 7-17-2000)

10-4-12: WETLANDS AND WATERCOURSES:

A. Generally: This section applies to all wetlands and watercourses on public or private land located within the city, whether or not the wetland or watercourse is located on the same property as the development.

B. Wetland Management Plan: Utilization and development impacts to wetlands shall be consistent with the city's wetland management plan. No grading permit to allow wetland disturbing activities shall be issued until approval of the wetland replacement plan application or a certificate of

exemption has been obtained in strict conformance with the provisions of this title and the Minnesota wetland conservation act.

C. Buffer Widths; Setbacks:

1. Protective Buffer: A protective buffer of natural vegetation shall surround all wetlands and watercourses in accordance with the following provisions:

a. Wetlands: The buffer shall have a minimum width from the delineated edge of the wetland at the time of development based upon the wetland classification defined by the wetland management plan as follows:

Wetland Classification	Buffer Requirement
Preserve	50 feet
Manage I	25 feet for wetlands <2 acres; or
	35 feet for wetlands >2 acres
Manage II	17 feet for wetlands <2 acres; or
	25 feet for wetlands >2 acres
Utilize	17 feet
Restore	25 feet
Wetland mitigation sites	25 feet

(1) Average Width: The width of the buffer may be averaged, provided that a minimum buffer width is maintained equal to one-half ($^1/_2$) the required buffer or seventeen feet (17'), whichever is greater.

(2) Public Trails And Sidewalks: Public trails and sidewalks that are a maximum of ten feet (10') in width can be included within the buffer, provided the designated width is maintained.

(3) Building Setbacks: For properties developed or redeveloped after March 17, 2003, a building setback of ten feet (10') for a side yard and twenty feet (20') for a rear yard shall be provided from the delineated edge of all required wetland buffers at the time of development. A building setback of thirty three feet (33') shall exist from the delineated edge of all wetlands at the time of development within areas developed or redeveloped between July 17, 2000 and March 17, 2003.

b. Watercourses: Buffers shall be established adjacent to watercourses within the Vermillion River watershed as shown and classified on the Vermillion River watershed stream classification and buffer standards map, prepared by the Vermillion River watershed joint powers organization, adopted October 26, 2006, as part of the Vermillion River watershed plan as amended February 2008, and kept on file in the office of the city engineer, adopted and incorporated herein by reference, as described as follows:

Stream Buffer Standards
(Source: Vermillion River Watershed Joint Powers Organization Standards, February 2008, as amended)

Classification	Buffer Width Standard
Conservation corridor	Lower reach (Vermillion River downstream of Biscayne Avenue) - 150 foot average, 100 foot minimum measured from the edge of the meander belt
	Upper reach (Vermillion River upstream of Biscayne Avenue and South Branch Vermillion River) - 150 foot average, 100 foot minimum measured from the edge of the meander belt
Aquatic corridor-principal connector	100 foot average, 65 foot minimum measured from the edge of the meander belt of the river
Aquatic corridor-principal connector with trout stream designation	100 foot, no averaging
Aquatic corridor-tributary connector	50 foot average, 35 foot minimum plus 2 feet for every 1 percent of slope measured from the edge of the meander belt of the tributary
Water quality corridor	30 foot average, 20 foot minimum where there is a flow path for concentrated surface runoff measured from the centerline of the flow path

These buffer standards may be altered by the city's approval of a variance and the Vermillion River joint powers organization's approval of a variance.

D. Buffer Standards: The following standards apply to all required buffers adjacent to wetlands and watercourses:

1. Acceptable Vegetation: Buffers shall be staked and protected in the field prior to construction. Where acceptable natural vegetation exists in buffer areas, the retention of such vegetation in an undisturbed state is required unless approval to replace such vegetation is received. A buffer has acceptable vegetation if it:

   a. Has a continuous, dense layer of perennial grasses that has been uncultivated or unbroken for at least five (5) consecutive years; or

   b. Has an overstory of trees and/or shrubs that has been uncultivated or unbroken for at least five (5) consecutive years; or

   c. Contains a mixture of the plant communities in subsections D1a and D1b of this section that has been uncultivated or unbroken for at least five (5) years.

2. Unacceptable Vegetation: Topography or sparse vegetation that tends to channelize the flow of surface water or vegetation that is unlikely to retain nutrients and sediment are not considered acceptable vegetation for buffer purposes.

3. Replanting Vegetation: Where buffer vegetation and conditions are unacceptable, or where approval has been obtained to replant, buffers shall be replanted and maintained according to

the following standards:

a. Buffers shall be planted with a native seed mix approved by MnDOT, BWSR, NRCS or the Dakota SWCD, with the exception of a onetime planting with an annual nurse or cover crop. Plantings of native forbs and grasses may be substituted for seeding. All substitutions must be approved by the city. Groupings or clusters of native trees and shrubs, of species and at densities appropriate to site conditions, shall also be planted throughout the buffer area.

b. The seed mix and planting shall be broadcast/installed according to MnDOT, BWSR, NRCS or Dakota SWCD specifications. The selected seed mixes and plantings for permanent cover shall be appropriate for the soil site conditions and free of invasive species.

c. Buffer vegetation (both natural and created) shall be protected by erosion and sediment control measures during construction.

d. During the first five (5) full growing seasons, except where the city has determined vegetation establishment is acceptable, the owner or applicant must replant buffer vegetation where the vegetative cover is less than ninety percent (90%). The owner or applicant must assure reseeding or replanting if the buffer changes at any time through human intervention or activities.

4. Alterations Prohibited: Alterations, including building, storage, paving, routine mowing, burning, plowing, introduction of noxious vegetation, cutting, dredging, filling, mining, dumping, grazing livestock, agricultural production, yard waste disposal, or fertilizer application are prohibited within any buffer. Periodic mowing or burning, or the use of fertilizers and pesticides for the purpose of managing and maintaining native vegetation is allowed. Noxious weeds may be removed and mechanical or spot herbicide treatments may be used to control noxious weeds. Aerial or broadcast spraying is prohibited. Prohibited alterations do not include plantings that enhance the natural vegetation or selective clearing or pruning of trees or vegetation that are dead, diseased or pose similar hazards, or as otherwise clarified in subsection D5 of this section.

5. Alterations Permitted: The following activities may be permitted within any required buffer:

a. The following activities are allowed within both the minimum and average buffer width areas:

(1) Use and maintenance of an unimproved access strip through the buffer, not more than ten feet (10') in width, for recreational access to the major waterway or wetland and the exercise of riparian rights.

(2) Structures that exist when the buffer is created.

(3) Placement, maintenance, repair, or replacement of public roads and utility and drainage systems that exist on creation of the buffer or are required to comply with any subdivision approval or building permit obtained from the city, so long as any adverse impacts of public road, utility, or drainage systems on the function of the buffer have been avoided or minimized to the extent practical.

(4) Clearing, grading, and seeding is allowed if part of an approved wetland replacement plan, or approved stream restoration plan.

(5) Construction of a multipurpose trail, including boardwalks and pedestrian bridges, provided it is constructed to minimize erosion and new impervious surface, and has an undisturbed area of vegetative buffer at least ten feet (10') in width between the trail and the wetland or

public waters wetland edge, or the bank of the major waterway; or where needed to cross the major waterway, the minimum impact alignment is used.

(6) The construction of underground utilities such as water, stormwater, and sanitary sewers and pipelines, provided the minimum impact alignment is used and the area is stabilized.

b. The following activities are allowed within those portions of the average buffer width that exceed the minimum buffer width:

(1) Stormwater management facilities, provided the land areas are stabilized. (Ord. 847, sec. 5, 11-17-2008)

(2) The area of shallow vegetated infiltration and biofiltration facilities, and stormwater basins not to exceed fifty percent (50%) of the basin area, adjacent to wetlands and major waterways may be included in buffer averaging, provided the facilities do not encroach into the minimum buffer width, and the land areas are stabilized. (Ord. 847, sec. 5, 11-17-2008; amd. Ord. 866, sec. 10, 5-17-2010)

E. Conservation Easement/Outlot: A conservation easement or a dedicated outlot is required for all buffer areas as part of platting and subdivision approval, except where the buffer is located in a public transportation right of way. Buffers shall be marked to clearly designate the boundaries of all new buffers within new residential subdivisions. A monument shall consist of a post and a buffer strip sign approved by the city. Property owned by the city of Lakeville shall be exempted from establishing an outlot or conservation easement for required buffer areas. (Ord. 847, sec. 5, 11-17-2008)

10-4-11: TREE PRESERVATION:

The following process for preserving significant trees shall be required of subdividers and home builders. Subdividers shall preserve, where feasible, all healthy trees of significant value even if the trees are less than six inches (6") in diameter. (Ord. 673, sec. 1, 7-17-2000)

Definitions: The following words and terms, whenever they occur in this section, are defined as follows:

DIAMETER: The measurement of a tree's trunk measured four and one-half feet (4.5') above the ground.

DRIP LINE: The farthest distance away from the trunk of a tree that rain or dew will fall directly to the ground from the leaves or branches of the tree or one foot (1') per one inch (1") of diameter, whichever is greater.

SIGNIFICANT TREE: A healthy tree measuring six inches (6") in diameter or greater.

TREE CERTIFICATION: A certified inventory of trees on the site after work is complete listing all trees and their final disposition, which is signed by a licensed forester or landscape architect.

TREE PRESERVATION PLAN: A plan and inventory certified by a licensed or registered forester or landscape architect indicating all of the significant trees and their locations in the proposed development or on the lot. The tree preservation plan shall include the size, species, tag numbers, and location of all significant trees proposed to be saved and removed on the area of development, and the measures proposed to protect the significant trees to be saved.

TREE PROTECTION: Snow fencing or polyethylene laminar safety netting placed at the drip line of the significant trees to be preserved. The tree protection measures shall be shown on tree preservation plan drawings and remain in place until all grading and construction activity is terminated. (Ord. 673, sec. 1, 7-17-2000; amd. Ord. 866, sec. 39, 5-17-2010)

B. Subdividers:

1. Subdividers shall:

a. Prepare a tree preservation plan superimposed on the grading plan.

b. Ensure the tree preservation plan is followed during the plan development (mass grading). (Ord. 673, sec. 1, 7-17-2000)

c. Submit a one thousand five hundred dollar ($1,500.00) security for each mass graded lot with at least one significant tree to be saved and for each custom graded lot with at least one significant tree to be saved and a one thousand dollar ($1,000.00) security for each outlot with at least one significant tree to be saved. The security will be included in the development contract to ensure protective measures are installed and maintained and to guarantee replacement of all significant trees that were to be saved but were actually destroyed or damaged. (Ord. 866, sec. 40, 5-17-2010)

2. The tree preservation plan must be certified by a licensed or registered forester or landscape architect. The forester or landscape architect shall indicate on the plan the following items:

a. Mass graded areas and proposed grades.

b. Custom graded lots.

c. Size, species, tag numbers, and location of all significant trees, also in tabular form.

d. Identification of all significant trees proposed to be saved and significant trees proposed to be removed, also in tabular form.

e. Measures proposed to protect significant trees shall include, but are not limited to:

(1) Installation of snow fencing or polyethylene laminar safety netting at the drip line.

(2) Placing fill against the trunk of the tree, on the root crown, and under the drip line of the tree shall be prohibited.

(3) Installation of erosion control measures.

(4) Prevention of change in soil chemistry due to concrete washout and leakage or spillage of toxic materials such as fuels or paints.

(5) Pruning of oak trees must not take place from April 15 through July 1. If wounding of oak trees occurs, a nontoxic tree wound dressing must be applied immediately. Excavators must have a nontoxic tree wound dressing with them on the development site. (Ord. 866, sec. 41, 5-17-2010)

3. During preliminary plat review, the tree preservation plan will be reviewed according to the best available layout to preserve significant trees and the efforts of the subdivider to mitigate damage to significant trees. (Ord. 866, sec. 42, 5-17-2010)

4. After mass grading has been completed and streets and utilities installed, a licensed or registered forester or landscape architect shall:

a. Certify in writing to the city the status of all trees indicated as save trees in the approved plan.

b. Certify in writing to the city whether tree protection measures were installed.

c. Certify the status of any remove designated trees that were saved. (Ord. 866, sec. 44, 5-17-2010)

5. If a significant tree indicated to be saved on the tree preservation plan is destroyed or damaged, the tree replacement policy will be enforced by the city in accordance with subsection D of this section. (Ord. 866, sec. 45, 5-17-2010)

6. The financial security will be released upon: a) certification in writing by a licensed or registered forester or landscape architect indicating the tree protection measures were installed on mass graded lots and tree replacement is completed, if necessary; and/or b) the builders have posted security for the custom graded lots. (Ord. 866, sec. 46, 5-17-2010)

7. Removal of tree preservation measures shall require written approval from the city engineer. Tree preservation measures shall not be removed from the site until the city engineer has approved the grading as built plans for a mass graded site nor prior to the release of financial securities held by the city. (Ord. 673, sec. 1, 7-17-2000; amd. Ord. 866, sec. 46, 5-17-2010)

C. Home Builders:

1. The city will require an individual lot tree preservation plan prepared and incorporated on the required site survey for each custom graded lot with at least one significant tree or any mass graded lot with at least one significant tree. The plan shall be consistent with the original tree preservation plan for the plat. The homeowner, builder and a licensed or registered forester or landscape architect shall meet prior to the development of the individual lot tree preservation plan to determine the placement of the home where the fewest significant trees would be destroyed or damaged. The builder will be responsible for ensuring the tree preservation plan is followed during building construction. (Ord. 866, sec. 47, 5-17-2010)

2. The individual lot tree preservation plan must be certified by a licensed or registered forester or landscape architect and signed by the homeowner. The forester or landscape architect will indicate on the plan the following:

a. Size, species, tag number and location of all significant trees.

b. Identification of all significant trees proposed to be saved and significant trees proposed to be removed.

c. Measures proposed to protect significant trees shall include, but are not limited to:

(1) Installation of snow fencing or polyethylene laminar safety netting placed at the drip line.

(2) Placing fill against the trunk of the tree, on the root crown, and under the drip line of the tree shall be prohibited.

(3) Installation of erosion control methods.

(4) Prevention of change in soil chemistry due to concrete washout and leakage or spillage of toxic materials such as fuels or paints.

(5) Pruning of oak trees must not take place from April 15 through July 1. If wounding of oak trees occurs, a nontoxic tree wound dressing must be applied immediately. Excavators must have a nontoxic tree wound dressing with them on the development site. (Ord. 866, sec. 48, 5-17-2010)

3. Homebuilders will be required to furnish the following items for tree preservation at the time the building permit application is submitted for all lots with at least one significant tree:

a. Security of one thousand dollars ($1,000.00) per lot for tree protection requirements. (Ord. 673, sec. 1, 7-17-2000)

b. Certified individual lot tree preservation plan. (Ord. 866, sec. 49, 5-17-2010)

c. Builders are liable for subcontractors that destroy or damage significant trees that were indicated to be saved on the individual lot tree preservation plan.

4. Building inspectors will monitor the tree protection measures at the time of routine inspections. (Ord. 673, sec. 1, 7-17-2000)

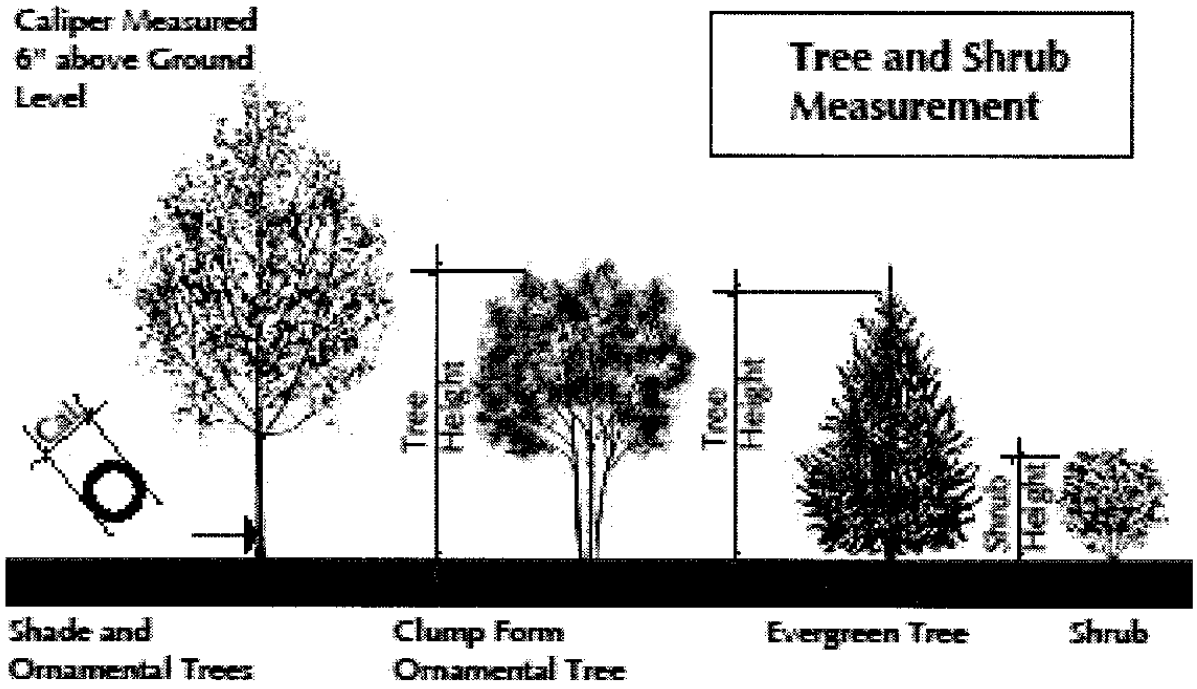
5. Prior to the issuance of a certificate of occupancy and release of tree preservation security, the licensed or registered forester or landscape architect shall certify to the city in writing the final disposition of saved trees on the lot and that all the tree protection measures identified on the tree preservation plan were installed from the start of construction to the end of construction and tree replacement is completed, if necessary. (Ord. 866, sec. 50, 5-17-2010)

D. Tree Replacement Policy:

1. Responsibility Of Subdividers And Builders: Subdividers and builders shall be required to replace the significant trees which were indicated on the tree preservation plan to be saved but ultimately were destroyed or damaged. The subdivider and builder shall be required to replace each of the significant trees destroyed or damaged with two (2) replacement trees. Replacement trees must consist of nursery stock and be no less than the following sizes:

a. Deciduous trees: No less than two and one-half inches ($2^1/_2$") in diameter.

b. Coniferous trees: No less than eight feet (8') high as measured from the top of the ball to the bottom of the leader branch.



2. Identified Trees: Replacement trees shall be limited to those specified in appendix B of the Lakeville corridor and gateway design study, adopted on August 2, 1999, or as recommended in the management plan for the South Creek and tributary channel corridors, or as approved by the zoning administrator in accordance with established city policy.

3. Location:

a. Replacement trees shall not be placed within easements or street rights of way.

b. The city shall approve the types, species and locations of tree replacement for subdividers' tree plans.

c. If tree replacement is required on the individual lot because the builder destroyed or damaged a tree which was to be saved, the city and licensed or registered forester or landscape architect shall determine where the replacement trees shall be installed. (Ord. 866, sec. 51, 5-17-2010)

11-21-11: TREE PRESERVATION:

Prior to the issuance of building permits for all new and/or expanded multiple-family residential, commercial, industrial, and institutional uses, a tree preservation plan shall be submitted. The plan and its implementation shall be in accordance with the requirements as outlined in the city's subdivision ordinance and shall be subject to the review and approval of the city engineer and zoning administrator. The zoning administrator may exempt an applicant from the submission of a tree preservation plan upon demonstration that such a plan is not considered relevant to the site in question. (Ord. 674, sec. 1, 7-17-2000)