



City of San Mateo Parks and Recreation

Protected Tree Administrative Guidelines

Tree Division, 2001 Pacific Blvd, San Mateo, CA 94403

Phone: 650- 522- 7420 | treepermits@cityofsanmateo.org

Background

These administrative guidelines are supplemental procedures further explaining how to comply with the Protected Trees Ordinance and are to be read with it. This living document allows the Director of Parks and Recreation the flexibility to strengthen and clarify the ordinance to reflect changes in industry standards and evolving best practices. The administrative guidelines are a companion document that refers to the Protected Trees Ordinance and is not intended to replace the ordinance.

Definitions

Protected Trees:

Protected Trees include Heritage Trees, Street Trees, and any trees designated as protected as part of an approved Planning Application. A permit is required to remove a Protected Tree.

Heritage Trees:

Section 13.40.030(k) defines Heritage Trees based on their size measured at 54 inches (4.5 feet) above grade (Figure 1). Permit applications must include this measurement, which may be stated as either diameter or circumference.

All oak (*Quercus* spp.) trees are "Heritage" if they have a trunk diameter of 10 inches or more (circumference of 31.4 inches or more).

All other species are "Heritage" if they have a trunk diameter of 15 inches or more (circumference of 47.1 inches or more).

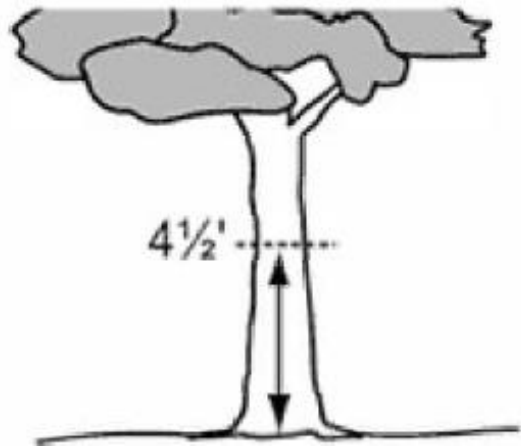


Figure 1.

For trees with more than one stem (arising at or below 54 inches) the measurement shall be recorded at the smallest diameter point below the main union of all stems (Figure 2), unless the union occurs below grade. See image at right.

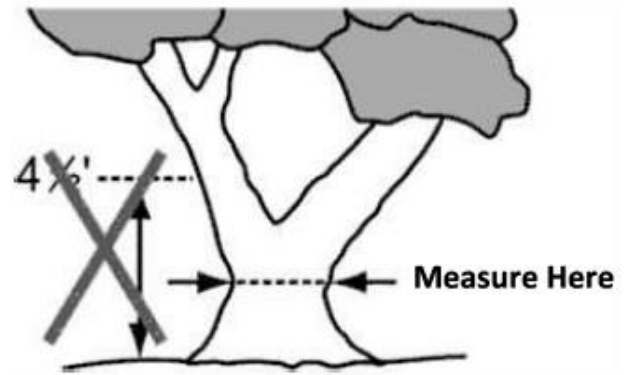


Figure 2.

If the union of the stems occurs below ground, only the largest stem measurement need be recorded (Figure 3). For oak trees, if one stem is ten inches or more in diameter, the tree will constitute one Heritage Tree. For all other species, if one stem is fifteen inches or more in diameter, the tree will constitute one Heritage Tree.

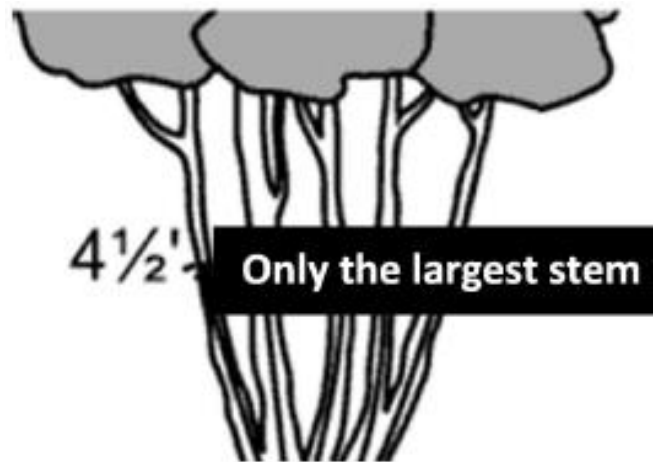


Figure 3.

A permit is required to remove or perform Major Pruning of a Heritage Tree.

Street Trees

Street Trees are trees growing along or within the public right of way or a designated planting easement. A permit is required to remove or perform ANY pruning of a Street Tree.

Major Pruning

Major Pruning means any pruning of a Street Tree or removal of more than 25% of the crown or existing foliage of the Heritage Tree, or any root cutting within a radius of six times the trunk diameter, topping, or any other pruning that has the potential to negatively affect the condition of a tree as determined by the Managing Arborist in accordance with the current editions of the American National Standards Institute A-300 Best Management Practices.

Construction Activity

Construction Activity means any construction work associated with or requiring a permit for any new building, building addition, building demolition, grading, excavation or paving. This includes the necessary related activities which may or may not be shown on site plans, including but not limited to: storing/staging of materials, site access, parking, placement of temporary structures, debris disposal, additional excavation and landscaping.

Permits and Decision-Making Criteria for Tree Removal

Tree removals associated with a Planning Application are subject to the Landscape for Planning Applications ordinance, 27.71.

The determination in granting or denying a permit is based on the criteria listed in Municipal Code Section 13.40.100(b)(3), further articulated below:

A. Tree Condition

The tree is dead, or in a poor state of health that cannot be abated through reasonable arboricultural treatments.

B. Danger to People or Property.

Tree risk assessment is a systematic process used to identify, analyze, and evaluate tree risk. Risk is assessed by categorizing the likelihood of an occurrence, the likelihood of impacting a target, and the severity of consequences should failure occur. The International Society of Arboriculture (ISA) publishes Best Management Practices for assessing tree risk. An arborist's report from an ISA Qualified Tree Risk Assessor is recommended and may be required for tree permits requested based on risk. The report should provide evidence that the tree risk rating cannot be mitigated to a lower residual risk rating through pruning, cabling, or other treatments.

C. Interference with existing structures or utility services.

The City expects property owners to make reasonable efforts to mitigate conflicts with Protected Trees. Example mitigation activities for structures and utility services:

- Root pruning under the supervision of an ISA Certified Arborist and installation of a root barrier to prevent damage from roots.
- Relocation of low-voltage wires.
- Replacement of sewer lateral system to eliminate root intrusion due to outdated, leaky plumbing.

If it can be demonstrated that mitigation options are infeasible or inappropriate, a permit may be issued.

D. Necessity to remove the tree or trees in order to allow reasonable economic enjoyment of the property. T

This criterion applies primarily to the construction of dwellings or amenities. The City expects residents to consider alternative designs that could preserve the tree. If it can be demonstrated that alternative designs are infeasible or inappropriate, a permit may be issued.

E. Effect of the removal on erosion and soil retention.

Protected Trees Replacement (13.40.110)

Protected Trees removed with a valid permit must be replaced based on their size and condition (except trees removed as part of a Planning Application, in which case mitigation is required as per Section 27.71, Landscape for Planning Applications). Street trees shall be replaced with one 24" box tree of a species assigned by the Managing Arborist in accordance with the Street Tree Master Plan. Heritage Trees removed with a valid permit shall be replaced with a tree species from the Official Replant List according to the table below (Table 1).

Table 1. Heritage Tree Replacement Requirements

Trunk Diameter	Reforestation Requirement	In Lieu Fee*
Dead (any size)	(1) 15-gallon tree	\$483
10 to 30 inches	(1) 24-inch box tree OR (1) 15-gallon tree from "Preferred" Category	\$740
> 30 inches	(1) 24-inch box tree OR (2) 15-gallon tree from "Preferred" Category	\$740

*In lieu fees listed above are accurate as of 7 /1/21. Fees are updated annually and may differ from those listed above. The most current fees can be found in the City's fees schedule.

Applicants have up to 12 months from the date of the permit to satisfy the required reforestation. The Department only collects a deposit sufficient to cover the in-lieu fee for a single tree at the time of permit issuance. If multiple replants are required but not replanted, the Department will bill the applicant the in-lieu fee for each unsatisfied replant, less the amount of the deposit.

Trunk Diameter	Reforestation Requirement	In Lieu Fee*	Permit Fee
Removal mandated by Fire Department or Code Enforcement (any size)	None	\$0	No
Dead (any size)	(1) 15-gallon tree	\$490	\$105
10-30 inches	(1) 24-inch box tree OR (1) 15-gallon tree from "Preferred" Category	\$784	\$105
> 30 inches	(1) 24-inch box tree OR (1) 15-gallon tree from "Preferred" Category	\$784	\$105

*In lieu fees listed above are accurate as of 01/01/2024. Fees are updated annually and may differ from those listed above. The most current fees can be found in the City's fees schedule.



City of San Mateo Parks and Recreation

Official Replant List

Approved Tree Species for Heritage Tree Replacement
2001 Pacific Blvd., San Mateo, CA 94403
(650) 522-7420 | treepermits@cityofsanmateo.org

Preferred Species (15 gallon)

Atlas cedar (*Cedrus atlantica*)
Brisbane box (*Lophostomen confertus*)
California sycamore (*Platanus racemosa* 'Roberts')
Canary island pine (*Pinus canariensis*)
Coast live oak (*Quercus agrifolia*)
Cork oak (*Quercus suber*)
Deodar cedar (*Cedrus deodara*)
Engelman oak (*Quercus englemanii*)
Fern pine (*Afrocarpus falcatus*)
Ginkgo (*Ginkgo biloba*)
Island oak (*Quercus tomentella*)
Lemon-scented gum (*Corymbia citriodora*)
Netleaf oak (*Quercus rugosa*)
Pecan tree (*Carya illinoensis*)
Primrose Tree (*Lagunaria patersonii*)
River she oak (*Casuarina cunninghamiana*)
Silver leaf oak (*Quercus hypoleucoides*)
Silver Linden (*Tilia tomentosa*)
Southern live oak (*Quercus virginiana*)
Valley oak (*Quercus lobata*)

Small/Medium Trees (24 inch box)

California buckeye (*Aesculus californica*)
Catalina cherry (*Prunus ilicifolia lyonii*)
Chinese pistache (*Pistacia chinensis*)
Chitalpa (x *Chitalpa tashkentensis*)
Emerald Sunshine elm (*Ulmus davidiana* var. *japonica* 'Emerald Sunshine')
Fruitless olive (*Olea europa* 'Swan Hill')
Gold medallion tree (*Cassia leptophylla*)
Purple robe locust (*Robinia* 'Purple Robe')
Strawberry Tree (*Arbutus marina*)
Tupelo (*Nyssa sylvatica*)
Water gum (*Tristanopsis laurina*)

Remedies for Protected Trees Removed WITHOUT a Valid Permit (13.40.150)

Protected Trees removed without a valid permit are to be replaced with one 48-inch box tree. If the value of the tree removed is greater than that of a 48-inch box tree, The Managing Arborist may impose enhanced replant conditions not to exceed the value of the tree(s).

Equivalencies

If the Managing Arborist determines that replanting of the assigned replacement trees is infeasible, s/he may allow a combination of planting or monetary equivalencies. The monetary equivalencies are based on the cost to purchase and install trees of commonly available sizes. The equivalencies are shown below.

Figure 4. Tree Replacement Equivalencies

ONE 48 INCH BOX – TWO 36 INCH BOXES = FOUR INCH BOXES = \$2,500

Tree Protection Specifications

A tree protection plan is required whenever any Construction Activity is to be performed within a radius measured from the trunk equal to ten times the diameter of the tree trunk measured at 54" above grade for any Protected Tree(s) as defined by S.M.M.C. 13.40.030. This includes trees on the subject property, neighboring properties, and the public right-of-way. Projects associated with a Planning Application are also subject to the Landscape for Planning Applications Ordinance, Section 27.71. The tree protection plan shall be prepared by an ISA Certified Arborist (Project Arborist) who provides consulting services and is familiar with the Municipal Code and the industry best practices.

The tree protection plan is intended to preserve trees by preventing soil compaction, root loss or damage, bark injury or excessive pruning. The tree protection plan shall be project-specific and contain recommendations for how the tree protection measures are to be practically executed on the project site. Routine maintenance recommendations such as pruning and fertilizing are not required in a Tree Protection plan unless they are specified as mitigation for specific construction impacts.

Project Arborist Preparation

Prior to writing the tree protection plan, the project arborist shall review the most current version of the entire available plan set including but not limited to grading, demolition, utilities, building and landscaping. The tree protection plan shall identify the plan sheets reviewed by name, sheet number and date. The Project Arborist shall also visit the site and identify on a site plan from the current plan set, the location of all Protected Trees as defined by S.M.M.C. sections 13.40 and if applicable, 27.71. The tree protection plan shall indicate the date of the site visit. If any parts of the plan set were not made available, or a site visit was not performed, the tree protection plan shall indicate these limitations.

Rating Tree Condition and Suitability

The arborist report shall rate Protected Trees according to health, structure and suitability for preservation. The rating system shall define the terms used and criteria for such ratings. The rating system must be based on current professional standards for evaluating tree condition and suitability for preservation. Below is a sample system that may be used:

Tree Health: Rated Good, Fair or Poor, using the following criteria:

- Good: Vigorous growth with foliage of normal size, shape and color. Canopy density 90-100%, little to no dead wood, minor or no pest infestation, little to no decay. Tree is expected to live its natural lifespan.
- Fair: All or some of the new growth shoots are shorter than expected for the species. Canopy density 60-90%. Some small branch dieback. Noticeable pest infestation and/or decay. Tree is not in decline right now, but further stress such as construction impacts, increased pest pressure, drought etc. may cause a decline in health.

- Poor: Little to no new growth and significant dieback. Foliage may be undersized, distorted, yellowed or another color abnormal for the species. Canopy density 20-60% or less. Significant dead wood, pest infestation or decay. Tree is not expected to live its natural lifespan.

Tree Structure: Rated Good, Fair or Poor, using the following criteria:

- Good: Minor structural flaws may be corrected through pruning. Tree has an upright trunk and a single trunk tapering to a single leader at the top, or a single leader may be easily trained. Most scaffold branches are smaller than the leader, attached to the trunk at angles approaching 45 degrees and are spaced apart on the trunk both vertically and radially. Structure does not contain included bark (bark inside the juncture of multiple trunks). No sign of previous branch failures. Foliage is evenly distributed on the limbs. Symmetrical or mostly symmetrical canopy.
- Fair: Some structural flaws not correctable through pruning. Tree may have more than one trunk or leader, trunk may have a slight lean. Scaffold branches may be attached at angles less than 30 degrees and/or may be crowded on the trunk. Structure may have included bark, previous branch failures or end-heavy limbs. Some asymmetry in the canopy.
- Poor: Significant structural flaws not correctable through pruning. Significant dead wood or decay. More than one trunk or leader and/or branches crowded together on the trunk. Significantly end-heavy limbs may be present. Structure may contain significant included bark, previous branch failures and/or asymmetry. Precipitous lean may be present. Tree is likely to be hazardous.

Suitability for Preservation: based only on the tree itself and not related to potential construction impacts. Rated Good, Fair or Poor, using the following criteria:

- Good: Tree is currently an asset to the landscape and may be expected to survive minor to moderate construction impacts if adequately protected.
- Fair: Tree contributes something to the landscape and may be improved by pruning or other maintenance activities. May be expected to survive minor construction impacts if adequately protected. Protection measures are probably worth taking except where construction impacts are extensive.
- Poor: Tree does not contribute to the landscape. It is in poor health and may be hazardous. It is not expected to survive any construction impacts. Some trees with poor viability may be retained if they will not be impacted by construction.

Impacts of Construction

The tree protection plan shall accurately detail the impacts of construction on Protected Trees including but not limited to soil compaction, root loss or damage, bark injury and excessive pruning. All construction-related activities shall be considered including but not limited to demolition, grading, excavation, paving, storing, staging, site access, parking, placement of temporary structures, debris disposal and landscaping.

Impacts to trees shall be documented by the type of work taking place, the distance of the work from the trunk in feet as precisely as possible and expressed as a multiple of the trunk diameter (measured at 54 inches from the ground). Example: "Foundation excavation will take place about 50 feet from Tree 1, which is 12 times the trunk diameter." Vague statements such as "the work is taking place far from the tree" will not be acceptable. Measurements may be made in the field using flags, stakes or story poles, or using Adobe Measuring Tool on a site plan showing accurate tree locations and driplines in relation to the proposed work. The method of measuring distance of impacts to Protected Trees shall be documented in the tree protection plan.

If below-grade work takes place within a radius of 6 times the trunk diameter (measured at 54 inches from the ground) of any Protected Trees, the City Arborist may require a test excavation in the presence of the Project Arborist using air, water or hand-digging to document all roots likely to be affected. The test excavation and report may be required as part of the submittal review process, prior to permit approval and issuance.

Tree Protection Zone (TPZ)

Whenever possible the TPZ shall have a minimum radius measured from the trunk equal to ten times the diameter of the trunk measured at 54" above grade. Any variation on size for the TPZ shall be determined by the Project Arborist

considering the Dripline method, the Trunk Diameter method or any other method supported by industry Best Management Practices and approved by the City Arborist. The dripline shall not be altered to encroach upon the TPZ.

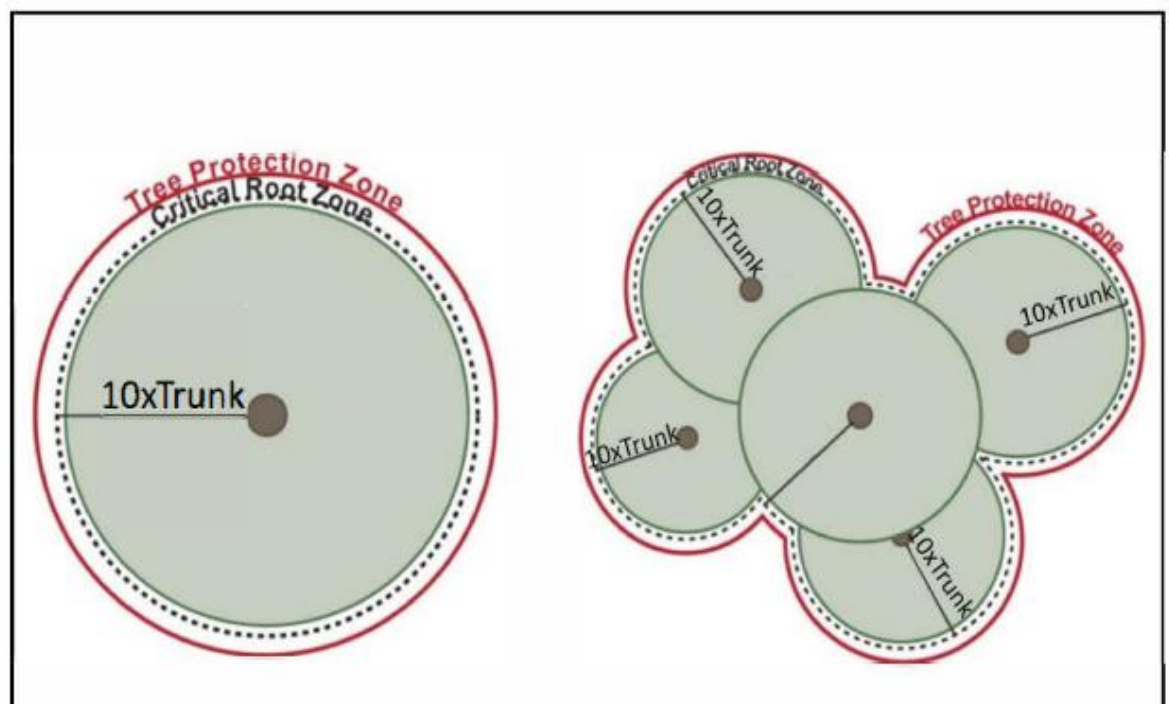
For groups of trees or trees located within planting strips, planters or close to preexisting structures, roadways and other infrastructure, the TPZ may be reduced or extended in size to facilitate work activities and ensure public use and safety. The approved barrier types that shall outline the TPZ are the following:

Type I Complete protective fencing: Fencing shall consist of six (6') foot high chain link fence, mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least two feet at no more than 10-foot spacing. The fence shall enclose the entire TPZ of the tree(s) to be protected throughout the life of the construction project. Fencing a group of trees at the TPZ radius of the largest tree is acceptable rather than fencing each tree in the group individually. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by the Public Works Department. Protected Trees on neighboring properties will also need a TPZ established if they are in proximity to construction Activities.



Figure 5. Type 1 tree protection fence.

Figure 6. Type 1 fencing individual trees (left) and trees in groves.



Type II Partial/reduced protective fencing: For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link fencing. Fencing must provide public use of the street and sidewalk. Any sidewalk or curb replacement requires approval by Public Works.



Figure 7. Type II tree protection fence.

Type III Trunk wrap: To be used only when construction activities cannot be kept outside of TPZ and with approval from the City Arborist. Wrap the trunk with 2 inches of orange plastic fencing for buffering, overlaid with 2-inch thick wooden slats bound securely by two layers of additional orange fencing (slats shall not be allowed to dig in to the bark). During installation, caution shall be used to avoid damaging any branches. Major limbs may also require wrapping. Straw wattle can be used as an alternative material. For this purpose coil the straw wattle around the lowest 6 feet of the trunk. Secure the straw wattle with a double layer or more of orange plastic construction fencing. Damaged straw wattle is to be immediately replaced. Root buffer (Type IV protection) may also be required with Trunk wrap when work takes place within the TPZ.



**Figures 8 and 9.
Type III trunk wrap options.
Vertical timbers (left) and
straw wattle (right).**

Type IV Root Buffer. To be used only when construction activities cannot be kept outside of TPZ and with approval from the City Arborist. Where work must take place within the TPZ, protect the soil with a temporary layer of material to protect the soil texture and roots. The buffer shall consist of secured geotextile material covering the area to be protected. Cover the geotextile material with 4 to 6 inches of clean wood chips (2-inch unpainted, untreated wood chips or approved equivalent). Securely install 3/4-inch plywood over the wood chips. The root buffer shall be installed and removed without wheeled equipment touching exposed soil. This may mean some or all the work is done by hand. The Project Arborist shall be present during the installation and removal of root buffers. Existing pavement also works as a root buffer. Trunk and limb wrapping (Type III protection) may also be required with root buffers when work takes place within the TPZ.



Figure 10.
Type IV root buffer

The location of protective measures mentioned above shall be shown graphically on the site plan as specified by the Project Arborist. Vague statements such as "place the fencing as close to the edge of the TPZ as possible" will not be acceptable.

Project Arborist Initial Inspection

The Project Arborist is required to visit the site prior to permit issuance and provide a report with photos indicating that all tree protection measures specified in the approved tree protection plan have been installed. Photos shall be labeled with tree numbers and all tree protection measures are to be clearly visible. At least one photo per Protected Trees is required.

Project Arborist Subsequent Inspections

The Project Arborist shall be onsite whenever work takes place within the dripline of Protected Trees. The tree protection plan shall provide a list of trees and construction activities requiring Project Arborist inspection. For example: "Pavement installation, Trees 1 and 2." The City Arborist may require additional inspections at their discretion. A report after each inspection shall be submitted to the City Arborist.

Arborist Report Is Part of The Plan

The Arborist Report and Tree Protection Plan shall be reproduced on one or more full-size sheets and included in the Plan Set properly indexed. The Report must be readable so that important details will not be missed.

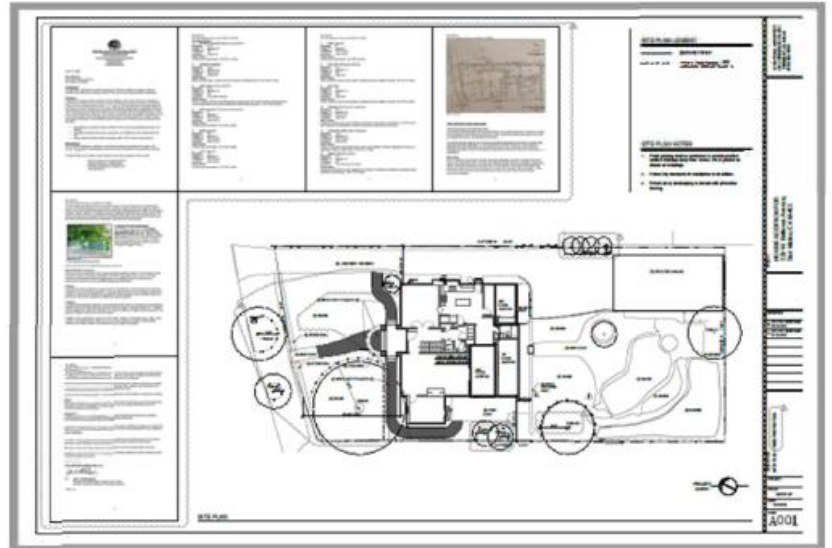
Site Plan (Tree Protection Plan Sheet).

Include on a full-size sheet(s), a scaled site plan with the following:

- North arrow and scale bar

- All trees considered in the tree protection plan with accurate driplines shown, numbered as per the arborist report.
- Location of tree protective fencing, trunk wrap, and root buffers. Location of fencing to be determined by Project Arborist and shown as a bold dashed line.
- Trees are to be shown on the Site Plan, Grading Plan, Drainage Plan, Demo Plan, any Utility Plans, and Landscaping Plans, with tree numbers and accurate driplines shown.

Figure 11. Example site plan showing arborist report and tree protection fencing.



Additional information

Although tree protection measures are not required for Protected Trees beyond ten times the trunk diameter from Construction Activities, all Heritage Trees and Street Trees are protected. Therefore, no items may be stored, staged, parked or driven within the dripline of these trees. It is unlawful for any person to cause damage to a Protected Tree compromising its health or structural integrity according to accepted industry standards or to cause damage that is severely detrimental to its overall aesthetics. Any violations may result in Penalties described in S.M.M.C. 13.40.160.

Knowingly or negligently providing false or misleading information in response to any disclosure requirements shall constitute a violation of 13.40 Chapter and is unlawful.