

PLANTING SITE ASSESSMENT

LEGAL FACTORS:

1. **Where and what can you plant?** Identify property boundaries and verify ownership. Is the planting site covered by an easement (e.g., road right-of-way, utility, railroad)? Check local covenants, ordinances and/or zoning laws. Are there species, height, spacing or other planting restrictions? Do you need permission to plant?
2. **Does the planting site have special protection, such as historic or landmark status?** If so, what restrictions are imposed?

SPACE RESTRICTIONS — Woody plants need room to grow! Failure to anticipate mature plant size and resulting space/use conflicts is a very common planting mistake.

1. **Above ground** – Consider proximity to buildings, signs, windows, roads and alleys, sidewalks and driveways, overhead wires, adjacent vegetation, property lines and fences, etc. Be aware of views that may be blocked.
2. **Below ground** – Buried utilities can cause problems, not only at planting time but as tree roots grow. Before digging, identify location of all buried utilities (call Digger’s Hotline)!

DESIGN FACTORS:

1. **Site use** – How much and what kind of use does/will the site get: pedestrians, vehicles (including bicycles, mowing equipment, garbage and delivery trucks, snow plows), construction activity, vandalism, animals (dogs, horses, deer, rabbits, etc.)?
2. **Circulation patterns** – Note pedestrian and vehicular traffic patterns.

CLIMATE AND MICROCLIMATE:

1. **Hardiness zone** – Locate your zone on a USDA hardiness zone map (based on average minimum temperature). Western Wisconsin spans zones 3a to 4b.
2. **Annual and seasonal rainfall** – Check local weather records.
3. **Amount of sunlight** – Evaluate daily and seasonal sunlight exposure. Note direction and proximity to existing and planned structures and vegetation.
4. **Site specific temperature** – Note surfaces that reflect or reradiate heat, such as pavement, cars and buildings, all of which can greatly increase summer temperatures. Identify wind patterns, noting areas protected from or exposed to cold winter winds or drying summer winds. Identify any low areas where cold air might gather.

EXISTING PLANT MATERIAL:

1. **What other plants—both woody and herbaceous—exist on site?** Identify genus, species and cultivar, if known. Use to gauge spacing distance as well as physical, biological and cultural compatibility.
2. **Are there naturally occurring site indicator plants?** If so, what do they reveal about the site?

3. **Health and condition** – Identify any physical, biological or site-related plant health issues and attempt to determine the cause/source. Keep in mind that signs and symptoms of insect and disease activity are not necessarily significant to plant health.

SOIL FACTORS — Soil is the growing medium for woody plants. Its physical, chemical and biological properties are highly significant to landscape plant performance. Soil surveys are of little use in urban/residential areas because undisturbed native soils are uncommon—soil within the rooting zone is often excavated and backfilled; topsoil can be minimal to nonexistent; soil characteristics can vary considerably over short distances. Soil testing is recommended.

1. **Texture** – Is the soil particularly rocky or clayey? Gauge texture “by feel” or send to a lab for analysis.
2. **Site history** – How has the site been used? Was a building demolished on site? Was the site used as a staging area during construction? Are there underground storage tanks nearby? Is there rubble or other debris mixed into the soil? Are snow, deicing salt, motor oil or other contaminants dumped here?
3. **Test pH and fertility** – pH can vary considerably over short distances and tends to be elevated in soils near concrete (sidewalks, building foundations, etc.). Test also for fertility and salinity where appropriate.
4. **Soil depth and volume** – How much usable soil is available for plant growth? Calculate soil volume on restricted sites such as tree wells, planters and boulevards.
5. **Drainage** – Is the soil soggy, moist or dry? Identify any areas prone to prolonged saturation or standing water after a rain. Use a percolation test to determine rate of drainage.
6. **Topography** – Is the site particularly steep? Is erosion or water runoff a problem?
7. **Compaction** – Urban soils are often compacted, even on residential lots. Soil strength can be tested with a penetrometer or other tool when the soil is moderately wet.
8. **Ground cover** – What type of ground cover surrounds or will surround the planting site: sod, weeds, other plants, mulch, gravel, cement or asphalt, brick, pavers, etc.?

CONCLUDING THE SITE ASSESSMENT

A thorough assessment using the factors above will reveal how well the site can support woody plant growth. Sites can often be modified to a degree, but it is generally preferable to select plants that can tolerate existing site conditions. Limitations can sometimes be addressed simply by adapting the planting design to better accommodate woody plants. In all cases, the likelihood of long-term planting success is increased by carefully selecting plants to match site conditions.

adapted from *Site Assessment Considerations*, Urban Horticulture Institute, Cornell University