My Section Design

Use this worksheet to keep track of the development options you chose

Plantings

Total native plantings:
Total nonnative plantings:
Total insect-friendly plantings:
Total bird-friendly plantings:
Total mammal-friendly plantings:

Total spring plantings:
Total summer plantings:
Total fall plantings:
Total winter plantings:
Total water used:

American Holly: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Basswood: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Common Boxwood: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Douglas-fir: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Dwarf Fothergilla: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Eastern Redbud: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Flowering Dogwood: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Gro-low Sumac: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Japanese Red Maple: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Kwanzan Cherry: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Leyland Cypress: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Liriope: 1 2 3 4 5 6 7 8 9
Total water:
Total price:
Total # spaces:

Moss Phlox: 1 2 3 4 5 6 7 8 9
Total water:
Total price:
Total # spaces:

Red Maple: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

River Birch: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Smooth Hydrangea: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Tulip Poplar: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Virginia Sweetspire: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

White Oak: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Yoshino Cherry: 1 2 3 4 5
Total water:
Total price:
Total # spaces:

Total plantings price:

Total plantings space:

My Section Design

Use this worksheet to keep track of the development options you chose

Organic Fertilizer: Yes or No
Decrease plantings price by 10%

Chemical Fertilizer: Yes or No
Decrease planting price by 20%

Pesticide: Yes or No
Decrease plantings price by 20%

Street sweeping: Yes or No
Add $1,000 to your total price and 10 environment points to each parking lot or walking path

Stormwater Management Systems

Total number of spaces used:

Rain Gardens: 1 2 3 4 5 6 7 8 9
Total price:
Total environment points:
Total visitor points:

Bioswales: 1 2 3 4 5 6 7 8 9
Total price:
Total environment points:
Total visitor points:

Stormwater Filtration Devices: 1 2 3 4 5
Total price:
Total environment points:
Total visitor points:

Parking Lots

Total number of spaces used:

Gravel: 1 2 3 4 5
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Asphalt concrete: 1 2 3 4 5
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Permeable pavement: 1 2 3 4 5
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Walking Paths

Total number of spaces used:

Gravel: 1 2 3 4 5 6 7 8 9
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Concrete: 1 2 3 4 5 6 7 8 9
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

Permeable pavement: 1 2 3 4 5 6 7 8 9
Street-sweeping: Yes or No
Total price:
Total environment points:
Total visitor points:

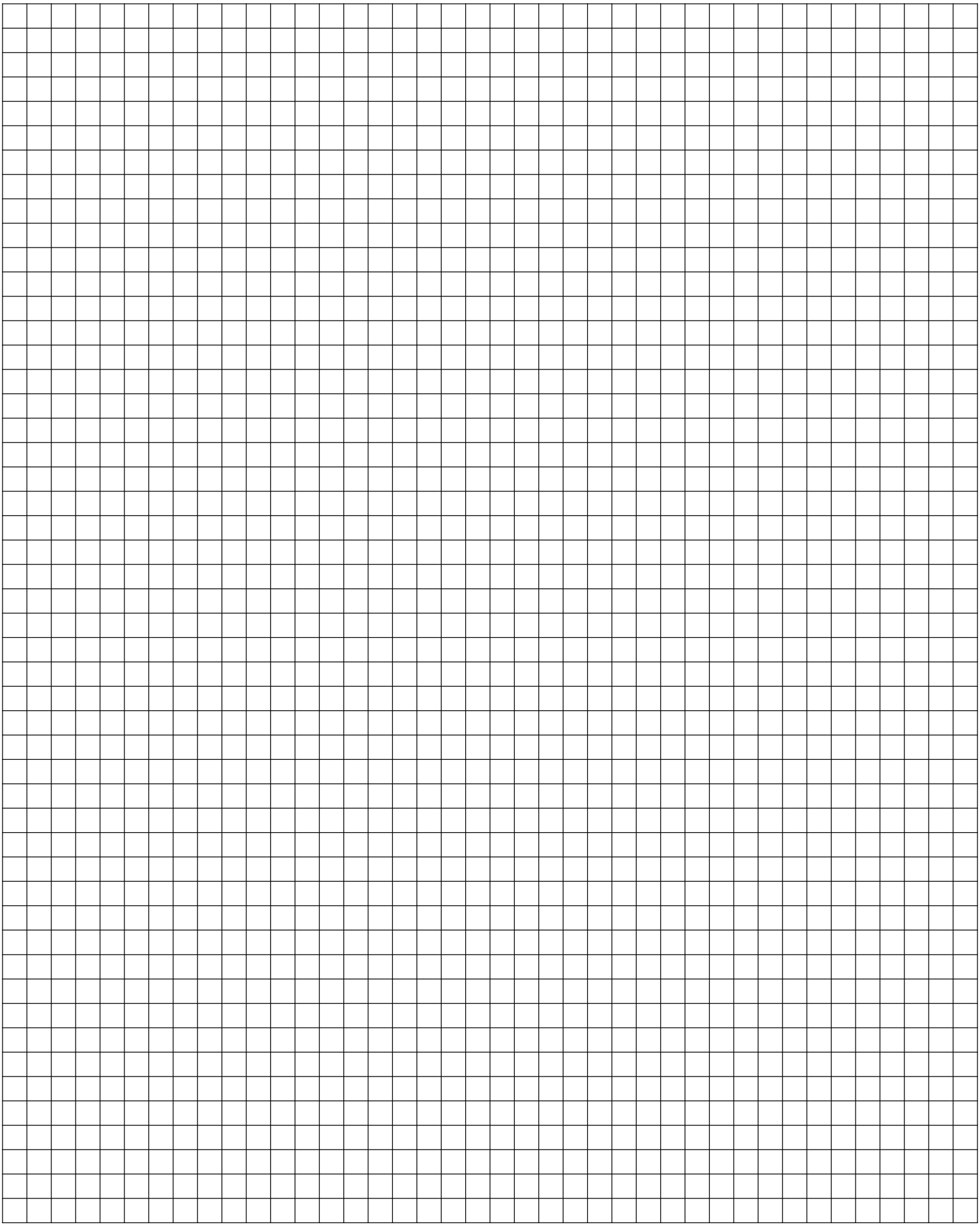
Total environment points:

Total visitor points:

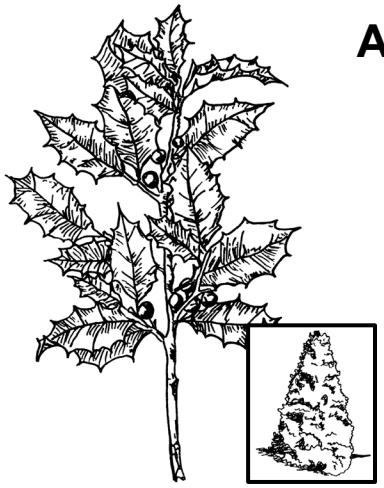
Total price:

Total number of spaces used:

Name:



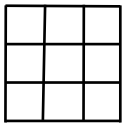
MY SECTION DESIGN



American Holly

Price
$80

Space
3x3

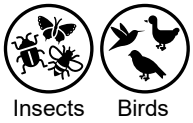


Water needs

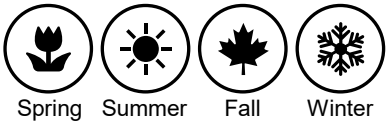
This evergreen tree is known for its distinctive pointed leaves and red berries. It grows slowly but can be pruned into a hedge. Its flowers attract pollinators and its berries are eaten by birds.

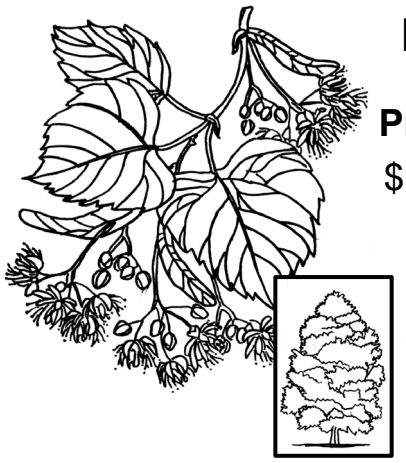
Native

Wildlife



Seasons





Basswood

Price
$100

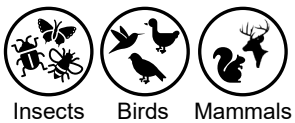
Space
3x3

Water needs

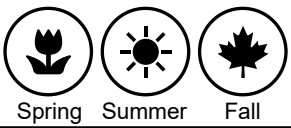
This fast-growing tree produces nectar fed on by honeybees, buds fed on by birds and deer, and fruit eaten by birds and small animals. The wood is soft and forms cavities easily, which are used as nests for many different birds and animals.

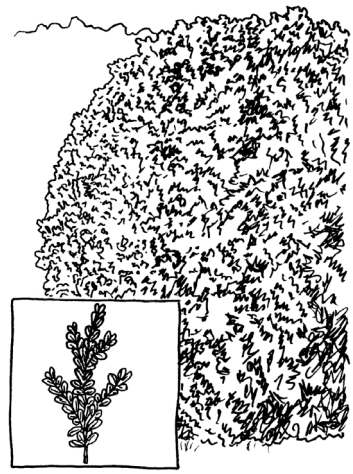
Native

Wildlife



Seasons





Common Boxwood

Price
$30

Space
2x1

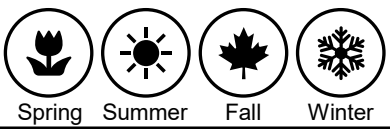
Water needs

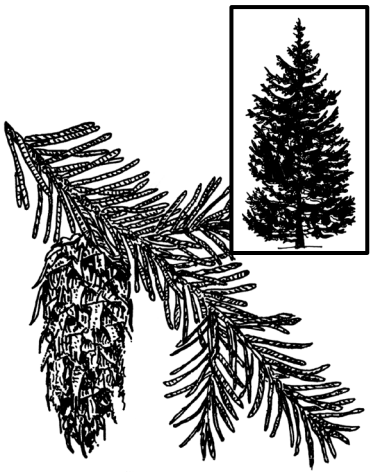
This evergreen shrub can be pruned into many shapes and can be used to create formal hedges and borders. The leaves contain a toxin that deters wildlife from feeding on them, though the dense foliage provides cover for birds.

Nonnative

Wildlife

Seasons

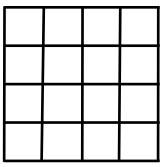




Douglas-fir

Price
$70

Space
4x4

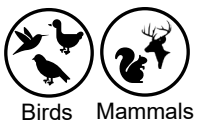


Water needs

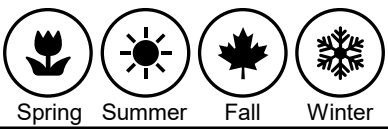
This evergreen tree has dark green, soft needles. It produces 3-4 inch cones and its seeds are eaten by a variety of birds and small mammals. Its native habitat is rocky mountain slopes.

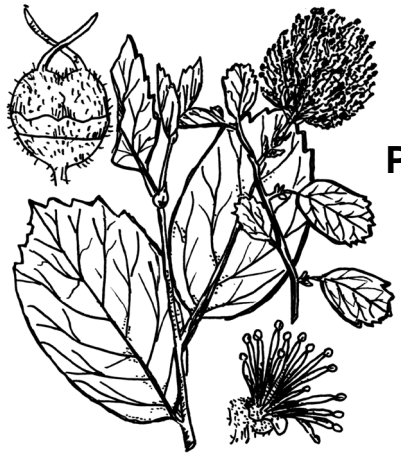
Nonnative

Wildlife



Seasons





Dwarf Fothergilla

Price $40

Space 2x1 or 1x2

Water needs

This small shrub produces white brush-like flowers in the spring, and its blue-green leaves turn to a variety of colors in the fall.

Native

Wildlife

Insects

Seasons

Spring Summer Fall

Eastern Redbud

Price $110

Space 2x2

Water needs

This tree begins flowering at a young age with small bright pink flowers. These blossoms attract insects, including butterflies, and birds eat its seeds.

Native

Wildlife

Insects Birds

Seasons

Spring Summer Fall

Flowering Dogwood

Price $50

Space 2x2

Water needs

This small tree produces distinctive four-petaled white or pink flowers in spring, which give way to bright red berries that are eaten by birds and mammals. Its thick green leaves turn red in fall.

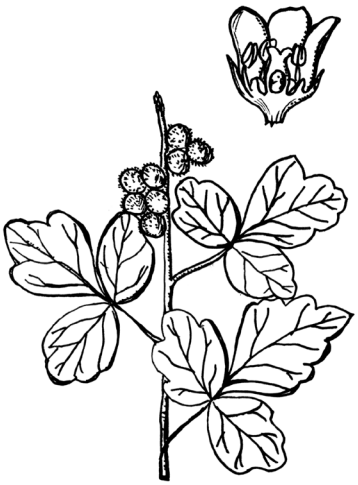
Native

Wildlife

Insects Birds Mammals

Seasons

Spring Summer Fall



Gro-low Sumac

Price $50

Space 2x1 or 1x2

Water needs

This low-growing shrub is excellent for erosion control on hillsides. It produces fragrant green leaves that turn brilliant colors in the fall, and tiny flowers that give way to bright red berries.

Nonnative

Wildlife

Insects Birds

Seasons

Spring Summer Fall

Japanese Red Maple

Price $70

Space 2x2

Water needs

This small decorative tree grows slowly. Its distinctive finger-like leaves are red/maroon from spring to fall. Its seeds are eaten by small mammals and birds.

Nonnative

Wildlife

Birds, Mammals

Seasons

Spring, Summer, Fall

Kwanzan Cherry

Price $140

Space 2x2

Water needs

This tree produces stunning deep pink double flowers in the spring and has dark green leaves that turn orange and yellow in the fall. It produces very little fruit.

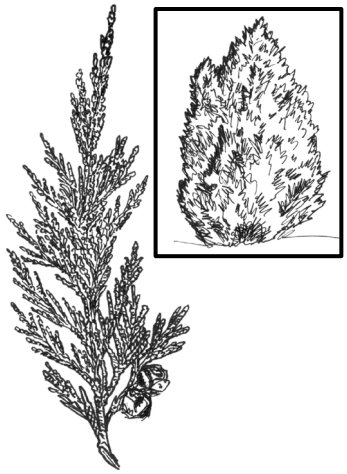
Nonnative

Wildlife

Insects

Seasons

Spring, Summer, Fall



Leyland Cypress

Price $60

Space 3x3

Water needs

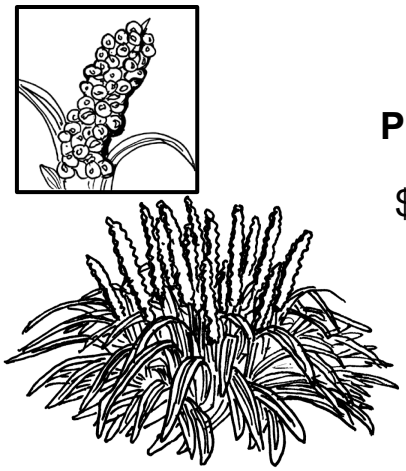
This evergreen tree grows very quickly and is commonly used in hedges and decoration. It produces small cones. It can be pruned and shaped repeatedly.

Nonnative

Wildlife

Seasons

Spring, Summer, Fall, Winter



Liriope

Price $10

Space 1x1

Water needs

This evergreen ground cover blooms in late summer with lavender, purple, pink, or white flower spikes that are followed by clusters of dark berry-like fruits.

Nonnative

Wildlife

Insects

Seasons

Spring, Summer, Fall, Winter

Moss Phlox

Price $10

Space 1x1

Water needs

This groundcover blooms in the spring with a carpet of purple and pink flowers. It attracts butterflies and other insect pollinators.

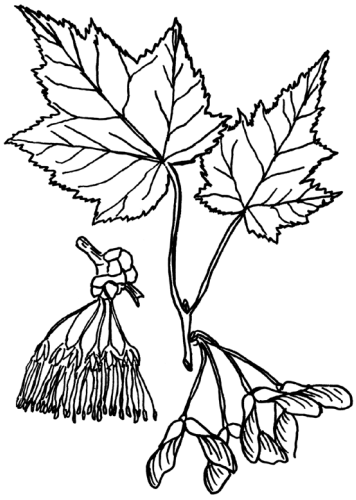
Native

Wildlife

Insects

Seasons

Spring Summer



Red Maple

Price $50

Space 3x3

Water needs

This tree is one of the earliest flowering trees in the spring, and one of the earliest to change leaf color in the fall. Its seeds are eaten by squirrels and some birds.

Native

Wildlife

Birds Mammals

Seasons

Spring Summer Fall

River Birch

Price $120

Space 3x3

Water needs

This tree grows relatively quickly, is tolerant of wetness, and resistant to most pests. It has a naturally curling bark that is home to Insects, many birds feed on its seeds, and deer feed on its foliage.

Native

Wildlife

Insects Birds Mammals

Seasons

Spring Summer Fall

Smooth Hydrangea

Price $40

Space 2x2

Water needs

This shrub produces large leaves and giant clusters of white flowers. It requires maintenance and pruning to maintain its appearance.

Native

Wildlife

Insects

Seasons

Spring Summer

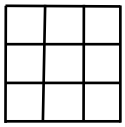
Tulip Poplar

Price

$110

Space

3x3



Water needs

This tree grows quickly with a tall straight trunk. It blooms in late spring with tulip shaped flowers, and the leaves turn bright yellow in the fall. The spring flowers provide nectar to bees and hummingbirds and the seeds provide food to a variety of birds and mammals.

Native

Wildlife

Seasons

Virginia Sweetspire

Price

$20

Space

2x1 or 1x2

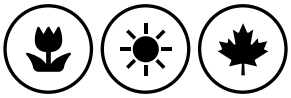
Water needs

This shrub has green leaves that turn red in the fall. Its white blooms attract butterflies in the spring and birds feed on its berries.

Native

Wildlife

Seasons



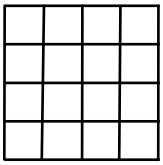
White Oak

Price

$160

Space

4x4



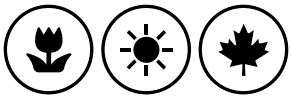
Water needs

This tree is a slow-growing, large shade tree with an extensive root system. Its acorns are eaten by a variety of birds and animals. It is susceptible to a number of insect pests and diseases.

Native

Wildlife

Seasons



Yoshino Cherry

Price

$130

Space

2x2

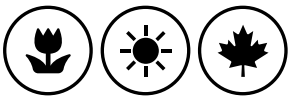
Water needs

This tree is renowned for its white-pink blossoms in the spring. Its dark green leaves turn orange and yellow in the fall. It produces fruit that is eaten by birds and squirrels.

Native

Wildlife

Seasons



Stormwater Management Systems

Rain Garden

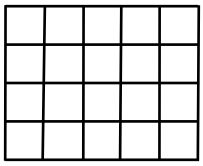
Rain gardens are constructed by digging a depression in the earth which collects water and allows it to soak into the ground instead of running into storm drains. Rain gardens reduce and filter sediments and pollutants, control flooding and erosion, and when planted with appropriate plants, attract pollinators and birds.

Price: $5000

Environment: 50 points

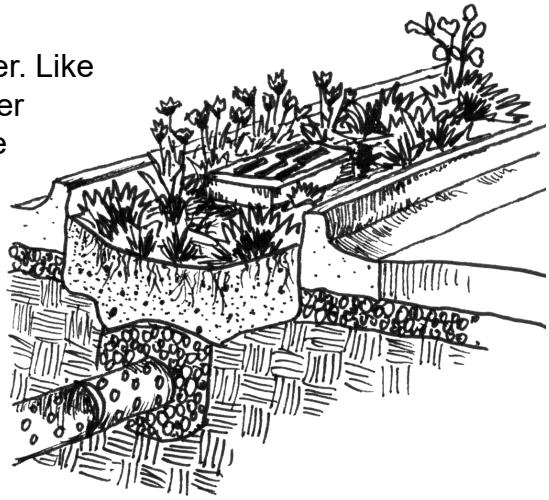
Visitors: 20 points

Space (4x5 or 5x4)



Bioswale

Bioswales are vegetated channels used to direct stormwater. Like rain gardens, they help control flooding and erosion and filter pollutants out of stormwater, and can be planted with native plants that attract pollinators and birds.

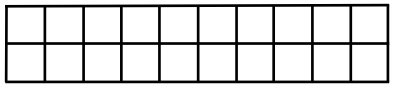


Price: $2000

Environment: 50 points

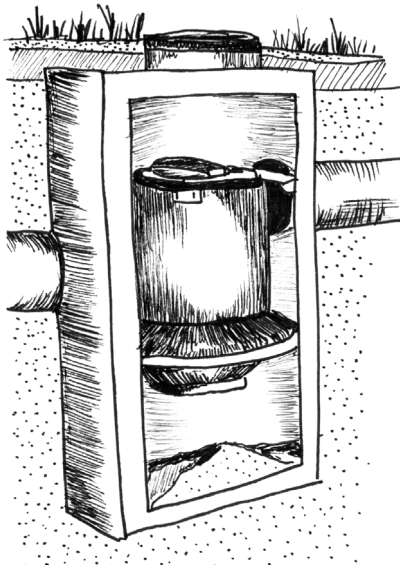
Visitors: 10 points

Space (2x10 or 10x2)



Stormwater filtration device

Stormwater filtration devices collect stormwater and filter out pollutants. They are usually placed underground in large structures and can contain a variety of different filters to remove specific pollutants.

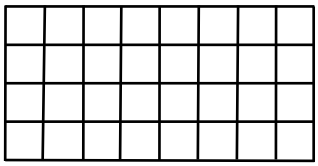


Price: $8000

Environment: 200 points

Visitors: 0 points

Space (4x8 or 8x4)



Parking Lot

Gravel

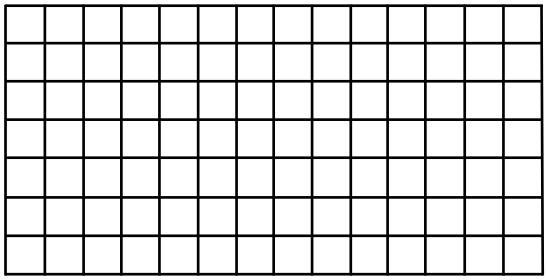
A gravel parking lot is cheap to install but requires regular maintenance to keep the gravel level. The small stones allow for stormwater to soak into the ground, but are also difficult for visitors who need steady footing or wheelchairs.

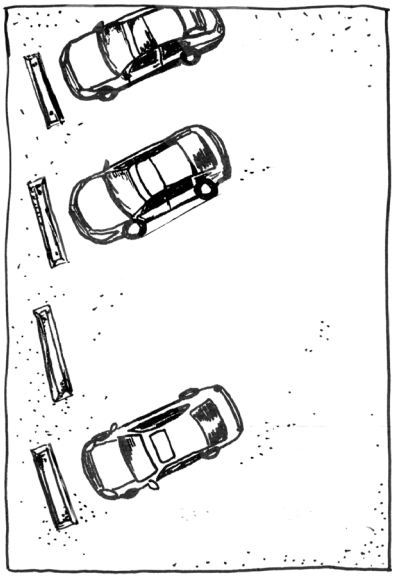
Price: $10,500

Environment: 15 points

Visitors: 60 points

Space (7x14 or 14x7)





Asphalt Concrete

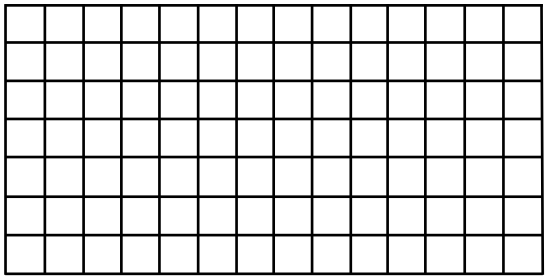
Asphalt concrete, or blacktop, is commonly used in road and parking lot construction across the United States. Asphalt is a liquid petroleum product, and it is mixed with minerals to form hard asphalt concrete. It can be recycled.

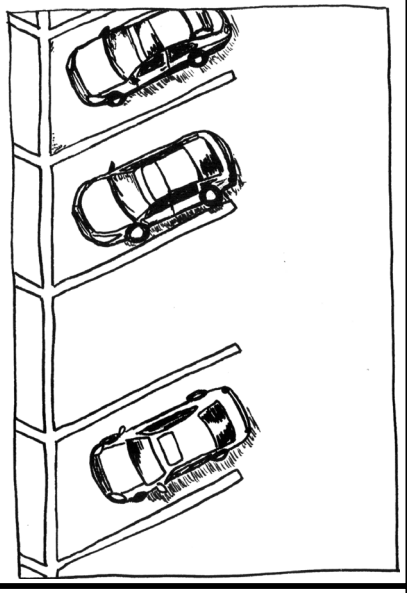
Price: $20,000

Environment: 10 points

Visitors: 150 points

Space (7x14 or 14x7)





Permeable Pavement

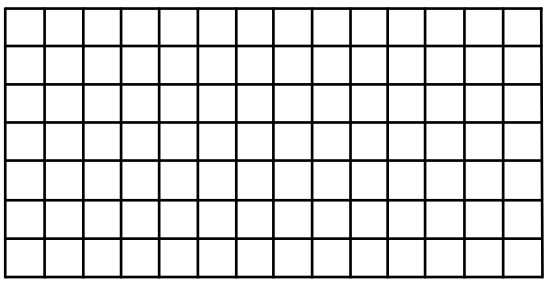
This pavement allows stormwater to soak into the ground, reducing runoff and improving water quality. There are many types of permeable pavement, including pervious asphalt, pervious concrete, and interlocking paver bricks.

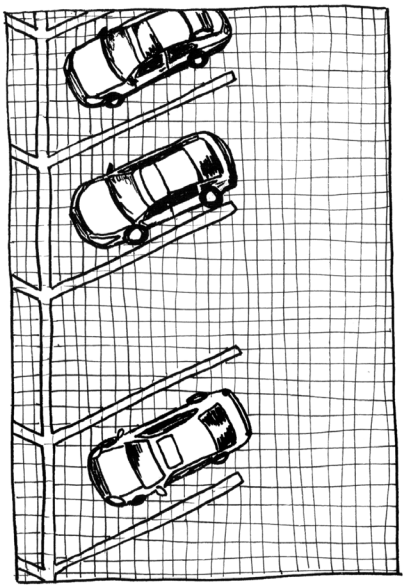
Price: $35,000

Environment: 25 points

Visitors: 150 points

Space (7x14 or 14x7)

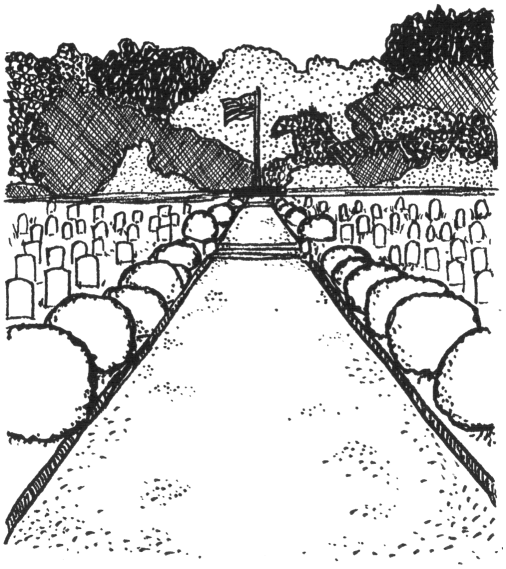




Walking Paths

Gravel

Gravel pathways are cheap to install but require regular maintenance to ensure they remain even. The small stones allow for stormwater to soak into the ground, but are also difficult for visitors who need steady footing or wheelchairs.



Price: $1000

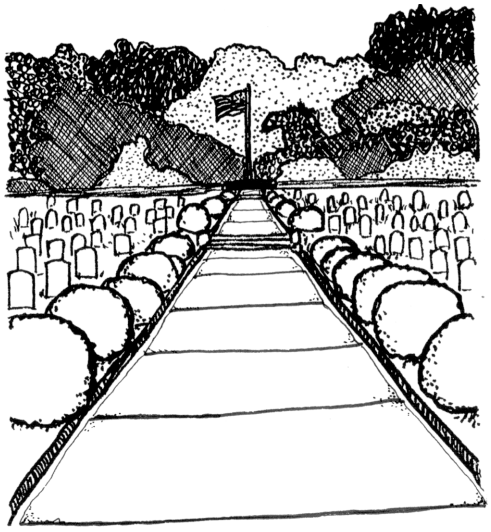
Environment: 10 points

Visitors: 20 points

Space (10x1 or 1x10)

Concrete

Concrete pavement is durable and long-lasting and the most common material used for sidewalks in the United States. Stormwater cannot penetrate concrete, so it runs off into storm drains and bodies of water. Cement manufacturing (one of the major components of concrete) is responsible for about 8% of worldwide man-made CO_2 emissions.



Price: $4000

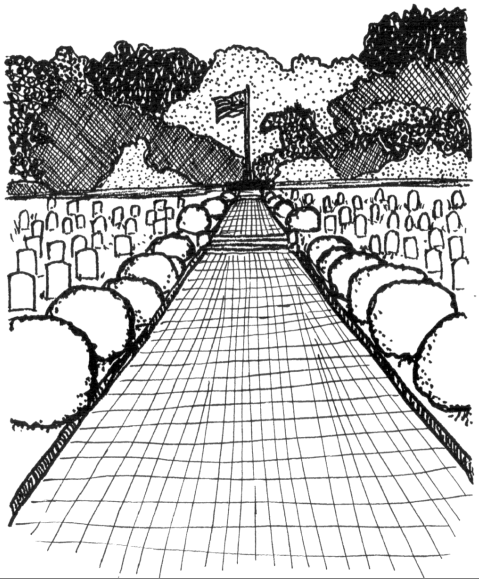
Environment: 0 points

Visitors: 40 points

Space (10x1 or 1x10)

Permeable Pavement

This pavement allows stormwater to soak into the ground, reducing runoff and improving water quality.



Price: $3000

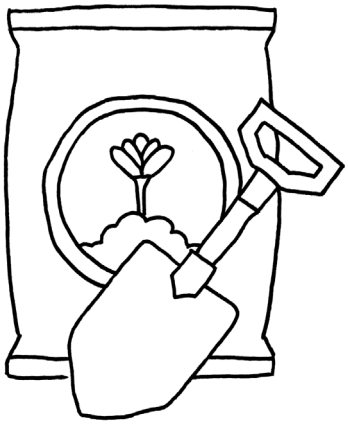
Environment: 20 points

Visitors: 40 points

Space (10x1 or 1x10)

Additional Options

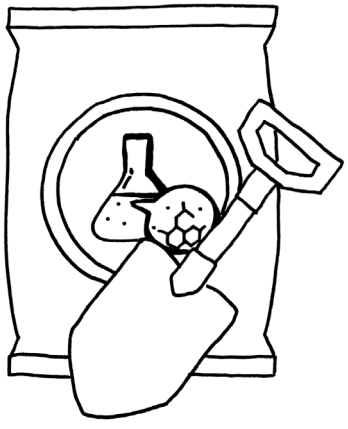
Organic Fertilizer



Organic fertilizers are made from plant and animal matter and add nutrients to the soil slowly. They work over time to build up the soil and are less prone than chemical fertilizers to leach into groundwater and stormwater runoff.

*Use **organic fertilizer** to decrease the price of all your plantings by 10%.*

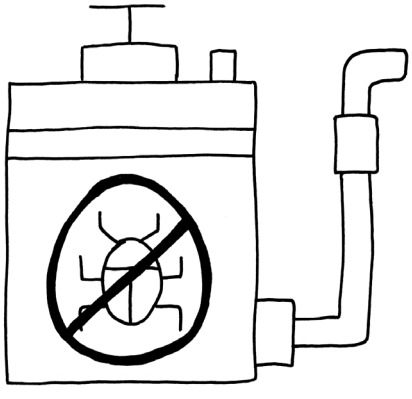
Chemical Fertilizer



Chemical fertilizers typically contain nitrogen, phosphorus, and/or potassium and quickly boost the nutrient content of soil. While cheaper than organic fertilizer, chemical fertilizers tend to seep into groundwater or be carried away in stormwater runoff.

*Use **chemical fertilizer** to decrease the price of all your plantings by 20%.*

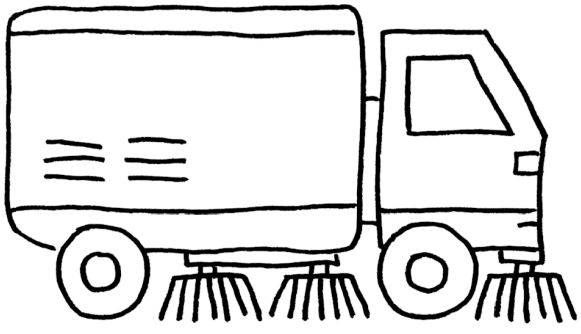
Pesticides



Pesticides contain chemicals that a certain target pest – for instance, herbicides kill weeds, insecticides kill Insects, fungicides kill fungi, and rodenticides kill rodents. They can contaminate groundwater and stormwater runoff.

*Use **pesticides** to decrease the price of all your plantings by 20%. Can be used in combination with organic fertilizer to decrease price by 30% or with chemical fertilizer to decrease cost by 40%.*

Street Sweeping



Regular street sweeping of paved surfaces reduces the amount of pollutants in stormwater runoff.

*Pay $1,000 to use **street sweeping** and add 10 environment points to each of your parking lots or walking paths.*

Name:

Class Period:

DESIGNING A CEMETERY SECTION REFLECTION

In 300-500 words, describe:

- Which factors were most important to you while you made your section design choices,
- The impact your choices could have on biodiversity in the local area, and
- The impact your choices could have on aquatic ecosystem.