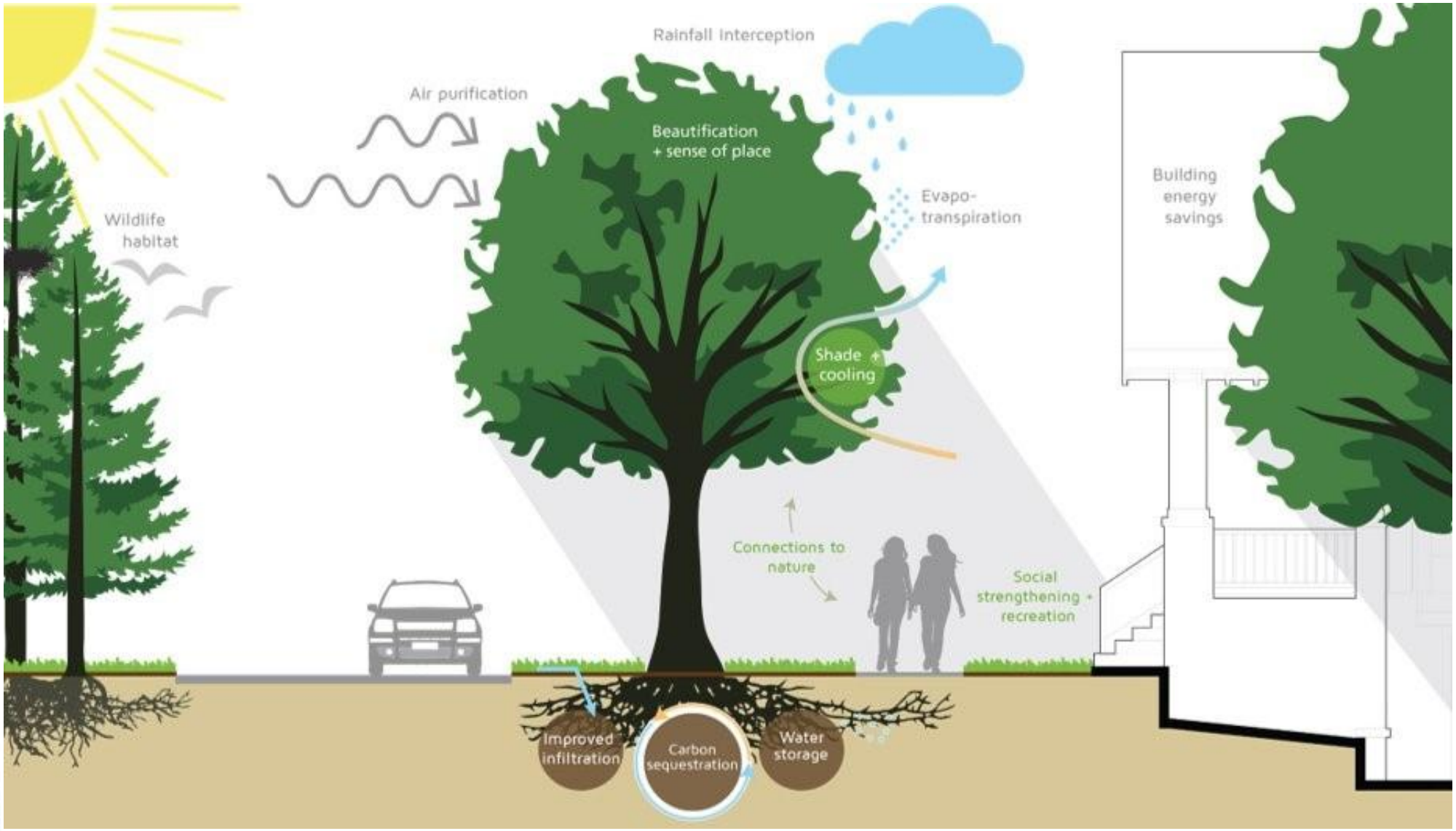
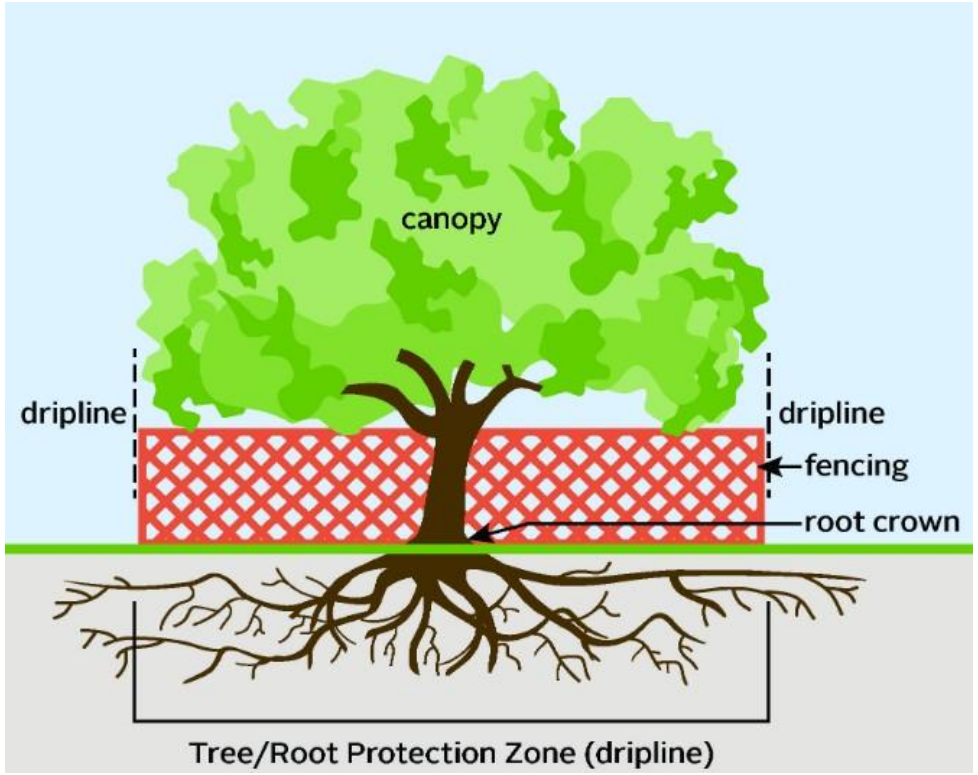
Tree Protection and Infrastructure Construction

Trees are integral components of urban infrastructure



Critical Root Zone or CRZ

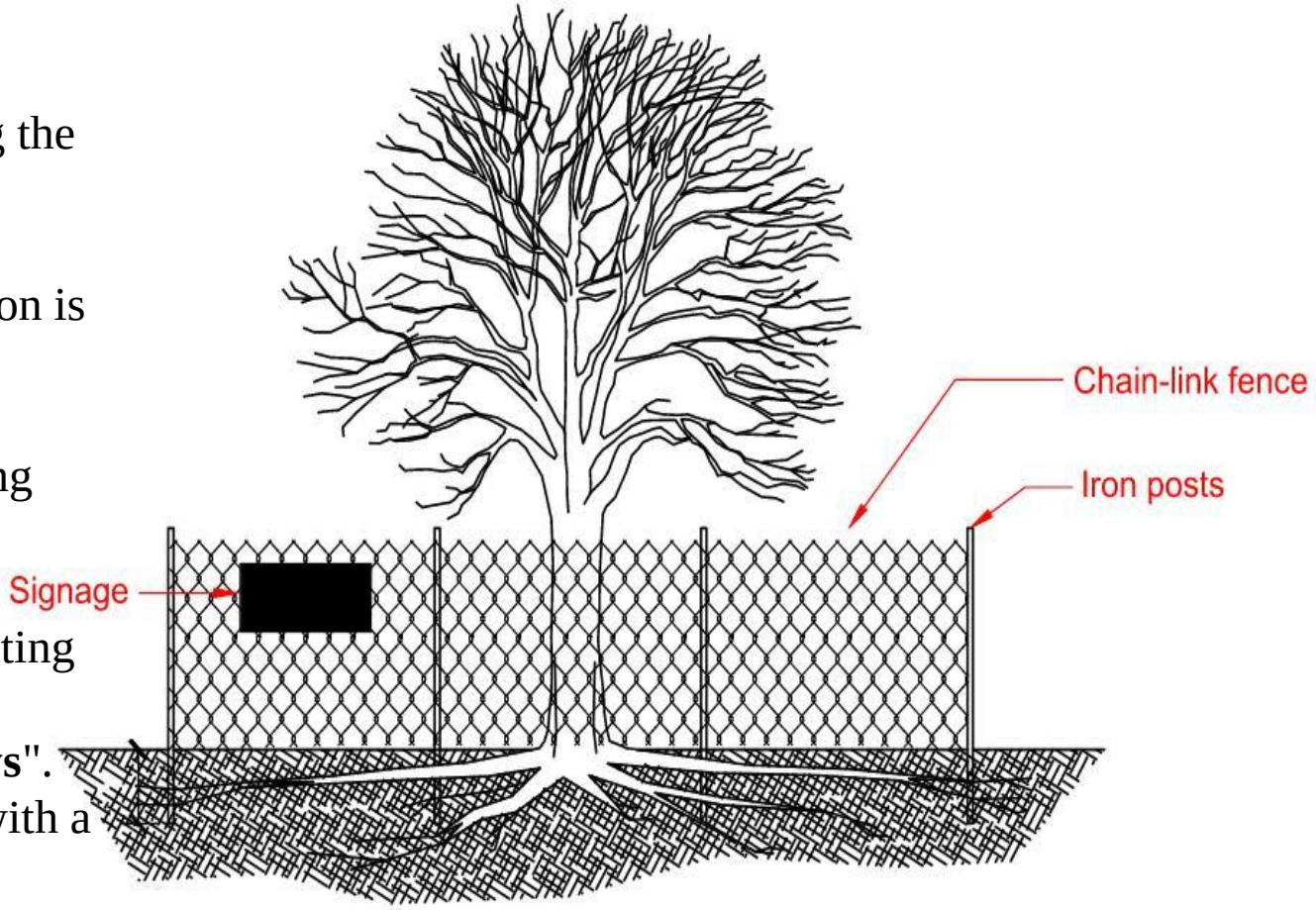


Critical Root Zone means a measurement established based on the trunk diameter at breast height (DBH). The CRZ is an equidistant circular area which has a radius calculated at one-foot to every one-inch DBH or is defined as the outer edge of the dripline, whichever distance is furthest.

Any construction work that occurs within the CRZ of a city tree requires the presence of an arborist to ensure that correct arboreal practices are followed.

Tree Protection Zone (TPZ)

- Wood or chain link barricade at least five feet high along the CRZ
- Avoid damaging trees and plant materials
- The removal of tree protection fencing during construction is prohibited.
- The contractor or property owner shall contact the department for an inspection of the tree protection fencing prior to the commencement of any site work, including demolition or clearing.
- Tree protection fencing shall carry durable signs designating the area as "**Tree protection zone. No entry unless authorized by the Department of Parks and Parkways**".
- Signs shall be spaced around the perimeter of all TPZs with a maximum spacing of 25 feet.
- Signs shall be a minimum eight inches by ten inches in size and shall be firmly affixed to the tree protection fence.



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When construction work is taking place within the CRZ of a city tree, including sidewalk, drainage work, utility work, or planting, all work shall be completed **without the use of heavy equipment** and must receive prior approval from the department.

- Use of an air spade, hand-digging, or similar technology may be required to reveal the roots for preventative pruning by an arborist under the supervision of department.

- Alternative means for utility installation, such as tunnelling and boring, may be required where deemed necessary by the department.

- Alternative paving methods such as sidewalk bridging, flexible paving, ADA compliant gravel, and other technologies may be required as deemed appropriate by the department.

Vehicles and heavy equipment are prohibited from working within the CRZ of a city tree or on city vegetation without prior written approval from the department.

No equipment or vehicles may be cleaned, repaired, or stored on any city property within the CRZ of a city tree or on city vegetation.

Placement of building materials, debris, or any other material within the CRZ of a city tree or on city vegetation is prohibited.

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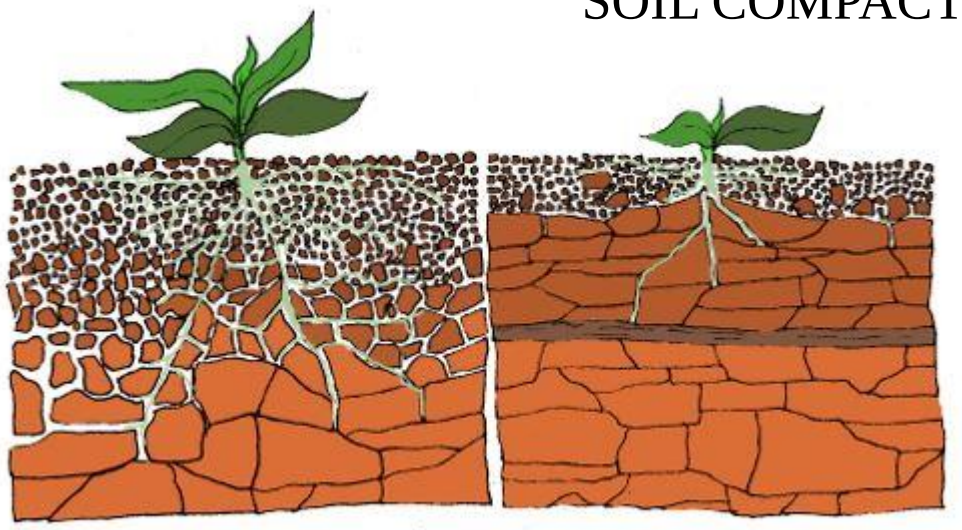
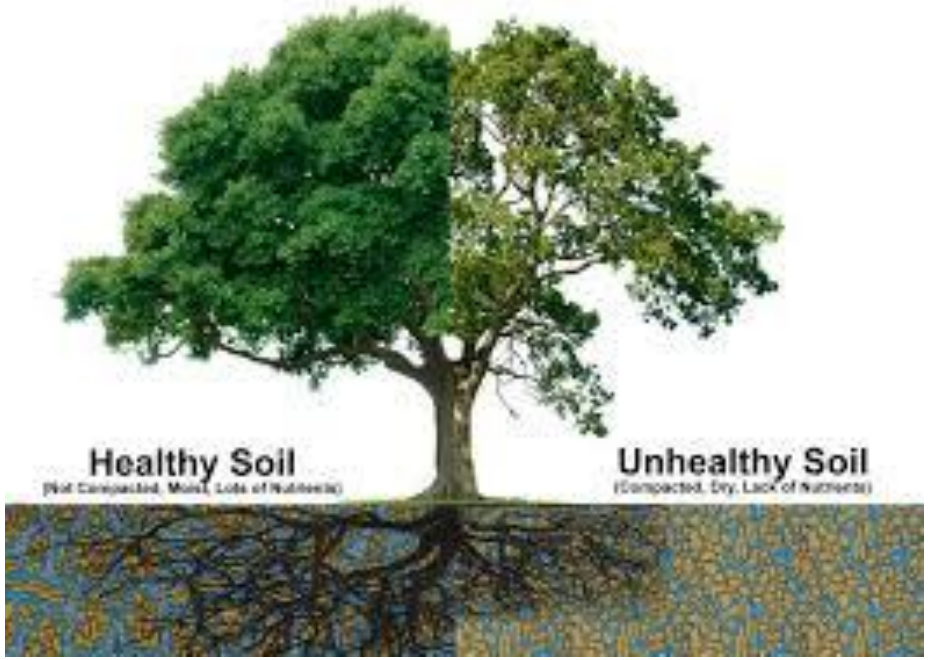
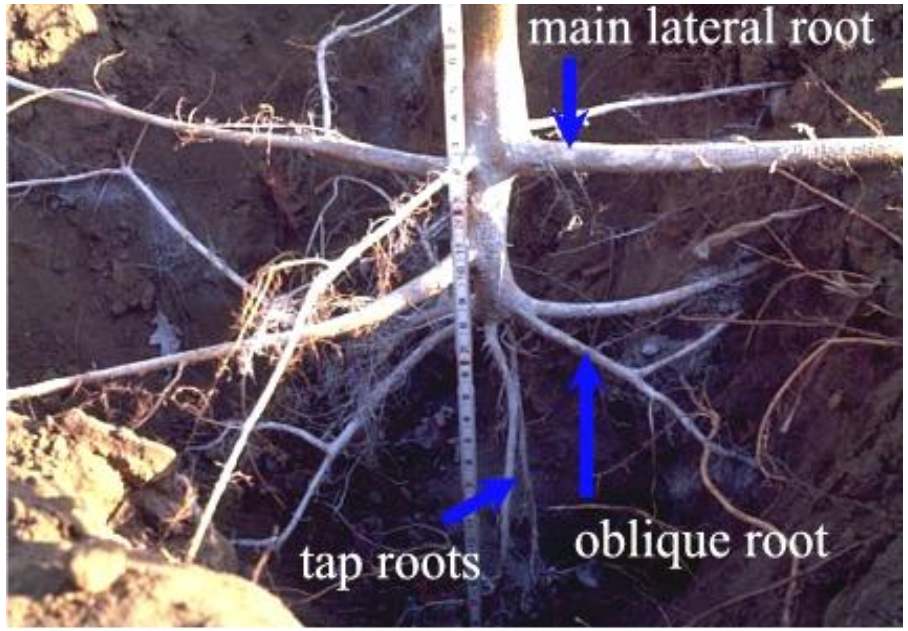
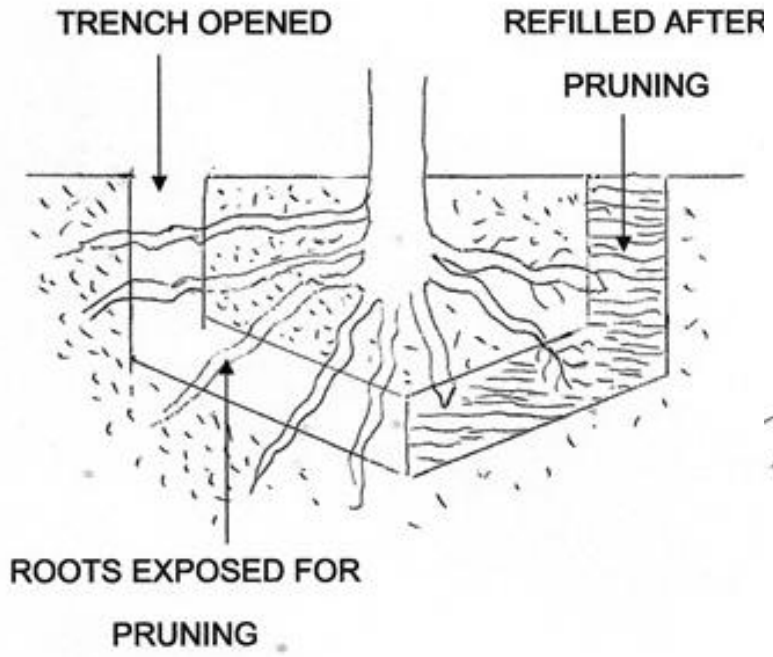
SOIL COMPACTION

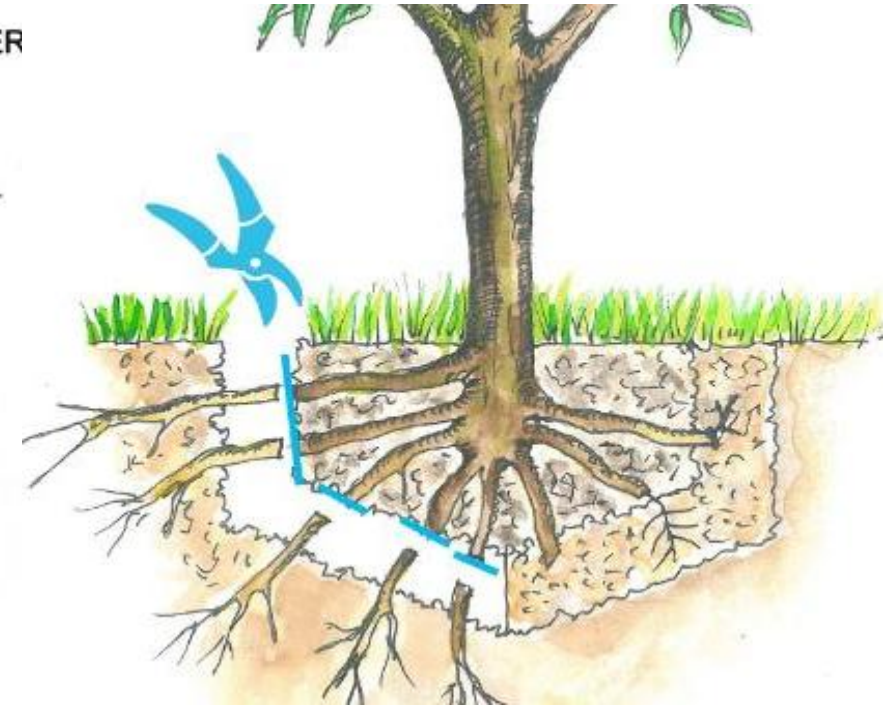


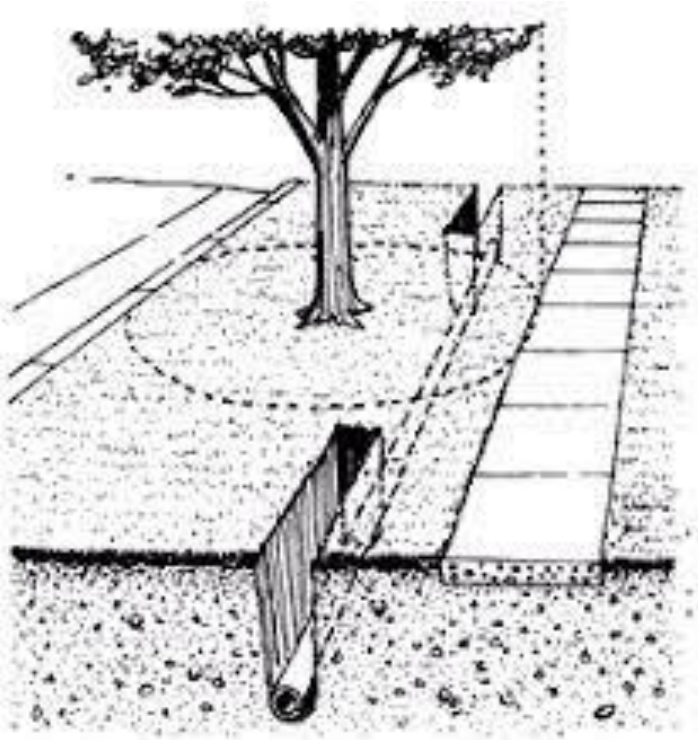


Compaction of the soil reduces the pore space between soil particles, eliminating the oxygen in the soil which causes root death.

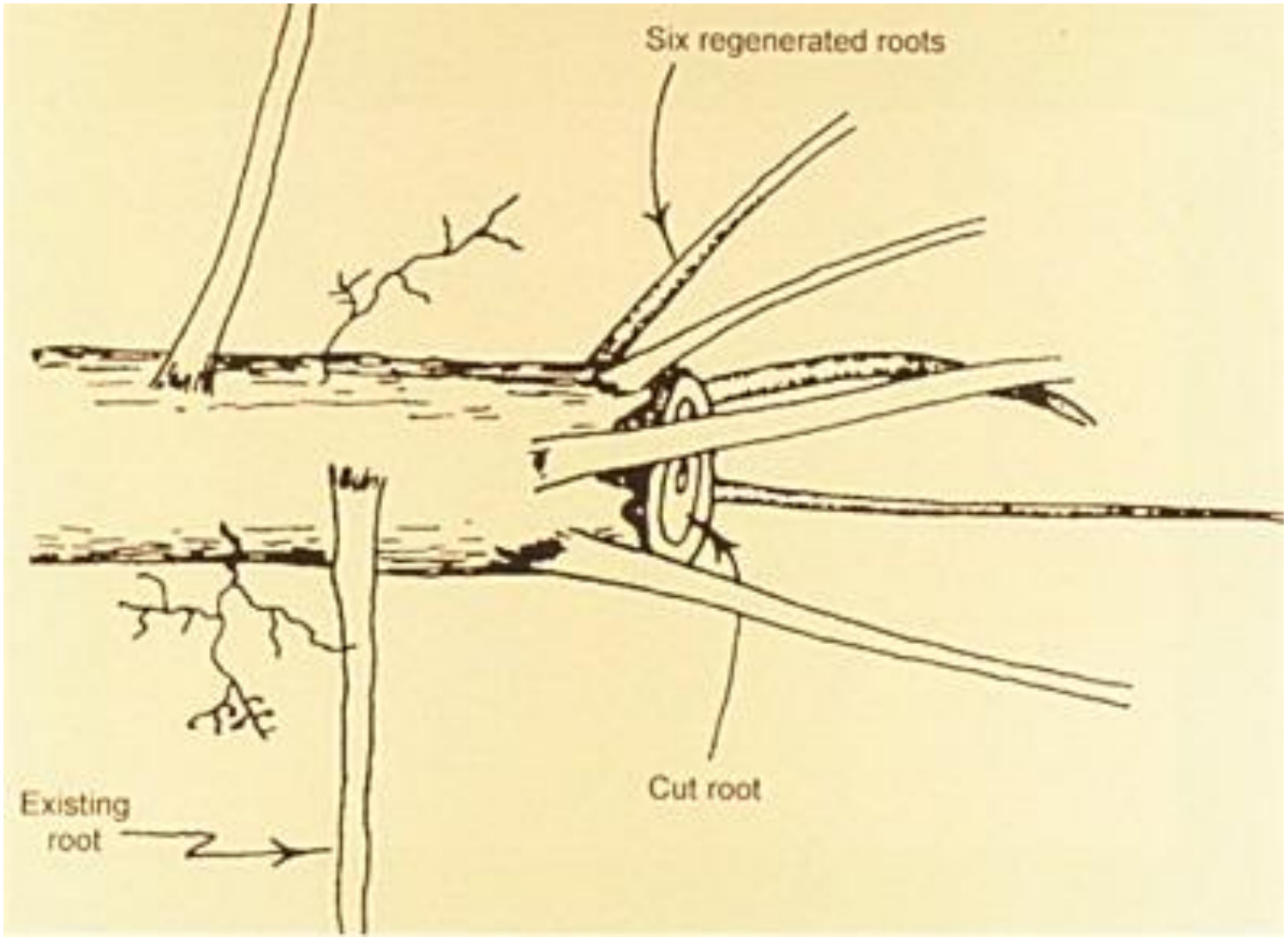








Trenching within the CRZ of any city tree is prohibited. If work within the area within the CRZ cannot be avoided, the department may grant permission for the work and shall require the use of boring or air spade equipment to tunnel beneath the CRZ. The minimum depth for boring is 30 inches and tunneling shall be located as far from the trunk as possible.


Six regenerated roots
Cut root
Existing root

Root flare: critical roots originating from base of tree that stabilize tree. These roots should never be trimmed or harmed. Roots typically grow close to the soil surface (first 12”).

Recently cut and damaged root flare at 2724 Camp Street. Damage to tree will take time to see as roots were covered by new sidewalk so extent of damage to root structure is unknown.

Balance between the tree’s crown (top) and root system is important for maintaining healthy trees. When roots are lost for any reason, the imbalance creates stress.

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SIGNS OF DAMAGE

- Light green or yellowing foliage
- Dark patches on trunk
- Dieback on the upper branches
- Decline in the tree canopy
- Oozing liquid or soft spots on trunk/buttress roots
- Fungal growth or mushrooms growing near trunk
- Poor growth of ground cover under tree canopy
- Abnormal/increased swelling of tree trunk base
- Tree leaning in a single direction or growing slanted

The contractor shall be responsible for damage to all city trees and city vegetation and shall be liable to the city, for either compensation or tree replacement, as determined by the department.

Compensation may include replacement planting on the city portion of the construction site or on nearby city property. The minimum rate of replacement shall be one caliper inch of replacement tree for each inch of DBH as assigned by the project survey or department.

If it is not possible to plant a replacement tree on the city property portion of the construction site or on nearby city property, the city may accept a monetary amount equal to the replacement cost of the tree based upon current market conditions and the DBH, condition, and height of the tree to be removed.

Any person or entity who violates this article shall be subject to penalties in accordance with Section 1-13 of this Code. **Each day that such violation exists shall constitute a separate and distinct offense.**

The department shall issue a stop work order when work is being done in violation of this article, without approval, or if determined by the department to be hazardous.

32” Live Oak

Replacement cost: $62,000

3414 S. Carrollton Ave: May 2, 2017 -- The stabilizing roots were severed by machinery within 8 inches of the base of the tree.

MyTree Benefits

Over 20 years.

Live oak, *(Quercus virginiana)*

Serving Size: 32.00 in. diameter
Condition: Excellent
Location: New Orleans, La, United States
Expected i-Tree benefits over 20 years: $510.20

Discover benefits of all your community trees!

Carbon Dioxide Uptake	**$295.97**
Carbon Sequestered[1]	1,367.9 lbs
CO_2 Equivalent[2]	5,015.64 lbs
Storm Water Mitigation	**$199.60**
Runoff Avoided	22,336.74 gal
Rainfall Intercepted	180,878.39 gal
Air Pollution Removal	**$14.63**
Carbon Monoxide	128.32 oz
Ozone	1,630.05 oz
Nitrogen Dioxide	273.07 oz
Sulfur Dioxide	249.77 oz
$PM_{2.5}$	109.21 oz

- **Design and planning**

Consider tree locations and CRZs during the design phase to minimize potential conflicts.

- **Pre-construction**

Identify trees in construction zone and define protection measures necessary on a case-by-case basis

Complete a pre-construction walk through with:

- Project manager
- Construction manager
- Project arborist
- Parkways arborist

- **Tree Protection**

Install and maintain tree protection fencing for the duration of the project. A licensed arborist **must be present** for work within the CRZ.

- **Communication**

Alert Parks and Parkways and your arborist to any issues that arise during construction.

What can we do?

Create a system that can accommodate tree roots while minimizing damage to the infrastructure

- Plant the right tree in the right place
- Use tree grates
- Alternative sub-base material
- Channel roots
- Root barriers
- Elevated sidewalks
- Re-route sidewalks (bump-outs etc.)
- Alternative surface material
- Alternative streetlight/wire location
- Alternative sewerage/water location

In case of a tree emergency:

General line: **504-658-3201**

After hours: **504-658-3240**

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