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# The **INVASION** Of Invasive's

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**ALL SEASONS**  
LANDSCAPING CONTRACTORS

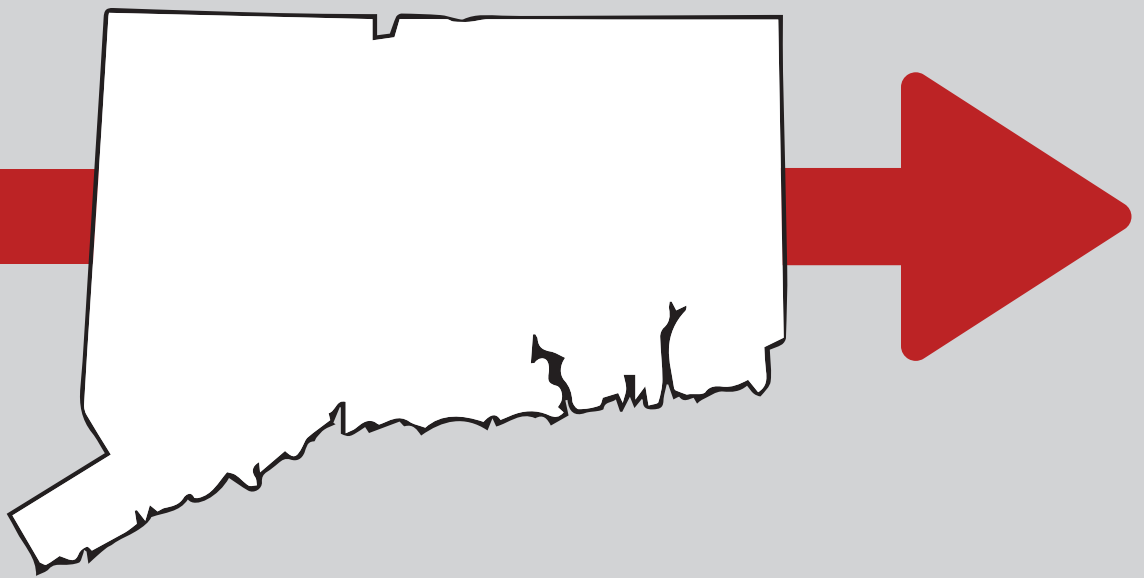
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All Seasons Landscaping Contractors has  
had many years of experience performing  
invasive removal on many projects  
**ALL ACROSS THE STATE.**

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Our crew members are all DEEP Licensed Pesticide Operators that spray under the direction of a Licensed Commercial Supervisor. We also have the equipment that can handle clear cutting invasive species, including sizable caliper woody ornamentals, close to the ground. This enables us to quickly and efficiently, mechanically remove invasive species covering large surface areas.

After spending countless hours combing over detailed specifications and project plans, then having to aggressively bid against your competitors, it is frustrating enough to get a signed contract and permission to start work after finally being awarded the job. The last thing any contractor needs is to have their job delayed any further because invasive species have not been eradicated on the job site. If you have any questions in regards to invasive removal on your next project, please contact our office at 860-953-2471.

Over the past decade, the State of Connecticut in partnership with the Department of Transportation has become more aware of the inherent threat that invasive species pose to our native habitats.

These non-native species have multiplied at aggressive rates, out-competing native species that provide beauty to our landscape and in addition, many ecological benefits to birds and wildlife. In an effort to protect Connecticut's natural ecosystem, the Department of Energy and Environmental Protection (DEEP) and CT DOT Office of Environmental Planning (OEP) now mandates that all invasive species must be removed within project limits before any work can commence on any state construction project.

**The following species must always be eradicated if present on site:**

Tree-of Heaven (*Ailanthus altissima*)

Russian and Autumn Olive (*Eleagnus angustifolia* and *Eleagnus umbellata*) Smooth

Buckthorn (*Rhamnus cathartica*)

Glossy Buckthorn (*Frangula alnus*)

Multiflora Rose (*Rosa multiflora*)

Japanese Barberry (*Berberis thunbergii*)

Winged Euonymus (*Euonymus alatus*)

Shrub Honeysuckle (*Lonicera maackii*)

*L. morrowii*

*L. tartarica*

*L. X bella*

*L. xylosteum*

Privet (*Ligustrum obtusifolium*)

*L. ovalifolium*

*L. sinense*

*L. vulgare*

Oriental Bittersweet (*Celastrus orbiculatus*)

Japanese Knotweed (*Polygonum cuspidatum*)

Common Reed (*Phragmites australis*)

Reed Canary Grass (*Phalaris arundinacea*)

**The Environmental Scientist may also mandate additional invasive species be removed if present on site.**







# Invasive species can be controlled using mechanical and chemical techniques.

Mechanical control involves the physical removal of the plant by pulling out, digging up, or cutting the plant at ground level. When pulling or digging plants out, it is very important to remove all of the root system to avoid re-infestation. Cutting and mowing at ground level removes all leaf surface, essential for driving the process of photosynthesis. However, plants can regrow from stored energy reserves and it will usually take 4-5 cuttings, combined with repeat herbicide applications before these reserves are exhausted. Mechanical methods are highly labor intensive and re-infestations are likely to occur if not completed properly.

Herbicides are a much more effective method of invasive removal. A large amount of invasive species can be controlled using Glyphosate, a non-selective herbicide that will eradicate most vegetation it is labeled for, and Triclopyr, a selective herbicide safe for use on monocots (grasses). Foliar applications are effective when there is a large monoculture of herbaceous invasive species, or for spot treating individual plants that can't be removed mechanically. Plants are most susceptible to foliar applications when they are actively growing so they can uptake the chemical. It is advantageous to employ an invasive management program that includes both mechanical and chemical methods as many species are more susceptible to herbicides when they are in the regrowth stage. This would involve cutting plants off at the stem and treating the new, foliar regrowth with Triclopyr (Garlon 3A). Herbicides can also be applied directly to the stem of woody ornamentals immediately after cutting. This treatment requires higher concentration of active ingredient than in foliar applications but can be very effective if done properly.



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# Guidelines from the Office of Environmental Planning

When bidding your next job that includes invasive removal, refer to this helpful summary of guidelines from the Office of Environmental Planning.

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# Identify all invasive species in the invasive removal areas outlined in the Project Plans and Specifications





# Pre-Construction Meeting

At the pre-construction meeting, submit an invasive removal plan to the Environmental Scientist for review.

## **This plan should include the following:**

- List of all invasive species present on site
- Species specific treatment methods for complete eradication
- Removal methods planned
- Types and concentrations of herbicides to be used, including any necessary adjuvants
- Schedules showing dates and types of initial, intermediate, and final treatment.
  - This must take into consideration the time period required between herbicide application and physical removal of the species, which is typically a minimum of 2 weeks.
- List of construction activities planned in invasive removal areas during the eradication period
- Disposal methods
- On-site methods and areas
- Off-site disposal locations
- Proof of DEEP licensure for herbicide application
- Description of safety equipment and Personal Protective Equipment (PPE) to be employed
- Procedures for handling chemical spills

# Contractor's responsibility before and during invasive removal

- Maintain labels for each herbicide being used
- Provide OEP with a 10 day notice prior to beginning work so the Environmental Scientist can arrange to be present when necessary
- Follow all manufacturer's recommendations and requirements of regulatory agencies for herbicide formulations and applications.
- Maintain written, detailed records of all herbicide applications, including formulation, concentration, areas treated, dates of application, which must be submitted to the Environmental Scientist following each treatment

## Mechanical Removal

- Flush cut brush and trees must be no more than 2 inches above the ground line
- Removal shall be done in a controlled measure to prevent the dispersal of parts or seeds (Brush hogging and other disruptive methods are not permitted)
- Vines twining through treetops and other vegetation should be removed to prevent girdling of the desired species. \*Climbing spikes are not permitted

Broadcast and uncontrolled spraying of herbicides is **not permitted** and caution must be exercised to prevent contact with non-target species and/or disrupting the re-colonization of native species



# Disposal of Invasive Vegetation



- Extreme care must be taken to avoid dispersal of invasive plant parts and seeds .....
- Invasive material must be kept separate from all other cleared material .....
- Invasive plant material may be buried on site within the Department ROW if they are buried a minimum of 10' on all sides for Japanese Knotweed and Phragmites, and 3' on all sides for all other species. ....
- Invasive material may also be disposed of off-site at an approved location identified in the contractor's submitted plan .....





# After Invasive Species have been eradicated

- If the eradication has not been successful, the contractor shall notify the Environmental Scientist of the eradication status and submit a plan for additional treatment plans .....
- If the eradication has been successful, the contractor must request a site inspection by the Environmental Scientist. Upon approval by the Environmental Scientist, the contractor is then responsible for any reoccurrences of invasive species for a warranty period of one year .....



# Erosion Control and Stabilization

When invasive removal results in exposed soils, these areas must be stabilized with the appropriate vegetative cover. This could be seed mix protected with hay, cellulose fiber mulch, or erosion control matting.



## **For Additional Information on Invasive Species and Sources, please see the links below:**

- Department of Energy and Environmental Protection
- Department of Transportation- Office of Environmental Planning
- Connecticut Invasive Plant Working Group
- Invasive Species Fact Sheets
- Complete List of Invasive Species in CT







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