



Origination 12/2020
 Last Approved 04/2022
 Last Revised 04/2022
 Next Review 04/2024

Owner Shannon Britton:
 Grounds
 Manager
 Policy Area DKB Facilities -
 Operations &
 Maintenance

760.02.01 Sust Landscp Maintenance - Procedure

STATUS	Draft	Under review	Approved	Obsolete
PREPARED BY	Shannon Britton		DATE DRAFTED	July 30, 2020
<i>Signature</i>				
APPROVED BY			DATE APPROVED/EFFECTIVE	December 14, 2020
PROCEDURE SCOPE	To what policy the procedure applies	760.01.00 Grounds & Landscaping Maintenance		
	To whom the procedure applies	All Grounds staff		
	When the procedure should be used	At all times during the work day		
	Purpose, goals and intended outcomes	Guidelines have been adopted to preserve ecological integrity, enhance natural diversity and protect wildlife while supporting campus operations.		
	Non-compliance	Pesticides are not allowed in the campus landscape		
AREAS OF RESPONSIBILITY	<p>All Grounds Staff are responsible for:</p> <ul style="list-style-type: none"> Performing procedures that support the health and safety of the campus community in balance with a healthy environment Implementing Integrated Pest Management strategies and action principles as outlined in the Sustainable Landscape Management Plan 2009 that guide Grounds' goals and objectives: <p>1. Pesticide Free</p>			

	<ol style="list-style-type: none"> 2. Integrated Pest Management (IPM) 3. Waste Diversion/Clean Green/Composting 4. Water Conservation 5. Erosion Control
	<p>Sustainable Landscape Management:</p> <ol style="list-style-type: none"> 1. Pesticide-free 2. Landscape Integrated Pest Management (IPM) 3. Compost Tea 4. Lawn Maintenance (Non-sports field) 5. Landscape Maintenance 6. Wasp and Yellowjacket Control 7. Tree Care 8. Waste Diversion/Clean Green/Composting 9. Water Conservation 10. Ponds: CAMP, LOYA, ARRP 11. Significant Gardens and Collections 12. Landscape Design and Plant Selection 13. Erosion Control 14. General Campus Maintenance
<p>PROCEDURE DETAILS</p>	<ol style="list-style-type: none"> 1. Pesticide Free A pesticide free campus helps preserve the ecological function and integrity of services crucial to wildlife habitat and biodiversity. Guidelines and principles are outlined in the <i>Sustainable Landscape Management Plan 2009</i>. 2. <u>Landscape Integrated Pest Management (IPM)</u> Trained Grounds staff carry out recommendations of best practices for IPM in a sustainable and organically maintained landscape and are established in the <i>SU Guidelines for Sustainable Landscape Management (2009)</i>. Sustainable techniques for weed suppression and control are emphasized in IPM for maintaining a standard of appearance for campus landscapes. Allowed products, if required for pest control, shall be taken from the most current edition of the Organic Materials Review (OMRI) List https://www.omri.org/omri-lists A copy of the product label and Material Safety Data Sheet shall be kept in the Grounds office and be made available upon request. Only licensed applicators shall apply allowed products.

3. **Compost Tea** (See Appendix A)

Compost tea is a watery extract of compost that is "cold" brewed. The organisms that are extracted from the compost, i.e., the bacteria, fungi, protozoa and nematodes are given foods which result in an increased number and activity of the beneficial species generating an enormous diversity of beneficial bacteria. Applying compost tea returns to the soil the biology that should be present to grow desired plants. Adjusting soil biology and chemistry helps match the needs of the plant.

4. **Lawn Maintenance (Non-sports field)** See Appendix B

Grounds and Landscaping staff shall follow lawn care practices established in ***Ecologically Sound Lawn Care for the Pacific Northwest***, David K. McDonald, 1999, Seattle Public Utilities. Grounds Gardeners carry out best practices in campus lawn maintenance:

- Assess equipment for safety, function and sharpness
- Assess campus turf grass for managing plant health and applying sustainable IPM practices
- Using mulching mowers, allow clippings to recycle nutrients into the lawn and eliminate labor and waste costs of collection
- Maintain mowing height of 2.5" during the growing season
- Mow weekly throughout the growing season, APR-OCT and other months as needed
- Carry out mechanical aeration, fertilizing and seeding in the Spring and Fall

1. **Landscape Maintenance** (See Appendix C)

2. [Wasp and Yellowjacket Control](#)

Campus safety is grounds number one consideration when determining how to manage or treat a wasp nest in the landscape. When a wasp nest is discovered away from walkways and buildings, Grounds will put a caution sign and leave the nest in place for the benefits wasps provide in the environment such as eating other insects and helping reduce numbers of mosquitoes, spiders, ants and others.

3. **Tree Care**

See [760.04.00 Campus Tree Management Campus Tree Care Plan - Appendix 1](#)

4. **Waste Diversion/Clean Green/Composting**

See Sustainable Landscape Management Plan 2009 page 1.
Focus:

- making compost mulch using pre-consumer food waste and tree chips

- applying compost mulch for weed suppression, moisture management, nutrient amendment
- turf mulch mowing and aeration facilitates nutrient and moisture cycling

1. **Water Conservation**

See Sustainable Landscape Management Plan 2009 page 5.

Focus:

- Digital controllers: evapo-transpiration informs watering cycles
- Drip irrigation controls output, directly located over root systems; in/ under mulch layer buffers transpiration
- Reduced water budget helps cooperate with climate change needs for fresh water conservation
- Designing for drought conditions, xeriscaping prepares for future fresh water reduction requirements

1. **Significant Gardens and Collections** (See Appendix D)

Identify and organize gardens by significance and importance emphasizing use, legacy, culture or art, or illustrate a theme, ecology, conservation or function.

2. **Rain Gardens** (See Appendix E)

Engineered Storm Water Retention

3. **Ponds: CAMP, LOYA, ARRP**

Pond cleaning activities are scheduled mostly during late spring, summer and early fall. Cleaning includes vacuuming to remove algae buildup and adding organic water cleaning product to maintain balanced pond water quality and aquatic environment for Tea Garden landscape aesthetics, fish and other urban wildlife.

Equipment and products are purchased online from The Pond Guy.

	MONTHLY APR thru SEP		
	CAMP	LOYA	ARRP
Pond Vac	X	X	X
DefensePAC	X	X	X

4. **Landscape Design and Plant Selection**

Grounds considers three focal points in landscape design: safety, aesthetics and biodiversity.

Safety and security are guided by CPTED, Crime Prevention Through Environmental Design developed by the National Institute of Crime Prevention.

Aesthetics are guided by an approach that maintains natural shapes and removes and suppresses invasive vegetation within safety guidelines.

Biodiversity guides selecting for diverse habitat supporting urban

wildlife and visual interest.

Soil amendments are primarily compost mulch made on campus. Purchased soil is primarily Cedar Grove organic 3 way mix or comparable from alternate vendor.

5. Erosion Control

Grounds monitors landscape for water run-offs and slope degrades and provides clean ups and renovations per the SU **Sustainable Landscape Management Plan 2009**.

Other guiding documents include **Low Impact Development, Technical Guide Manual for Puget Sound 2012**.

6. General Campus Maintenance

Task	Daily	Weekly/Monthly
Litter pick up	X	
Sweep/blow selected walks		X
Sweep/blow parking lots		X
Clear storm drain grates		X
Respond to work orders	X	

REFERENCE DOCUMENTS

Seattle University Sustainable Landscape Management Plan 2009; O'Brien & Company

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\12_LANDSCAPE MAINT and Manual\Grounds Sustainable Landscape Mgmt Manual\ Sustainable Landscape Management Plan 2009.

Grounds Sustainable Landscape Management Operations Manual 2020

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\12_LANDSCAPE MAINT and Manual\Grounds Sustainable Landscape Mgmt Ops Manual 2020.

Compost Tea

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\COMPOST TEA\ Brewing Field Guide Microscope Manuals

Ingham, Elaine. *The Compost Tea Brewing Manual*: Soil Foodweb Inc., 2003.

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\COMPOST TEA\ Tea Spray records

Compost Making Operations

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\COMPOST\ procedures and log

Lawns

Ecologically Sound Lawn Care for the Pacific Northwest, David K. McDonald, 1999, Seattle Public Utilities. Grounds Library.

Rain Gardens

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\Rain & Surface Water Management

<https://www.12000raingardens.org/resources/>

	<p>Erosion Control T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\SUSTAINABILITY\LIDmanual</p> <p>Significant Gardens Public Garden Management, Donald A. Rakow, Sharon A Lee Kubota Gardens and on SU Campus: https://www.seattleu.edu/grounds/campus-trees/more-information-on-su-trees/ Significant Gardens on SU Campus: https://www.seattleu.edu/grounds/campus-gardens/</p>
CONTACT / HELP	<p>Grounds Manager 206-296-6439 Grounds Staff 206-296-6440</p>
DEFINITIONS	<p>Integrated Pest Management (IPM) Compost tea is a watery extract of compost that is "cold" brewed. The organisms that are extracted from the compost, i.e., the bacteria, fungi, protozoa and nematodes are given foods which result in an increased number and activity of the beneficial species generating an enormous diversity of beneficial bacteria. Foliar Soil drench</p>
PROCEDURE HISTORY	
KEYWORDS	

Appendix A

Compost tea is a watery extract of compost that is "cold" brewed. The organisms that are extracted from the compost, i.e., the bacteria, fungi, protozoa and nematodes are given foods which result in an increased number and activity of the beneficial species generating an enormous diversity of beneficial bacteria. Applying compost tea returns to the soil the biology that should be present to grow desired plants. Adjusting soil biology and chemistry helps match the needs of the plant.

Compost tea can be applied as a foliar spray or as a soil drench. Applications and timing are dependent on the plant, the soil and the season.

*Dr. Elaine R. Ingham, **The Compost Tea Brewing Manual**, Fourth Edition, 2003, Soil Food Web Incorporated.*

Compost tea treatments and uses on campus include disease suppression, support for seasonal plant stress and construction impacts on root systems. Treatments are used for trees, shrubs, turf, soil conditioning and compost making.

Compost tea brewing equipment, products and operations are performed and stored in the CHAF house.





Operations and safety follow the **Compost Tea Brewing Manual 2003** and the **Western Sustainable Agriculture Research Education – Aerated Compost Tea Field Guide 2017**. Located in the Reference Documents section in this document.

Trained Grounds Staff are responsible for:

- Educating and training Grounds staff to assist with tea making and spraying operation and to observe all safety practices.
- Scheduling tea making and application during the growing season.
- Maintaining records of all spray application.
- Following all required safety standards established by equipment manufacturer and OSHA when operating the compost tea sprayer.
- Observing all safety practices when operating tea making equipment and spray application equipment.
- Following all manufacturer's recommended safe operations specifications.
- Performing maintenance to tea making and spraying equipment.
- Ensuring a licensed pesticide applicator is on campus and made aware of the spray schedule.

Maintain records of all spray applications. Located on the T Drive referenced below.

Equipment includes, Keep It Simple, KIS, Compost Tea Brewing 50 gallon tub and all pipe, fittings, air pump and filter. Other accessories include sock style mesh strainers for compost and other micro-organisms for making compost tea.

KIS 50 gallon compost tea brewing tub	
Dayton Above ground Pool Pump Grainger part# 5PXXG4 Aerifying pump	
PVC pipe and fittings	
Mesh strainers for compost	
Spray equipment; hose and nozzle	
Spray equipment; portable pump sprayer	

Seasonal Compost Tea Applications (as needed)*

	Spring Mar-Apr-May-Jun	Summer Jul-Aug-Sep	Fall Oct-Nov
Insect	X	X	
Disease	X	X	X
Plant Health	X	X	X

***Compost Tea Spray Records;** T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\COMPOST TEA\Tea Spray records

Compost Tea Making;

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\COMPOST\EarthInstitute_Making Compost Tea

Compost making operations

Facilities Recycle and Waste shop is primarily responsible for compost making on campus in the Recycle Yard on 13th ave.

Grounds staff backfill and assist with compost making operations following all established procedures located at:

T:\Finance_and_Business_Affairs\Facilities_Services\Grounds\COMPOST\procedures and log

Appendix B

Lawn Maintenance

	Turf	Equipment	Conservation	Pest and Disease
Mowing	Mow height 2.5"-3", weekly MAR – OCT, Manage for plant health, Apply organic IPM strategies	Gas powered and battery powered, Routine maintenance for optimal function	Mulch mowing, leave clippings in lawn to recycle nutrients, reduce labor and waste	Keep blades sharpened and equipment in good working order prevents tearing leaving more open tissue inviting into the plant pest and disease
Feeding Seeding	Organic fertilizers		Organic fertilizers, Reduced carbon footprint	Assists turf growth in out competing pest and disease

	1-2x/year			
Watering			Reduced watering times	Less moisture can benefit resistance
Aeration	Spring and Fall	Ryan walk behind, up to 5" cores	Opens up root zone to oxygen, water and nutrients; reduces compaction	Aerification prevents anaerobic environment assists in

Appendix C

Landscape Maintenance

	Mechanical	Biological/ Mulching	Planting	Pest and Disease
Weed suppression	Hand removal using a weeding fork, pitch fork or shovel to loosen	Compost mulch/ tree chip mulch provides weed suppression and moisture retention during drought	Tree, shrub and groundcover canopy shade out weeds, holds in moisture	Compost Tea
Biological	Inputs applied could include compost, mulch, beneficial insects	Enhances ecological function for beneficial organisms, supporting predator and prey	Creates biodiversity supporting wide array of ecological functions	Supports balance of diverse populations, avoids single organism unchecked devastation
Pruning *	Follow pruning practice standards administered by Grounds department according to ANSI A300 Part 1 Pruning	Thinning and reshaping supports circulation, enhances appearance	Shade for weed suppression, increase large shrub and tree canopy, improve ecological functions	Supports removal of pest and disease Supports safe, healthy structure and best fit in the institutional landscape
Nursery Storage	weeding	mulching	Watering	
Planting and Design	See Sunset Western Garden Book	Design for biodiversity in plant contributions to ecological functions	Design for tree and shrub canopy improves ecological functions and supports climate control	Design for biodiversity support balanced ecological functions and quality in water, air, soil, climate, habitat, vegetation

- Refer to SU Tree Care Plan and CPTED policy on landscape maintenance

Appendix D

Significant Gardens and Collections:

Identify and organize gardens by significance and importance emphasizing use, legacy, culture or art, or illustrate a theme, ecology, conservation or function.

Garden	Description	Honors/Illustrates
Kubota Legacy Gardens	CAMP Tea Garden HUNT Japanese American Remembrance Garden SENG (NEWB) Kubota north courtyard PIGT NE corner ADMN NW corner XAVR courtyard 10 th and Columbia 4 corners BELL/12 th and Cherry	Kubota Family Culture, Legacy, Theme
Taqwsheblu Vi Hilbert Ethnobotanical Garden	Garden biomes reflect geographical regions of the Duwamish, Lummi, and the native plants they used in cooking, shelter, apparel	Culture, Legacy, Theme Lushootseed Elder Vi Hilbert's legacy and connection with preserving language of the Lushootseed on plant tags in the garden,
LOYA' Cisco Morris' Biodiversity Garden	Diversity of plants, water feature, supporting ecological functions, habitat for pollinators,	Ecology, Legacy, Culture
LOYA Labyrinth	Blue stone traditional labyrinth, contemplative space	Culture, Spiritual
FINR Shakespeare Garden	Living tribute to plants in Shakespeare's plays	Culture, Theme, historical,
1103 Lee Miley Rain Garden	First rain garden on campus, captures and retains rainwater	Sustainability, Conservation, Function, safety, historical,
LEML Rain Garden	Captures and retains stormwater runoff	Sustainability, conservation,
BANN Green Roof	First and only green roof of its kind,	Sustainability, biodiversity, wildlife habitat
Edible Gardens: CHDN and Broadway	Campus community pea patch and outdoor classroom	Preserving space, outdoor urban agriculture classroom,

Union Green NW corner Wildlife Garden	open, ground level wildlife garden, seasonal pond, native and non-native plants supporting biodiversity and wildlife habitat	Preserving Backyard Wildlife Sanctuary
STIG Chapel 'Thinking Green'	Lawn, Katsuras	Jesuit, contemplative space
PIGT El Salvador Jesuit Martyrs memorial Garden (Lower mall entry)	sculpture and living flame memorializing the death of El Salvador Jesuit Martyrs	Memorial, Legacy
1313 Columbia Orchard	Campus community and neighborhood food for all	Honoring 2010 year of Urban Agriculture, outdoor classroom

References;

Kubota Gardens and on SU Campus: <https://www.seattleu.edu/grounds/campus-trees/more-information-on-su-trees/>

Significant Gardens on SU Campus: <https://www.seattleu.edu/grounds/campus-gardens/>

Appendix E

Rain Gardens:

Engineered Storm Water Retention: On site storm water bio filtration, semi-native landscape supports habitat and ecosystem services

Garden	Description	Illustrates
1103 Lee Miley Rain Garden	Below the surface storm water retention, bio-retentive soil supports landscape, urban wildlife habitat, shade, eco-system services	Water retention, flood prevention nearby building basement
LEML Rain Garden	Above surface ponds and below surface overflow vaults,	Achieved LEED rating
FITN Rain Garden	Below surface in vaults capturing, retaining building stormwater runoff	Achieved LEED rating
ADAL Rain Garden and Cistern	Storm water catchment and retention in cistern supplements irrigation, achieved LEED rating	Achieved LEED rating
Union Green Wildlife Garden	Surface pond surrounded by moisture tolerant vegetation creating wildlife habitat and peaceful garden, Catches surface water runoff and storm drain overflow from upper mall	Ecology and conservation On site storm water bio filtration and retention, landscape supports habitat and ecosystem services

Approval Signatures

Step Description	Approver	Date
Write / approve procedures	Shannon Britton: Grounds Manager	04/2022

COPY