

WEED MANAGEMENT AND REVEGETATION PLAN

For

Sapphire Place

1. Introduction

The Sapphire Place Subdivision is in Missoula County, Montana. It is a Multi-Family for Lease or Rent Project in the Sxwtpqyen Master Planned area and will create roughly +/- 301 dwelling units. Design elements included in the proposed development are high-end amenities such as a dog park, pool, playground, and multipurpose court. The management of the property within this subdivision will be the responsibility of the landowner and will include regular maintenance to the open spaces and vegetation throughout the development. This Weed Management and Vegetation Management Plan will be added as Exhibit A to the Covenants, Conditions, and Restrictions for the Sapphire Place Subdivision.

2. Current Condition and Organization of the Site

The property is currently undeveloped so this weed plan pertains to both the future buildable home sites and to the common areas. The proposed common areas will be covered with a seed mix of Red Fescue and Perennial Rye Grass and irrigated.

3. Management Plan Goals

It is important to emphasize that the rehabilitation of any disturbed land is a long-term process, without quick fixes or simple prescriptions. The Missoula County Weed District is a great resource for any questions regarding revegetation or weeds.

A combination of herbicide treatments is recommended for the noxious weeds. Spot applications of Milestone at 6oz/acre will be used for Musk Thistle, Canada Thistle, and St. Johns Wort. A full list of control options is listed below in Section 5.

4. Revegetation Goals

The establishment of healthy, use/type appropriate vegetation that will minimize weed invasion is the ultimate goal for any revegetation project. Revegetation should be done using Red Fescue and Perennial Rye Grass. Revegetation goals for this property include the following:

- Re-establish vegetation in disturbed areas as soon as possible to minimize erosion, decrease competition from weeds and improve survival of the seed mix planted.
- Restore healthy plant communities.

5. Control Actions

There are several actions that can be used in an integrated approach to weed management, and each must be considered on an area-by-area basis dependent on the species to be managed, the soil/water characteristics of the site and intended use of the area. Implementation of any of these activities should be coordinated with the Missoula County Weed District.

Musk Thistle, *Carduus Nutans*

Herbicide: The use of herbicides on Musk Thistle should focus on individuals that are in the rosette or bolting stages. The following herbicides are recommended for control of Musk Thistle. Always consult product labels and read them carefully to ensure correct species/land management usage and chemical application.

Herbicides for Musk Thistle, *Carduus Nutans*

Herbicide	Rate (per acre)	Application Timing	Comments
Milestone	6 oz	Spring at rosette growth stage; or in fall	Use higher rates for older dense stands; may be used to edge ponds or streams

Canada Thistle, *Cirsium arvense*

Herbicide: The following herbicides are recommended for control of Canada Thistle. Always consult product labels and read them carefully to ensure correct species/land management usage and chemical application.

Herbicides for Canada Thistle, *Cirsium arvense*

Herbicide	Rate (per acre)	Application Timing	Comments
Milestone	6 oz	Spring at rosette growth stage; or in fall	Use higher rates for older dense stands; may be used to edge ponds or streams

St. John's Wort, *Hypericum perforatum*

Herbicide: The following herbicides are recommended for control of St. John's Wort. Always consult product labels and read them carefully to ensure correct species/land management usage and chemical application.

Herbicides for Canada Thistle, *Cirsium arvense*

Herbicide	Rate (per acre)	Application Timing	Comments
Milestone	4 oz	Flowering to early seed set.	Will not affect grasses, but will severely damage clovers and other broadleaved plants. As predominant location of St. John's Wort is near water, use lower application rate

Leafy Spurge, *Euphorbia esula* L.

Herbicide: There are a number of herbicides that provide effective control of leafy spurge. The following herbicides are recommended for control of leafy spurge. Always consult product labels and read them carefully to ensure correct species/land management usage and chemical application.

Herbicides for Leafy Spurge, *Euphorbia esula* L.

Herbicide	Rate (Product/A)	Application timing	Comments
Tordon	1 quart	Spring at flowering growth stage; or fall	May need treatment 3 to 4 years
Plateau	8 to 12 fl oz	Early fall (August through October) before loss of latex	Use higher rate for older and dense stands; adds 1.5 to 2 pint/A of methylated seed oil; high rate or consecutive year treatments may injure cool season grasses
Paramount	16 oz	Spring at prebloom (yellow bract stage) or in fall	Add 1.5 pt/A of a methylated seed oil or 2 pt/A of a crop oil concentrate
Perspective	5.5 oz	Spring at flowering growth stage; or fall	Methylated seed oil or crop oil concentrate may aid leaf absorption of Perspective at 0.5 to 1% v/v; or use of a non-ionic surfactant at 0.25 to 0.5% v/v also is recommended
Banvel, Vanquish, or Clarity (dicamba)	2 quarts	Spring at flowering growth stage; or fall	Fall applications most consistent results; may need re-treatment 2 to 4 years
Roundup	1 quart each application; 2 quarts total	Apply sequentially; first application first of June and second one month later	Must be combined with grass seeding

Spotted knapweed, *Centaurea stoebe*

Hand pulling: Hand pulling is an extremely effective method on small scale infestations of spotted knapweed. Pulling is easiest when soil is moist; allowing you to remove most of the taproot and kill the plant. Any stage from flowering on should be bagged and removed from the site in order to minimize seeds at the site.

Mowing: Mowing will help reduce seed production of spotted knapweed; however, repeated mowing will result in knapweed plants flowering and setting seed below the blades of the mower. Mowing should occur during the bud stage but before flower to prevent cut plants from producing viable seed.

Herbicide: There are a number of herbicides that provide effective control of spotted knapweed. The following herbicides are recommended for control of spotted knapweed. Always consult product labels and read them carefully to ensure correct species/land management usage and chemical application.

Herbicides for Spotted knapweed, *Centaurea stoebe*

Trade Name	Active Ingredient	Rate	Efficacy	Comments
Tordon 22k	picloram	1 pint per acre	Most effective in actively growing plants, spring or fall.	Cannot use near surface water, shallow ground water, landscaped areas and current or future vegetable gardens.
Milestone	Aminopyralid	4-7 oz. per acre	Most effective in actively growing plants, spring or fall.	Can be applied to waters edge; cannot be used in landscaped areas and current or future vegetable gardens.
ForeFront	Aminopyralid +2,4-D	2 pints per acre	Most effective in actively growing plants, spring or fall.	Can be applied to waters edge; cannot be used in landscaped areas and current or future vegetable gardens.
Curtail	Clopyralid + 2,4-D	2 quarts per acre	Most effective in rosette to bud stages	
2,4-D amine	2,4-D	2 quarts per acre	Least effective herbicide listed	

6. Appropriate Revegetation with Desired Species

The establishment of healthy, use/type appropriate vegetation is the most effective way to minimize weed invasion in the long term. That being said, any measures that the current landowner can take to reduce the spread of noxious weeds such as regular mowing or hand pulling would ultimately reduce the required controls in the future. Revegetation will be done by using Red Fescue and Perennial Rye Grass applied at 10 pounds per 1000 square feet.

7. Response Monitoring and Re-evaluation

Management plans should be reviewed as needed by the property owner/developer, the Vegetation Management Committee, and the Missoula County Weed District.

This plan has been approved by the Missoula County Weed District.

DocuSigned by:

Bruce Christiaens

Signature

7/5/2022

Date