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- Boulevard Road Plat-

Integrated Pest Management Plan

2187 Boulevard Rd. SE
Olympia WA 98501

Prepared for: Kapa Construction, Inc.

Prepared by: Washington Forestry Consultants, Inc.

Date January 9, 2020

1) Project Description

a) The project is an 18-lot residential subdivision on 5 acres at 2187 Boulevard Rd. SE

2) Site Description

a) The site consists of one 5-acre parcel. The parcel is bordered on the east by Boulevard Rd. SE, to the north by a church, to the south and west by residential properties.

b) Two-thirds of the property is mostly flat. The western third of the property slopes to the west at a grade of approximately 10% down to small wetland that occurs near the western property line.

c) There was a house on the property until it was demolished about 9 years ago. There are no other improvements on the site.

d) The existing vegetation is a mix of grass, broadleaved weeds, invasive shrubs, and scattered individual and small groves of trees.

3) The soils on the site are a mix of the Yelm fine sandy loam and the Giles silt loam as per the soils report by the Natural Resource Conservation Service Soil Survey.

a) The Yelm fine sandy loam is a deep is moderately well drained soil on terraces

b) The Giles silt loam is a deep, well-drained soil, also found on terraces.

c) Soil erosion from runoff on the site is unlikely due to the good drainage properties of the soils.

4) Integrated Pest Management Plan - Boulevard Road Plat

a) Soils are the basis of all terrestrial life. It is important to protect the soils in your project since they support the lawn and plants that you grow, they infiltrate water that falls in the form of precipitation and run off from your roads, roofs and sidewalks, and this infiltration moves downward and laterally into surface waters and the aquifer for the water that we drink. This project area is in a critical aquifer recharge area.

b) The soils on the site are the Giles silt loam and the Yelm fine sandy loam. Both soils very deep, well-drained soil found on terraces. It is formed in glacial outwash. Permeability is rapid and plant available water capacity is low. The effective rooting depth for trees is 60 inches or more and the hazard of runoff and erosion is rated as 'slight' by the Natural Resource Conservation Service Soil Survey. The windthrow potential of trees is 'slight' under normal conditions. In other words, native trees tend to be well rooted. Seedling mortality can be severe and new trees will require irrigation to establish.

5) The residential area utilizes a surface stormwater collection system that moves the runoff from impermeable surfaces to a stormwater drainage facility. This system, along with the soils around the buildings and their dry wells infiltrates all of the water on site.

a) It is important to use care when handling petroleum products, solvents, wash water, car wash rinsate, fertilizers, and pesticides on this property. Always dispose of paints, solvents, oil, gas, and other household cleaning products safely, such as at the Hazo House at the Thurston County Transfer Station.

b) There is a small wetland on the west side of the project area and a small portion of an off-site wetland in the southwest corner.

- 6) Landscape management activities are very important since they can help regulate run-off from your lot, as well as can require controls to manage insects, disease, and weeds. The following are some measures that you as a landowner can take to minimize the potential for off-target movement of undesirable substances.
- c) Areas outside of the improved footprints (buildings, sidewalks and access driveways) should be landscaped to encourage infiltration of water. The soils under the lawn, landscape beds, and gardens should be permeable and aerated. Avoid landscaping with surfaces which do not infiltrate rainfall.
 - d) The soil surface should be contoured to contain water runoff even under heavy rainfall conditions.
 - e) When pest problems occur in your landscape, assess the pest and determine which controls are best used. Often sanitation pruning, selective removal of insects or use of biological control for branches with insect or disease problems can be used to lower the pest population to a manageable and/or acceptable level. If this is not the case, then use of pesticides may be warranted.
 - i) Insects - Landowners are encouraged to engage a knowledgeable, licensed pesticide applicator to assess the insect or disease problem and prescribe control. This insures a correct diagnosis and proper prescription for management or control. This professional can implement an IPM program for your landscape that will include scouting, identification of pests, proper and timely control, and follow-up assessment of the results. This will minimize the need for use of pesticides. Remember, not all pests require control - you set the threshold for when to act - know that eradication of your pest is likely impossible.
 - ii) Disease - The steps are similar to that for Insects.
 - iii) Weeds - Some weeds can be controlled to below an acceptable threshold level using hand or biological controls. Others require help or you may not have a healthy lawn. Herbicides with a 'Caution' warning label should be used as much as possible when herbicides use is necessary. This includes products like Roundup with the active ingredient 'Glyphosate', or Surflan with the active ingredient 'oryzalin'. These are often used in beds to control green plants/weeds and as a pre-emergent to stop weed germination. Other products such as triclopyr and 2,4-D are used in combination

with other products to control broadleaf weeds without damaging turf. Herbicides labeled and used in lawn weed control according to label directions, will help maintain a healthy lawn that is able to utilize and infiltrate maximum amounts of rainfall. Always use a licensed pesticide applicator, or read the label before buying and using any pesticide products. Weed barriers can be used instead of pre-emergent herbicides; however the product must infiltrate water. Many types of weed barriers (black plastic) are detrimental to healthy plant growth. Remember that healthy plants with good root systems will take up and transpire a lot of water back into the atmosphere.

- 7) During the dry season, your plants will likely require irrigation. The need, frequency and amount of irrigation will depend on the texture and organic matter content of your soils and your effective use of mulch, as well as the moisture requirements of your plants. Design your irrigation system to provide adequate amounts of water to keep your plants healthy, but to not overwater. Overwatering may saturate soils and reduce plant health. It may also cause runoff, erosion, and/or improve the environment for fungal disease. Simply watering until soils are moist down to 12 inches or so will likely be adequate. This may require some monitoring during irrigation.
- 8) It is beneficial to have a soil test done to determine the pH of your soil, its organic matter content and level of fertility. You can then adjust your soil fertility as per direction from the soil testing facility and the type of plants that you are growing. Do not over fertilize your plants. The best times to apply fertilize around woody plants is November 1st, March 1st and June 1st. Slow release inorganic fertilizers and/or composted organic materials are best.
- 9) If you keep pesticides on hand, store them in a safe, locked area to prevent access by children. Store in a bin or other device in your garage to ensure leaks or spills are contained, and are away from the living area. Try to avoid having more product on hand than you need that season. All pesticides have a shelf life where activity decreases. Follow label directions regarding personal protective equipment required for that product. Always apply according to label directions. Never place pesticides in unlabeled containers. Only mix what you need for that application. If you have excess product in a spray tank, only apply it to labeled plants/situations. Take old product to the Hazo House.

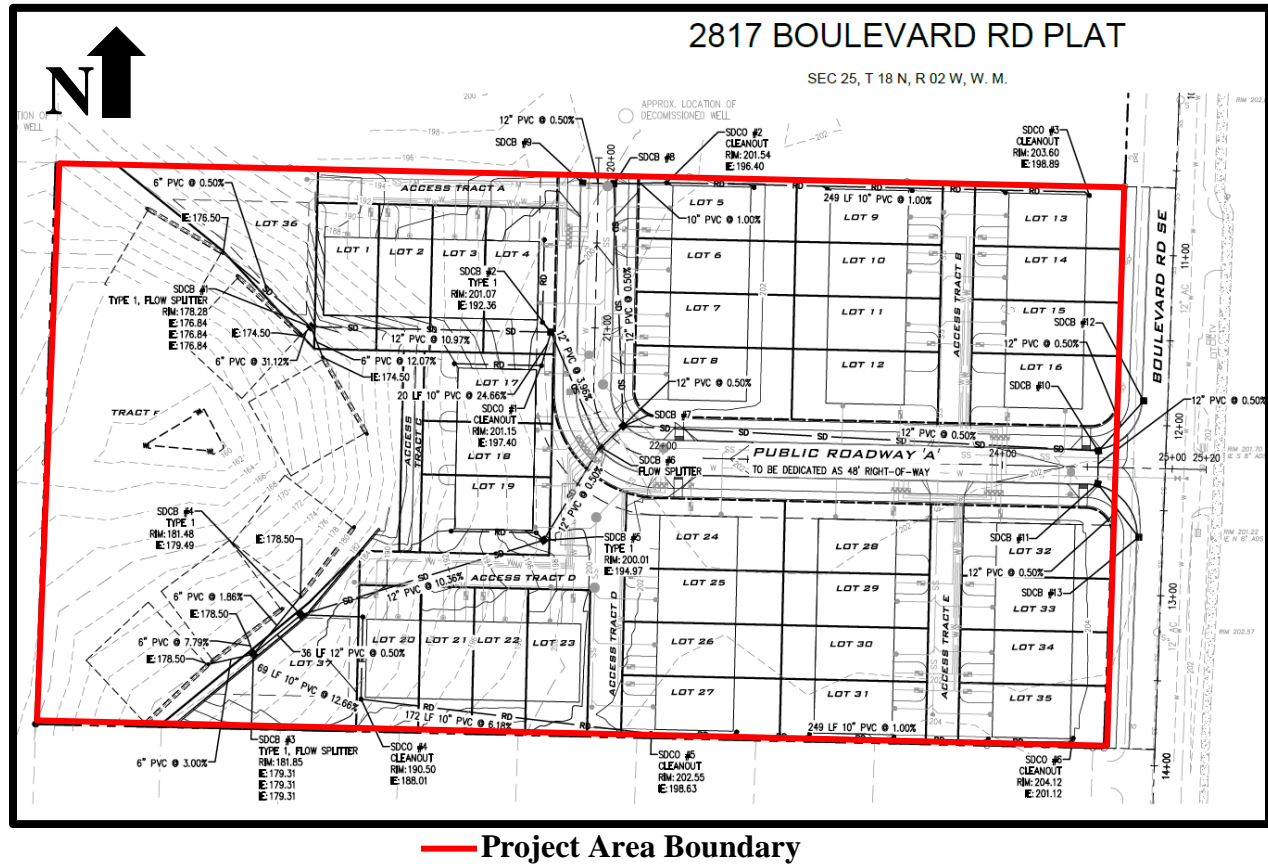
- 10) If you wash a car at this location, then park it on the lawn so the wash water will infiltrate into the soil. This prevents wash soap from washing into storm sewers and reaching the lake or other water body. Better yet, go down the road to a commercial car wash such as Wild Waves - they are set up to process their used water.
- 11) Never pour gasoline, old oil, paint, or paint cleaning solvents, kitchen and cleaning solvents on the soil to get rid of them.
- 12) Remember, we depend on the soil for all we eat and drink, and for the trees that provide us many benefits, including the air we breathe.

Attachment 1. Aerial Photo of 2187 Boulevard Rd. SE
(2018 Thurston County GeoData)



— Project Area Boundary

Attachment 2. Site Plan



Attachment 3. Assumptions and Limiting Conditions

- 1) Any legal description provided to the Washington Forestry Consultants, Inc. is assumed to be correct. Any titles and ownership's to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
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