APPENDIX A.1 SIMPLIFIED APPROACH SUBMITTAL GUIDE

When the Simplified Approach is used to design stormwater facilities (see **Section 4.2.1**), the minimum submittal requirements are as follows.

1. **Scaled Site Plans** must include the following information (at a minimum):
   - Minimum scale of 1 inch to 10 feet
   - North arrow
   - Elevations and topography
   - Property lines
   - Lot area and setbacks
   - Footprints of structures
   - Easements and driveways
   - Wells and septic systems
   - Utility lines
   - Width of right-of-way and curb height
   - Impervious areas
   - Type, location and size of stormwater facility
   - Existing and proposed surface drainage
   - Proposed discharge point

2. **Cross Section and Details** of the proposed facility must be included with the plan set. Where sites are topographically varied, it may be imperative to show elevations of inlets, outlets, and discharge points on the cross-section to show how gravity drainage will be met.

3. The **Simplified Approach Form** (see next page) must be completely filled out. The form provides the simplified sizing for the facilities.

4. The **O&M Form** (see **Appendix A.4**) must be recorded with Lane County and submitted to Community Development Department at 250 Highway 101. Florence, OR 97439.

5. The **O&M Specification** (see **Appendix H**) must be recorded with the O&M Form and submitted to Community Development Department.

6. **Landscape plans** are required (see **Section 2.3.2 and Appendix D.1**)

CITY OF FLORENCE: SIMPLIFIED APPROACH FORM

Date: May 21, 2012

Permit Number: _____

If total impervious area for submitted development proposal is less than 0.5 acre, the Simplified Approach form may be used for sizing stormwater facilities. If total impervious area for submitted development proposal is equal to or greater than 0.5 acre or includes public or private street improvements, the Presumptive or Performance Approach must be used and a Stormwater Management Report will be required. For more information, refer to the 2010 City of Florence Stormwater Design Manual Chapter 4.

Site Information

1. Site Address: 1444 Kingwood Street
2. State Property ID (R number):
3. Brief Description of Proposed Development: Construction of an off-lease dog park in Singing Pines Park. Project includes impervious surfaces that include paved and gravel parking areas that will drain to an on-site stormwater swale.

4. Total Amount of Impervious Area (New and/or Redeveloped): 6,812 square feet

Site Evaluation

Please refer to Stormwater Design Manual (SWMM) References and Resources section for site evaluation maps (including soil Types and groundwater).

S1. NRCS Soil Types: Yaquina loamy fine sand (http://websoilsurvey.nrcs.usda.gov)

S2. Is there a known or suspected high groundwater table in the project area? ___yes _X__no

If a site contains seasonal ponding or contains shallow groundwater soil types (53 – Heceta Fine Sand, 140 – Yaquina loamy fine sand, 141 Yaquina urban Land complex), a Partial Infiltration Facility with underdrains should be installed if feasible) ad an overflow provide to an approved disposal point.

Please Note: Each individual tax lot is required to manage the stormwater it generates on the same lot to the maximum extent feasible. If the proposal is unable to meet this requirement, the applicant must submit a special circumstance request.

Applicants must provide surface infiltration facility with overflow to an approved discharge point. Drywells may be used for overflow in areas with a minimum of 10' depth to groundwater but must be registered with DEQ as Underground Injection Control UIC (for more information refer to DEQ) Projects that infiltrate roof runoff with private soakage trenches or drywells are not required to provide pollution reduction prior to infiltration. This exemption does not apply to projects that discharge stormwater offsite. Single-family residential (up to three units) roofs and footing drains are excluded from UIC registration.

Facility Sizing Worksheet Instructions

All facilities sized with this form are presumed to comply with the City's pollution and flow control requirements. Infiltration and discharge requirements are site specific and approved with the use of this form.

1. Enter square footage (sf) of total impervious area being developed on Line 1.
2. Enter square footage (sf) for impervious area reduction (pervious pavement).
3. Enter sum of the impervious area reduction techniques on Line 2.
4. Subtract Line 1 from Line 2 to find Line 3, the amount of impervious area that requires stormwater management.
5. Select appropriate stormwater management facility.
6. Enter the square footage of impervious area managed that will flow into each facility type.
7. Check whether the planter, swale, basins, and filter strips are flow-through facilities.

6. Enter the square footage of impervious area managed that will flow into each facility type.
7. Check whether the planter, swale, basins, and filter strips are flow-through facilities.
8. Multiply each impervious area managed by the corresponding sizing factor. Enter this area as the facility surface area, which is the required size to manage the runoff.
9. Where selecting facilities that will overflow, select the final discharge location.
10. Enter the sum of the total of all the impervious area managed on Line 4. The value in Line 4 must be greater than or equal to Line 3.

Facility Sizing Worksheet

Line 1

Total impervious area being developed or redeveloped: 6,812 SF

Impervious Area Reduction:
Pervious Concrete 0 Sf
Permeable Pavers 0 Sf

Line 2 Total Impervious Area Reduction: 0

Line 3 Total impervious area requiring stormwater management: (Line 1 – Line 2)

Surface Facilities

Subsurface Facilities	*Impervious Area Managed*		*Sizing Factor*		*Facility Surface Area*
Rain Garden	_____sf	x	0.06	=	_____ sf
Planter	_____sf	x	0.06	=	_____ sf
Swale	6,812 sf	x	0.09	=	613 sf
Vegetated Filter Strip	_____sf	x	0.20	=	_____ sf

* Overflow will be directed to (check all that apply)

Subsurface facility ____ Surface Water____ Storm Sewer _X___

Subsurface Facilities

The following subsurface facilities can receive overflow from the facilities listed above or can be used independently to manage stormwater from residential roofs. If stormwater is generated from anything other than residential roofs, the facilities must have pretreatment. All subsurface facilities are subject to the UIC (Underground Injection Control) requirements.

Drywell	_____ sf	_____ Diameter	_____ Depth
Soakage Trench	_____ sf	_____ Length	_____ Width

Line 4 **Sum of Total Impervious Area Managed: 6,812 square feet**

Note: In the event the stormwater facility temporarily fails or rainfall exceeds the facility design capacity, describe where flows will drain to in order to maintain public safety and avoid property damage. Depending on site conditions, this may include storage in an overflow structure, parking lot, street, or landscaped area.

The stormwater overflow from this proposed swale will flow through an 8-inch stormwater pipe to an existing Stormwater swale on City property to the north. The existing stormwater swale overflows to an existing stormwater system thorugh an existing overflow basin.

After Recording Return to: N/A
Name:
Address:

Place Recording Label Here

APPENDIX A.4
Form O&M: Operations and Maintenance Plan

Permit Application No . _____

Owner Name: City of Florence

Phone: *(area code required)* 541-997-4106

Mailing Address: *(return address for records)* 250 Hwy 101

City/State/Zip: Florence, OR 97439

Site Address: 1444 Kingwood Street

City/State/Zip: Florence, OR 97439

Site Legal Description: T18S, R12W, S27-10 TL100

1 Responsible Party for Maintenance *(check one)*

_ Homeowner association **X** Property Owner _ Other *(describe)*

2 Contact Information for Responsible Party(ies) if Other than Owner

Daytime Phone: *(area code required)* 541 - 997 - 4106
Emergency/After Hours Phone: 541 - 997 - 3515
Contact Name and Address: Mike Miller, Public Works Director 250 Hwy 101 Florence, OR 97439

Instructions

X Simplified Sizing Approach: *Attach O&M Specifications from the Florence Stormwater Design Manual Appendix H.*

Presumptive and Performance Sizing Approach: *Attach the site-specific O&M Plan (See Stormwater Design Manual Section 6).*

3 Site Plan

Show all facility locations in relation to labeled streets, buildings, or other permanent features on the site. Also show the sources of runoff entering the facility, and the final onsite/offsite discharge point.
Please complete the table below

Maintaining the stormwater management facility on this site plan is a required condition of building permit approval for the identified property. The property owner is required to operate and maintain this facility in accordance with the O&M specifications or plan on file with the City of Florence. That requirement is binding on all current and future owners of the property. Failure to comply with the O&M specifications or plan may result in enforcement action, including penalties. The O&M specifications or plan may be modified by written consent of new owners and written approval by re-filing with the Community Development Department.

owners of the property. Failure to comply with the O&M specifications or plan may result in enforcement action, including penalties. The O&M specifications or plan may be modified by written consent of new owners and written approval by re-filing with the Community Development Department.

Complete and recorded O&M Forms shall be submitted to:
Community Development Department, 250 Highway 101, Florence, OR, 97439
Office hours are 8 - 5, Monday through Friday. Call 541-997-3436 for assistance.

Required Site Plan (insert here or attach separate sheet)

[X] I Have Attached a Site Plan

Please complete this table

Facility Type	Size (sf)	Drainage is from:	Impervious Area Treated (sf)	Discharge Point	
SWALE	720	PARKING LOT	6,812	KINGWOOD STORMWATER	SYSTEM

BY SIGNING BELOW *filer accepts and agrees to the terms and conditions contained in this O&M Form and in any document executed by filer and recorded with it. To be signed in the presence of a notary.*

[redacted]

Filer signature

INDIVIDUAL Acknowledgement
STATE of OREGON county of:

This instrument was acknowledged before me on:

By:

Notary Signature:

My Commission Expires: _____ *for notary seal*

CORPORATE Acknowledgement
STATE of OREGON county of: LANE

This instrument was acknowledged before me on: 5/22/2012

By: MIKE MILLER

As (title): PUBLIC WORKS DIRECTOR

Of (corporation): CITY OF FLORENCE

Notary Signature [redacted]

My Commission Expires: 12-26-14

OFFICIAL SEAL
KELLI A WEESE
NOTARY PUBLIC - OREGON
COMMISSION NO. 454758
MY COMMISSION EXPIRES DECEMBER 26, 2014

Swales (Vegetated, Grassy, and Street)
Operations & Maintenance Plan

Swales are planted or grassed open channels that trap pollutants by filtering and slowing flows, allowing particles to settle out. The swale should drain within 48 hours of a storm event. All facility components, vegetation, and source controls shall be inspected for proper operations and structural stability, at a minimum, quarterly for the first 2 years from the date of installation, 2 times per year thereafter, and within 48 hours after each major storm event. The facility owner must keep a log, recording all inspection dates, observations, and maintenance activities. The facility owner must keep a log, recording all inspection dates, observations, and maintenance activities. The following items shall be inspected and maintained as stated:

Swale Inlet (such as curb cuts or pipes) shall maintain a calm flow of water entering the swale.

- Source of erosion shall be identified and controlled when native soil is exposed or erosion channels are forming.
- Sediment accumulation shall be hand-removed with minimum damage to vegetation using proper erosion control measures. Sediment shall be removed if it is more than 4" thick or so thick as to damage or kill vegetation.
- Inlet shall be cleared when conveyance capacity is plugged. Sources of sediment and debris shall be identified and corrected.
- Rock splash pads shall be replenished to prevent erosion.

Side Slopes shall be maintained to prevent erosion that introduces sediment into the swale.

- Slopes shall be stabilized and planted using appropriate erosion control measures when native soil is exposed or erosion channels are forming.

Swale Media shall allow stormwater to percolate uniformly through the landscape swale. If the swale does not drain within 48 hours, it shall be tilled and replanted according to design specifications.

- Annual or semi-annual tilling shall be implemented if compaction or clogging continues.
- Debris in quantities that inhibit operation shall be removed routinely (e.g., no less than quarterly), or upon discovery.

Swale Outlet shall maintain sheet flow of water exiting swale unless a collection drain is used. Source of erosion damage shall be identified and controlled when native soil is exposed or erosion channels are forming.

- Outlets such as drains and overland flow paths shall be cleared when 50% of the conveyance capacity is plugged.
- Sources of sediment and debris shall be identified and corrected.

Vegetation shall be healthy and dense enough to provide filtering while protecting underlying soils from erosion.

Mulch shall be replenished as needed to ensure survival of vegetation.

- Vegetation, large shrubs or trees that interfere with landscape swale operation shall be pruned.
- Fallen leaves and debris from deciduous plant foliage shall be removed.
- Grassy swales shall be mowed to keep grass 4" to 9" in height. Clippings shall be removed to remove pollutants absorbed in grasses.
- Nuisance and prohibited vegetation from the Eugene Plant List (such as blackberries and English Ivy) shall be removed when discovered. Invasive vegetation contributing up to 25% of vegetation of all species shall be removed and replaced.
- Dead vegetation and woody material shall be removed to maintain less than 10% of area coverage or when swale function is impaired. Vegetation shall be replaced within 3 months, or immediately if required to maintain cover density and control erosion where soils are exposed.

Debris and Litter shall be removed to ensure stormwater conveyance and to prevent clogging of inlet drains and interference with plant growth.

Spill Prevention measures shall be exercised when handling substances that contaminate stormwater. Releases of pollutants shall be corrected as soon as identified.

Training and/or written guidance information for operating and maintaining swales shall be provided to all property owners and tenants. A copy of the O&M Plan shall be provided to all property owners and tenants.

Access to the swale shall be safe and efficient. Egress and ingress routes shall be maintained to design standards. Roadways shall be maintained to accommodate size and weight of vehicles, if applicable.

Swales (Vegetated, Grassy, and Street)
Operations & Maintenance Plan

- Obstacles preventing maintenance personnel and/or equipment access to the swale shall be removed.
- Gravel or ground cover shall be added if erosion occurs, e.g., due to vehicular or pedestrian traffic.

Insects & Rodents shall not be harbored in the swale. Pest control measures shall be taken when insects/rodents are found to be present.

- If a complaint is received or an inspection reveals that a stormwater facility is significantly infested with mosquitoes or other vectors, the property owner/owners or their designee may be required to eliminate the infestation at the City inspector's discretion. Control of the infestation shall be attempted by using first non-chemical methods and secondly, only those chemical methods specifically approved by the City's inspector. Acceptable methods include but are not limited to the following:
  i) Installation of predacious bird or bat nesting boxes.
  ii) Alterations of pond water levels approximately every four days in order to disrupt mosquito larval development cycles.
  iii) Stocking ponds and other permanent water facilities with fish or other predatory species.
  iv) If non-chemical methods have proved unsuccessful, contact the City inspector prior to use of chemical methods such as the mosquito larvicides Bacillus thurengensis var. israeliensis or other approved larvacides. These materials may only be used with City inspector approval if evidence can be provided that these materials will not migrate off-site or enter the public stormwater system. Chemical larvicides shall be applied by a licensed individual or contractor.
- Holes in the ground located in and around the swale shall be filled.

If used at this site, the following will be applicable:

Check Dams shall control and distribute flow.

- Causes for altered water flow shall be identified, and obstructions cleared upon discovery.
- Causes for channelization shall be identified and repaired.