## Project Data Form and Runoff Reduction Measure Selection

<table>
<thead>
<tr>
<th>Project Name/Number</th>
<th>Angelicola Driveway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Submittal Date</td>
<td>5/26/2021</td>
</tr>
<tr>
<td>Project Location</td>
<td>811 Point San Pedro Road</td>
</tr>
<tr>
<td></td>
<td>San Rafael, CA 94901</td>
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<tr>
<td></td>
<td>APN 186-121-30 &amp; 31</td>
</tr>
<tr>
<td>Name of Owner or Developer</td>
<td>Tony Angelicola</td>
</tr>
<tr>
<td>Project Type and Description</td>
<td>Construct a new driveway to an undeveloped residential building site</td>
</tr>
<tr>
<td>Total Project Site Area</td>
<td>0.75 acre</td>
</tr>
<tr>
<td>Total New or Replaced Impervious Surface Area</td>
<td>6,053 sq ft See attached drawing SW-1</td>
</tr>
<tr>
<td>Total Pre-Project Impervious Surface Area</td>
<td>0 sq ft</td>
</tr>
<tr>
<td>Total Post-Project Impervious Surface Area</td>
<td>6,053 sq ft See attached drawing SW-1</td>
</tr>
<tr>
<td>Runoff Reduction Measures Selected</td>
<td>☐ 1. Disperse runoff to vegetated area</td>
</tr>
<tr>
<td></td>
<td>☐ 2. Pervious pavement</td>
</tr>
<tr>
<td></td>
<td>☐ 3. Cisterns or Rain Barrels</td>
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<tr>
<td></td>
<td>☒ 4. Bioretention Facility or Planter Box</td>
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</tbody>
</table>
Impervious Areas and Location of Runoff Reduction Measures

See Attached Drawings
SW-1  Stormwater Control Plan
C-2  Conceptual Grading and Drainage Plan
C-3  Conceptual Grading and Drainage Plan
LTD Engineering, Inc.

Runoff Reduction Options

Option 1: Disperse runoff from roofs or pavement to vegetated areas.

This is the simplest option. Downspouts can be directed to vegetated areas adjacent to buildings, or extended via pipes to reach vegetated areas further away. Paved areas can be designed with curb cuts, or without curbs, to direct flow into surrounding vegetation.

On the site plan, show:

☐ Each impervious area from which runoff will be directed, and its square footage.
☐ The vegetated areas that will receive runoff, and the approximate square footage of each.
☐ If necessary, explain in notes on the plan how runoff will be routed from impervious surfaces to vegetated areas.

Confirm the following standard specifications are met:

☐ Tributary impervious square footage in no instance exceeds twice the square footage of the receiving pervious area.
☐ Roof areas collect runoff and route it to the receiving pervious area via gutters and downspouts.
☐ Paved areas are sloped so drainage is routed to the receiving pervious area.
☐ Runoff is dispersed across the vegetated area (for example, with a splash block) to avoid erosion and promote infiltration.
☐ Vegetated area has amended soils, vegetation, and irrigation as required to maintain soil stability and permeability.
☐ Any drain inlets within the vegetated area are at least 3 inches above surrounding grade.

Option 2: Permeable Pavement

This option can be easy to install and maintain, cost-effective, and can add aesthetic value to your project. Permeable pavements may include pervious concrete, pervious asphalt, porous pavers, crushed aggregate, open pavers with grass or plantings, open pavers with gravel, or solid pavers.

Show on your site plan:
Location, extent and types of pervious pavements.

Confirm the following standard specifications are met:

☐ No erodible areas drain on to permeable pavement.

☐ Subgrade compaction is minimal.

☐ Reservoir base course is of open-graded crushed stone. Base depth is adequate to retain rainfall (3 inches is adequate) and support design loads (more depth may be required).

☐ No subdrain is included or, if a subdrain is included, outlet elevation is a minimum of 3 inches above bottom of base course.

☐ Subgrade is uniform and slopes are not so steep that subgrade is prone to erosion.

☐ Rigid edge is provided to retain granular pavements and unit pavers.

☐ Solid unit pavers, if used, are set in sand or gravel with minimum 3/8 inch gaps between the pavers. Joints are filled with an open-graded aggregate free of fines.

☐ Permeable concrete or porous asphalt, if used, are installed by industry-certified professionals according to the vendor’s recommendations.

☐ Selection and location of pavements incorporates Americans with Disabilities Act requirements (if applicable), site aesthetics, and uses.

**Option 3: Cisterns or Rain Barrels**

Use of cisterns or rain barrels to comply with this requirement is subject to municipality approval. Planning and Building Permits may be required for larger systems.

Show on your site plan:

☐ Impervious areas tributary to each cistern or rain barrel.

☐ Location of each cistern or rain barrel.

Confirm the following standard specifications are met:

☐ Rain barrels are sited at grade on a sound and level surface at or near gutter downspouts.

☐ Gutters tributary to rain barrels are screened with a leaf guard or maximum ½-inch to ⅛-inch-minimum corrosion-resistant metallic hardware fabric.

☐ Water collected will be used for irrigation only.

☐ Openings are screened with a corrosion-resistant metallic fine mesh (1/16 inch or smaller) to prevent mosquito harborage.

☐ Large openings are secured to prevent entry by children.
☐ Rain barrels and gutters are to be cleaned annually.

☐ The local mosquito and vector control district is informed of the installation. The district will be provided additional information and/or rights of entry if they request.

**Option 4: Bioretention Facility or Planter Box**

An above-ground planter box may be appropriate if the development site lacks level landscaped areas for dispersion and pervious pavements are not practical. Planter boxes and bioretention facilities can treat runoff from impervious surfaces 25 times their area (sizing factor of 0.04).

Detailed design guidance for bioretention facilities is in the *Stormwater Technical Guide.*

Show on your site plan:

☒ Impervious areas tributary to the planter box.

☒ Location and footprint of planter box.

Confirm the following standard specifications are met:

☒ Reservoir depth is 4”-6” minimum.

☒ 18” depth soil mix with minimum long-term infiltration rate of 5”/hour. See http://www.cccleanwater.org/c3-guidebook.html for a list of soil mix suppliers.

☒ Surface area of soil mix is a minimum 0.04 times the tributary impervious area.

☒ “Class 2 perm” drainage layer 12” deep.

☒ No filter fabric.

☒ Perforated pipe (PVC SDR 35 or approved equivalent) underdrain with outlet located flush or nearly flush with planter bottom.

☒ Connection with sufficient head to storm drain or discharge point.

☒ Underdrain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, connected to the underdrain via a sweep bend, with a minimum diameter of 4” and a watertight cap.

☒ Overflow outlet connected to a downstream storm drain or approved discharge point.

☒ Planter is set level.

☒ Emergency spillage will be safely conveyed overland.

☒ Plantings are suitable to the climate, exposure, and a well-drained soil.

☒ Irrigation system with connection to water supply, on a separate zone.
ATTACHMENTS

SW-1  Stormwater Control Plan
C-2  Conceptual Grading and Drainage Plan
C-3  Conceptual Grading and Drainage Plan