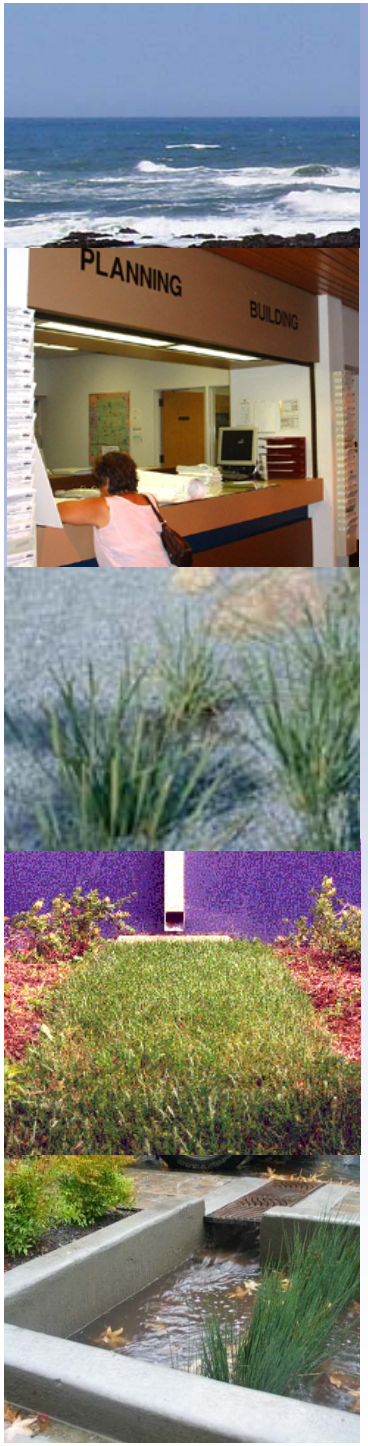


# Exercise: Filling out C.3 Forms for an Example Project

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October 6, 2011

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program

# Example Project:
## Kaiser Permanente Parking Lot, Redwood City

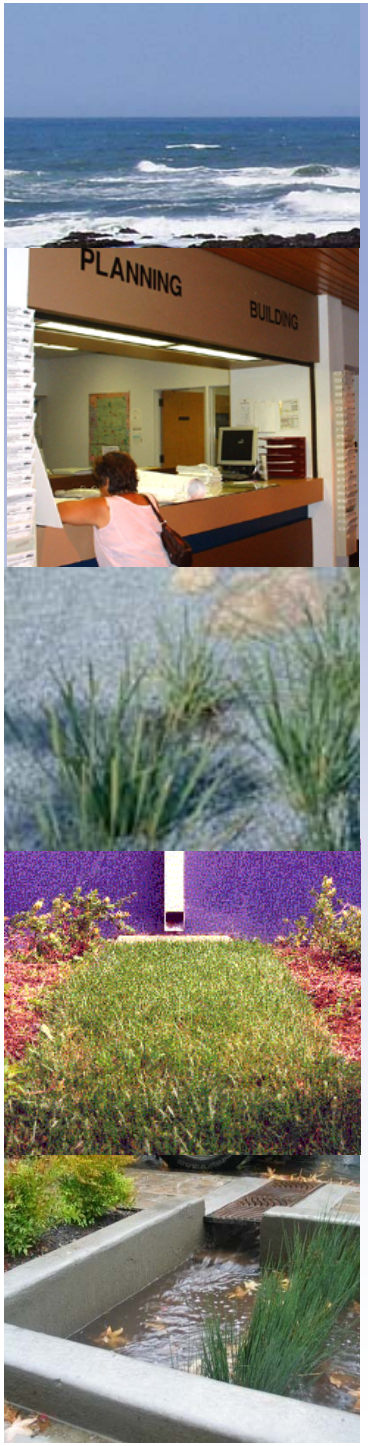
**View of completed project**

# Example Project:
# Kaiser Permanente Parking Lot, Redwood City

**Bioretention area and overflow inlet**

# Example Project:
# Kaiser Permanente Parking Lot, Redwood City

**Close up of bioretention area and another overflow inlet**




# Exercise Part 1
# Complete the Impervious Surface Form

- **Complete the following sections**
  1. Project type
  2. Project size
  3. Determine Requirements for Stormwater Treatment and Hydromodification Management (HM)

# Review Impervious Surface Form

1. Project Type (Check all that apply):

- ❑ Residential
- ☑ Commercial
- ❑ Industrial
- ❑ Public
- ❑ Restaurant
- ☑ Uncovered Parking
- ❑ Auto-service Facility
- ❑ Mixed Use
- ❑ Retail Gasoline Outlet

2. Project Size:

a. Site size 197,326 square feet

b. Estimated area of land disturbance during construction 55,000 sq.ft.
(including clearing, grading, or excavating).

# Review Impervious Surface Form

2. Project Size:

| | Pre-Project Impervious Surface (IS), in sq.ft. | Proposed Impervious surface (IS), in sq. ft.[1] | |
|---|---|---|---|
| | | Replaces IS | New IS |
| c. Non-parking impervious surface area (includes land covered by buildings, sheds, patios/ covers, streets, sidewalks, paved walkway) | 65,436 | 0 | 0 |
| d. Areas of uncovered parking | 87,500 | 42,950 | 0 |
| e. Off-lot impervious surface (streets, sidewalks, and/or bike lanes built as part of new street) | N/A | 0 | 0 |
| **TOTAL: 2c through 2e** | 152,936 | 42,950 | 0 |

# Review Impervious Surface Form

3. Determine Requirements for Stormwater Treatment and Hydromodification Management (HM)

a. Check box if total proposed impervious surface ≥:

- ☑ 10,000 sq. ft.: Stormwater treatment required
- ☐ 43,560 sq. ft.: Complete Hydromodification Management Applicability Form

# Review Impervious Surface Form

3. Determine Requirements for Stormwater Treatment and Hydromodification Management (HM)

b. Check box if combined area of uncovered parking lot, plus any impervious surface for auto-service facility, retail gasoline outlet, and/or restaurant, is equal to or greater than:

- ☐ 5,000 sq. ft.: If project is approved on or after 12/1/11, stormwater treatment may be required.

c. Check box if the project will REPLACE more than 50% of the existing impervious surface.

- ☐ Stormwater treatment of all existing impervious surface required.

# Review NPDES Checklist

II.A Site Design Measures: Project must incorporate the following measures:

- ❑ Protect sensitive areas, including wetland and riparian areas, and minimize changes to the natural topography.
- ☑ Minimize land disturbance and impervious surfaces (especially parking lots).
- ❑ Minimize impervious areas from being directly connected to the storm drain system (e.g., direct runoff from roof downspouts and other impervious surfaces to landscaped areas where feasible).
- ❑ Install rain barrel or cistern to capture and use rainwater for irrigation or other non-potable use.

# Review NPDES Checklist

II.A Site Design Measures: Project must incorporate the following measures:

- ❑ Design areas of "micro-detention" in landscaping to retain rainfall runoff onsite, where appropriate.
- ❑ Maximize permeability by clustering development and preserving open space, where appropriate.
- ❑ Concentrate development density, where appropriate, to reduce impervious surface on a watershed basis.
- ❑ Use permeable pavement surfaces where feasible.
- ☑ Use "Bay Friendly" landscape design (See *Bay-Friendly Landscape Guidelines - Sustainable Practices for the Landscape Professional*, www.bayfriendly.org).

# Review NPDES Checklist

II.B Source Control Measures

Incorporate applicable source control measures in Source Control Model List.

**MODEL LIST OF STRUCTURAL SOURCE CONTROL MEASURES**

**A. Illegal Dumping to Storm Drain Inlets and Waterways**

On-site storm drain inlets shall be clearly marked with the words “No Dumping! Flows to Bay,” or equivalent, using methods approved by the [Municipality].

**B. Interior Floor Drains**

# Review NPDES Checklist

II.B Source Control Measures

Incorporate applicable source control measures in Source Control Model List.

**D. Pesticide/Fertilizer Application and Irrigation**

1) Landscaping shall be designed to minimize irrigation and runoff, promote surface infiltration where appropriate, minimize the use of fertilizers and pesticides that can contribute to stormwater pollution, and incorporates appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping.

2) Structures shall be designed to discourage the occurrence and entry of pests into buildings, and thus minimize the need for pesticides. For example

# Review NPDES Checklist

II.B Source Control Measures

Incorporate applicable source control measures in Source Control Model List.

3) If a landscaping plan is required as part of a development project application, the plan shall meet the following conditions related to reduction of pesticide use on the project site:

a. Where feasible, landscaping shall be designed and operated to treat stormwater runoff by incorporating elements that collect, detain, and infiltrate runoff. In areas that provide detention of water, plants that are tolerant of saturated soil conditions and prolonged exposure to water shall be specified.

b. Plant materials selected shall be appropriate to site specific characteristics such as soil type, topography, climate, amount and timing of sunlight, prevailing winds, rainfall, air movement, patterns of land use, ecological consistency and plant interactions to ensure successful establishment.

# Review NPDES Checklist

II.B Source Control Measures

Incorporate applicable source control measures in Source Control Model List.

c. Existing native trees, shrubs, and ground cover shall be retained and incorporated into the landscape plan to the maximum extent practicable.

d. Proper maintenance of landscaping, with minimal pesticide use, shall be the responsibility of the property owner.

# Review NPDES Checklist

II.B Source Control Measures

Incorporate applicable source control measures in Source Control Model List.

e. Integrated pest management (IPM) principles and techniques shall be encouraged as part of the landscaping design to the maximum extent practicable. Examples of IPM principles and techniques include:

1. Select plants that are well adapted to soil conditions at the site.
2. Select plants that are well adapted to sun and shade conditions at the site. In making these selections, consider future conditions when plants reach maturity, as well as seasonal changes.
3. Provide irrigation appropriate to the water requirements of the selected plants.
4. Select pest-resistant and disease-resistant plants.
5. Plant a diversity of species to prevent a potential pest infestation from affecting the entire landscaping plan.
6. Use “insectary” plants in the landscaping to attract and keep beneficial insects.

# Review NPDES Checklist

II.B Source Control Measures

Incorporate applicable source control measures in Source Control Model List.

4) An efficient irrigation system shall be installed in areas requiring irrigation. An example of an efficient irrigation system is one that includes a weather-based (automatic, self-adjusting) irrigation controller with a moisture and/or rain sensor shutoff, and in which sprinkler and spray heads are not permitted in areas less than 8 feet wide.

# Review NPDES Checklist

IV. Regulated Projects

Hydraulically size stormwater treatment measures, as follows.

- ☑ A flow-based treatment measure hydraulically sized to manage the flow of runoff produced by a rain event equal to at least 0.2 inches per hour (includes 4% "rule of thumb"); or
- ☐ A volume-based treatment measure hydraulically sized to capture 80 percent or more of the volume of annual runoff, using local rainfall data.
- ☐ A treatment measure that uses a combination of flow and volume capacity, hydraulically sized to treat 80 percent or more of the total runoff over the life of the project, using local rainfall data.