



# CITY OF OAKLAND

COMMUNITY AND ECONOMIC DEVELOPMENT AGENCY – BUILDING SERVICES DEPARTMENT  
250 Frank H. Ogawa Plaza, 2<sup>nd</sup> Floor, Oakland, CA 94612  
Inspection Services: 238-3443 FAX: 238-2263 TDD: 238-3254

## APPLICATION FOR GRAYWATER IRRIGATION SYSTEM PERMIT SIMPLE RESIDENTIAL GRAVITY SYSTEMS, NO STORAGE

*Please read the California Plumbing Code Chapter 16A-1 Design Requirements before completing this form.*

Assessor's Parcel  
No. \_\_\_\_\_

1. Project address: \_\_\_\_\_

2. Owners name and contact info: \_\_\_\_\_

3. Description of project (include type and number of fixtures to be diverted):  
\_\_\_\_\_

### 4. Daily graywater flow calculation

Number of bedrooms: \_\_\_\_\_ Number of occupants (1+ # of bedrooms) \_\_\_\_\_

*Lavatory/Shower/bath = 25 gallons per day per occupant*

*Laundry = Washing machine = 15 gallons/day per occupant*

Daily graywater flow = \_\_\_\_\_ gallons per day

### 5. Determine soil type

#### Choice A

- Use 1 square foot per gallon infiltration rate (1 ft<sup>2</sup>/gal) (assumes you have clay soil)
- Minimum irrigation field size needed= # of gallons of graywater produced daily

Minimum irrigation field size = \_\_\_\_\_ square feet.



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### Choice B

- Send soil to laboratory for testing, use Table 16A-2

Soil type: (if sent to lab) \_\_\_\_\_

### Minimum irrigation field:

Divide total GPD by the number in the column of Table 16A-2 of your soil type.

Soil Type	Maximum absorption capacity in gallons per square foot of irrigation area per day
Coarse sand or gravel	5.0
Fine sand	4.0
Sandy loam	2.5
Sandy clay	1.7
Clay with considerable sand or gravel	1.1
Clay with small amounts of sand or gravel	0.8

Example: 100 gallon/day of graywater in fine sand soil would need  $100/4.0 = 25$  square feet of irrigation area

Minimum irrigation field size needed based on soil type: \_\_\_\_\_

I certify that I have the home owners manual for this system, that I have read it, and that I will maintain the system as outlined in the manual. I understand that if there is a complaint investigation that verifies a violation of the applicable standards, improper use of the system, or non performing the necessary maintenance, that I will be held responsible for any fines or costs resulting from the investigation.

\_\_\_\_\_  
Signature of property owner

\_\_\_\_\_  
Date

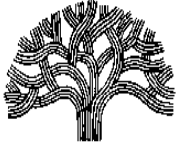


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## Permit Checklist for simple gravity, no storage, graywater system

Check if complete	Item	Changes needed/Comments
<b>Connection to plumbing fixture and piping</b>		
	3-way diverter valve installed after trap and vent	
	Valve is clearly labeled	
	Backwater valve is installed on sewer side of 3-way valve in the horizontal position	
	Upgrades are made to plumbing if needed (Exception: When upgrades are too difficult to make ie. If plumbing goes into a foundation)	
	2" pipe (ABS, cast iron, or other suitable rigid pipe) is run to outside of building, following drainage plumbing guidelines for fittings, strapping, clean-outs, etc. Any exposed plastic pipe is painted outside of the building.	
	Pipe is labeled "Non-potable water: do not drink" every 5 feet	
	Installation doesn't violate other codes or damage building. Any perforations in building envelope are properly sealed.	
<b>Landscape irrigation</b>		
	Irrigation field size meets minimum requirements	
	Graywater discharged minimum of 2" below surface	
	Graywater is not irrigating edible portion of plants (ie. Root crops)	
	Groundwater depth below 3 ft. (checked with test hole)	
	2" or 1 1/2" rigid piping is used in landscape. Note: There is no required burial depth for graywater irrigation pipes or tubing, even if standard plumbing materials are used that typically have a required burial depth, such as ABS pipe.	
<b>Operations and Maintenance</b>		
	Owners Manual has been read and is at the site.	

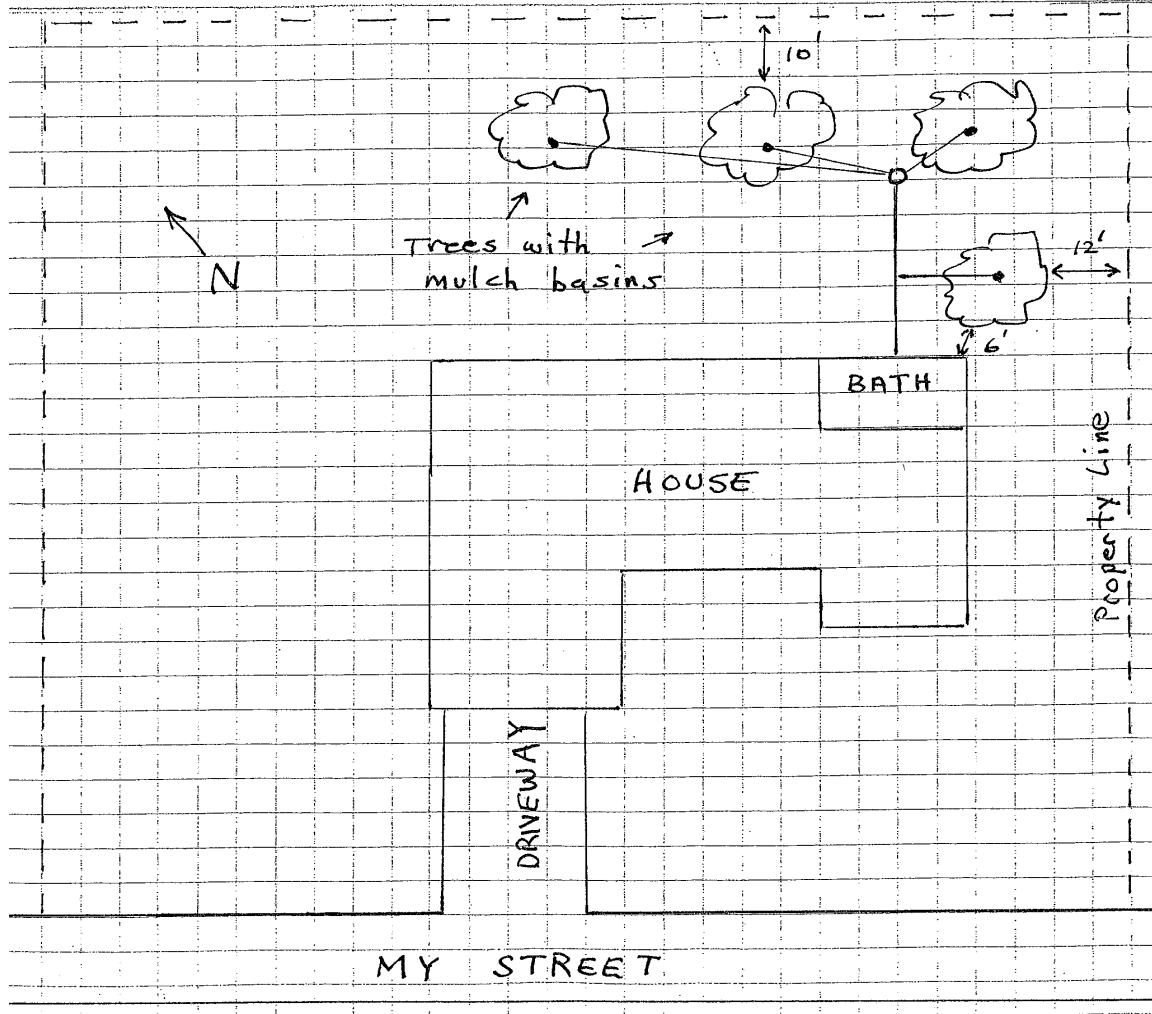


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## Sample Plot Plan

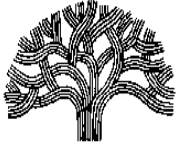
SAMPLE SITE PLAN OF GRAYWATER SYSTEM



Setback distance for greywater irrigation systems (From Table 16A-1 Location of Graywater System)

### Minimum horizontal distance for greywater irrigation systems

- Building structures: 2 ft
- Property line: 1.5 ft
- Streams and lakes: 100 ft
- Onsite domestic water service line: 0 ft
- Pressurized public water main: 10 ft



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## Plot or Site Plan

Address: \_\_\_\_\_

Using the graph below, indicate where on the property the graywater will be used (see sample site plan on the previous page). Indicate setbacks to property lines, house and other structures, drainage ways, 30% slopes, and drinking water lines. Show street frontage and your driveway.

