Appendix A: Site Assessment Form

Site _____

Date_____

Free copies of this form may be downloaded from oasisdesign.net/design/consult/checklist.htm.

This form serves as a reminder of the common variables to take into account when designing a residential greywater system. Many of these questions may be difficult or impossible to answer—just skip over them for now and they may become clear later. Reading the text of this book will help identify which items are most germane to your context. Also remember that the map is not the terrain...this sheet matters only to the extent it helps things get built well on the ground.

If you are working with other people on the project, this form can serve to orient them, along with a site map and (if they can't visit in person) photos.

Reminder: Careful attention to the context will pay good dividends. Greywater systems are affected by more variables than most systems in natural building, and to a greater degree. A change in one of any number of variables can change the whole design.

Goals

General project goals

What are the guiding philosophies and aesthetic? (E.g., fancy gated subdivision, shack in hippie commune)

What perfection standard* are you aiming for?

Hygiene standard?

Greywater system goals *(check all that apply)*

❑ Irrigate/Save water *(don't forget conservation before reuse)*
❑ Dispose of water safely
❑ Improve sanitation
❑ Reduce pollution
❑ Save septic
❑ Save money
❑ Feel good
❑ Demonstration *(it should still justify itself)*
❑ Other _____

Landscape goals *(check all that apply)*

❑ Beauty
❑ Food production
❑ Erosion control
❑ Slope stabilization
❑ Fire break
❑ Privacy screen
❑ Windbreak
❑ Outdoor living
❑ Microclimate modification (e.g., windbreak, increased cooling via evapotranspiration, shade)

Water System

Prospective and existing water sources:

❑ Well _____ gpm
depth of water table in wet ____, dry season _____
❑ Spring _____ gpm (minimum)
❑ Meter _____ (size)
❑ Rainwater harvesting
❑ Runoff harvesting
❑ Other _____

How is your water supply constrained by power supply, economic, ecological, or availability considerations?

Quantity of water _____
Security of water _____
How much does water cost? _____

Volume of on-site water storage _____

What are the water security issues?
(E.g., no power = no water = dead fruit trees in a month)

To what degree do you want to or have to conserve?

Existing Wastewater Treatment Facilities

❑ Septic: Is it failing?
❑ Sewer: Where does it go?
❑ Greywater system: Is it functioning satisfactorily (yes/no/sort of)? If not, how?
❑ Composting toilet
❑ Constructed wetland
❑ Other: _____

Special wastewater disposal constraints?

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* *See definition p. 5.*

Population of Water Users

Average population _____
Minimum population _____
Peak population _____
Duration and nature of peak _____
Max continuous days unoccupied during dry season _____
Pending changes in users/use?

Landscape and Irrigation

Native vegetation type(s):

Land use(s), existing and planned:

Irrigated area: Current _____
Potential _____
Existing freshwater consumption?
What is the existing/planned irrigation system?

Is the landscape fenced or free of browsing animals?
Important trees to irrigate?

Slope

Is the area to be irrigated below the greywater source?
Slope % _____
*(Note a Branched Drain system on a 2% slope takes **four times** the labor to build than one on a 4% slope. If the slope is under 2%, it will be very challenging.)*
Are there erosion and/or slope stability (landslide) issues?

Slope aspect (orientation)_____

Soil and Groundwater

Soil type(s):
Soil fertility: _____
Digging ease: _____
Permeability (has there been a perk test?)
minutes/in _____ location_____
minutes/in _____ location_____
minutes/in _____ location_____
(Note location(s) and values of perk test on site map)
Minimum seasonal groundwater depth, seasonal variation:

Distance to nearest year-round surface water_____

Distance to nearest seasonal surface water_____

Where does runoff go?

Greywater Sources

Fill out table, mark on site map with quantities of water

Source	Possible to irrigate downhill (y/n)?	Plumbing accessible (y/n)?	Quantity and variability of water, surges, conservation measures, comments
❑ Washing machine			
Bathroom 1			
❑ Bathroom sink			
❑ Bathtub			
❑ Shower			
❑ Toilet water			
Bathroom 2			
❑ Bathroom sink			
❑ Bathtub			
❑ Shower			
❑ Toilet water			
❑ Outdoor shower			
❑ Utility sink			
❑ Wood burning tub			
❑ *Lavadero* (washboard)			
❑ Kitchen sink			
❑ Dishwasher			
❑ R/O water purifier			
❑ Dishwasher			
❑ Water softener flush			
❑ _____			
❑ _____			
❑ _____			

Climate

Annual rainfall _____
Maximum evapotranspiration (inches or cm/week) _____
Minimum evapotranspiration (inches or cm/week) _____
Growing season (frost to frost) _____
Minimum temperatures _____
Typical max duration w/o significant rain _____
Duration of snow cover _____
Solar exposure (directions) _____
Hours lost from sunrise _____, sunset ____due to surrounding geography and trees
Greenhouse possible? _____ (especially good for cold, wet, low perk locations)

Forces of Nature

Predictable disasters, which may affect the design:

❑ Flooding
❑ Torrential rain
❑ Landslide
❑ Fire
❑ Very high wind
❑ Extreme drought

Users and Maintenance

To what degree are the users interested in understanding/maintaining the system?

Is the system public?

Will there be a person responsible for maintenance?

What are the maintenance goals or constraints?

Regulatory Climate

Will the project be permitted?

Might it be subject to later inspection as part of another project?

What is the applicable greywater code? Other legal considerations?

Neighborhood appropriateness?

Economics

Budget constraints?

Do you own the land where the project is to be built?

How long are you planning to stay there?

Is resale value a concern?

Are there time and money constraints for maintenance, repair, and system replacement?

Is it imperative that the system meet a particular economic payback timetable, or is doing the ecological thing the overriding concern?

Materials and Skilled Labor Availability

Where are plumbing parts and plants coming from?

Are biocompatible cleaners available?

Who is going to do the installation?

Site Map and System Elevations

A ⅛" = 1' scale, 1' contour map[m] of the site and a ¼" = 1' plan of the structures involved would be ideal, but any sort of sketch is a help. The map or other description ideally would show topography, property lines, septic tanks, leach lines, wells, surface waters, buildings, major vegetation, and irrigated areas, existing and planned. Aerial photos can help for some sites.

If you're sharing this information with people involved in the project off-site, take snapshots showing general feeling of the site and any special features, indicating the location and the direction of each shot with a letter and arrow on the site map.

Make copies of the map and sketch the possible ways to connect the greywater sources with irrigation/treatment areas.

The elevation relationship between features such as buildings, foundations, walkways, greywater sources, septic or sewer inlet, and irrigated areas is critical.

For all Branched Drain system installations, I strongly suggest making an elevation view drawing as well.

[m] *Metric: 1:50 site map, with 25 cm contours, 1:25 house plan*