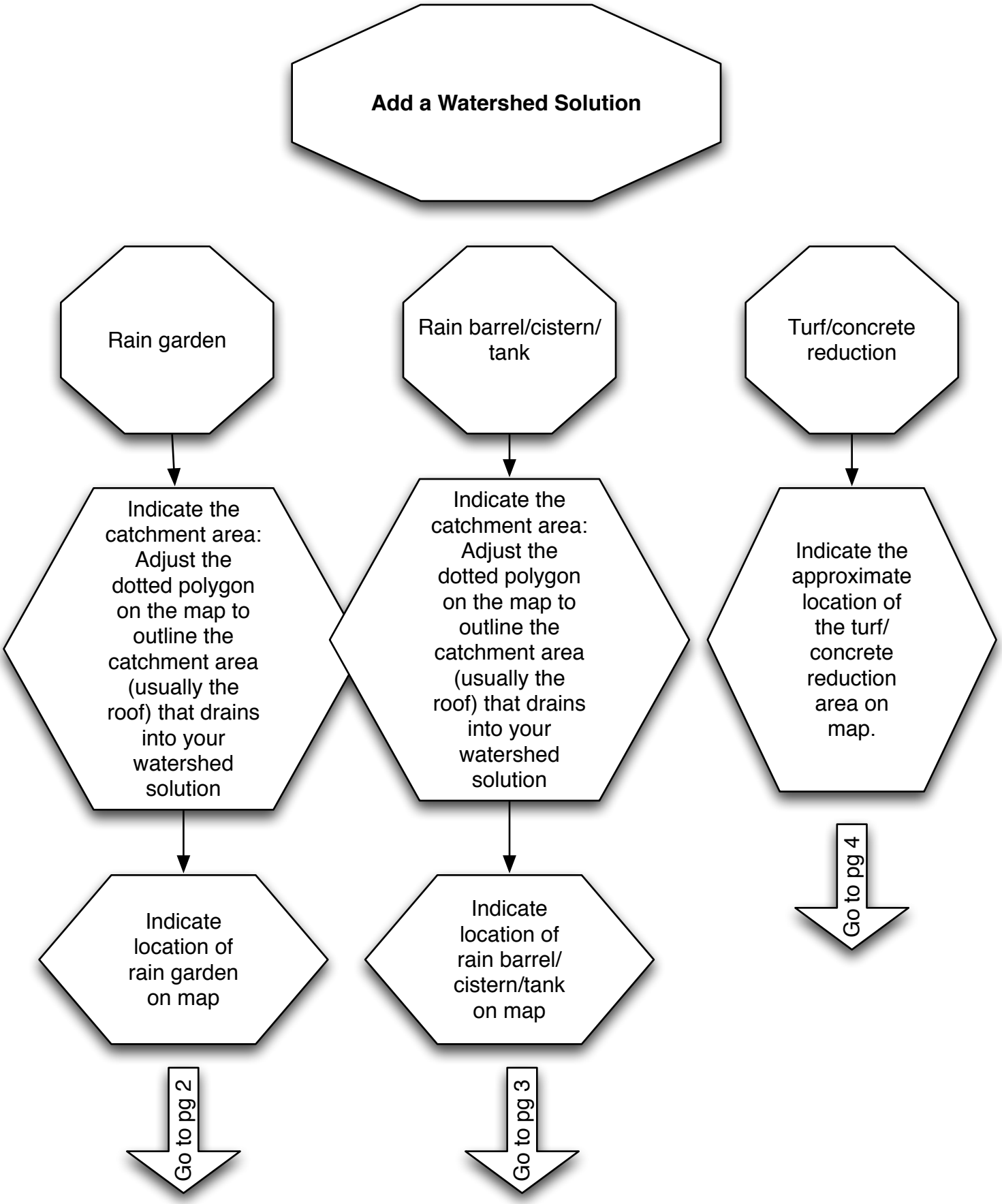
Add a Watershed Solution
Rain garden
Rain barrel/cistern/ tank
Turf/concrete reduction
Indicate the catchment area: Adjust the dotted polygon on the map to outline the catchment area (usually the roof) that drains into your watershed solution
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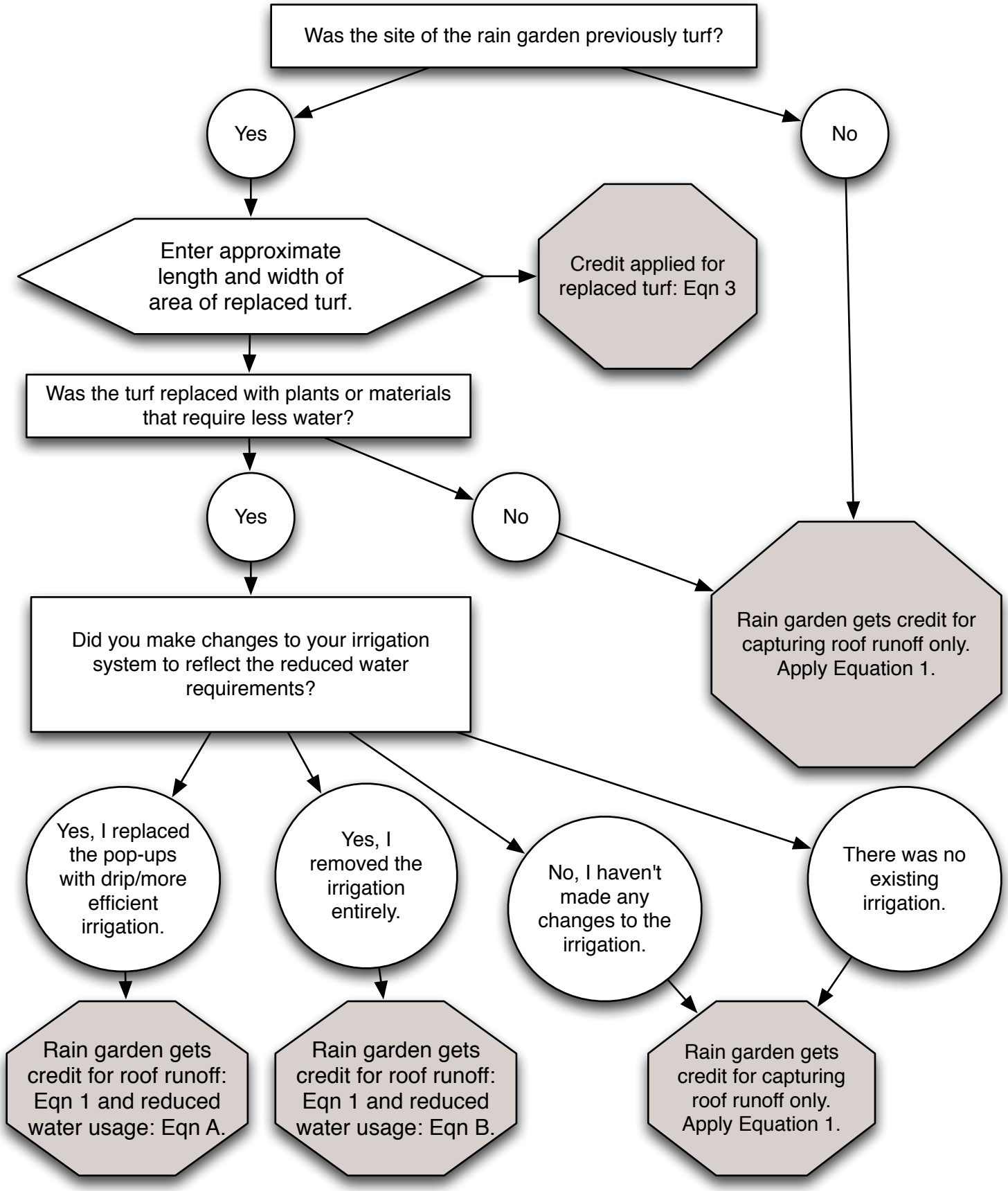
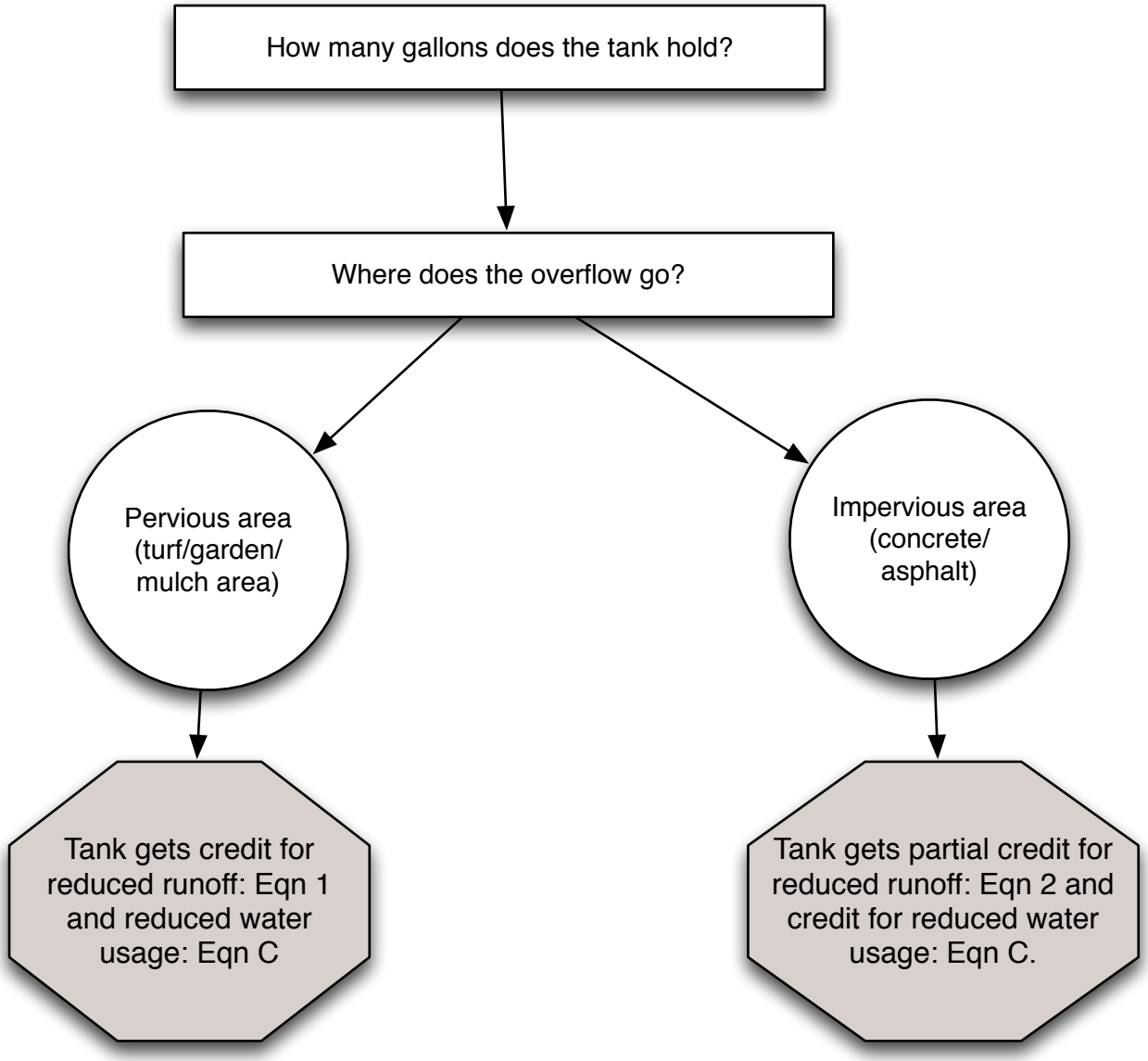
Indicate the approximate location of the turf/ concrete reduction area on map.
Indicate location of rain garden on map
Indicate location of rain barrel/ cistern/tank on map
Go to pg 2
Go to pg 3
Go to pg 4

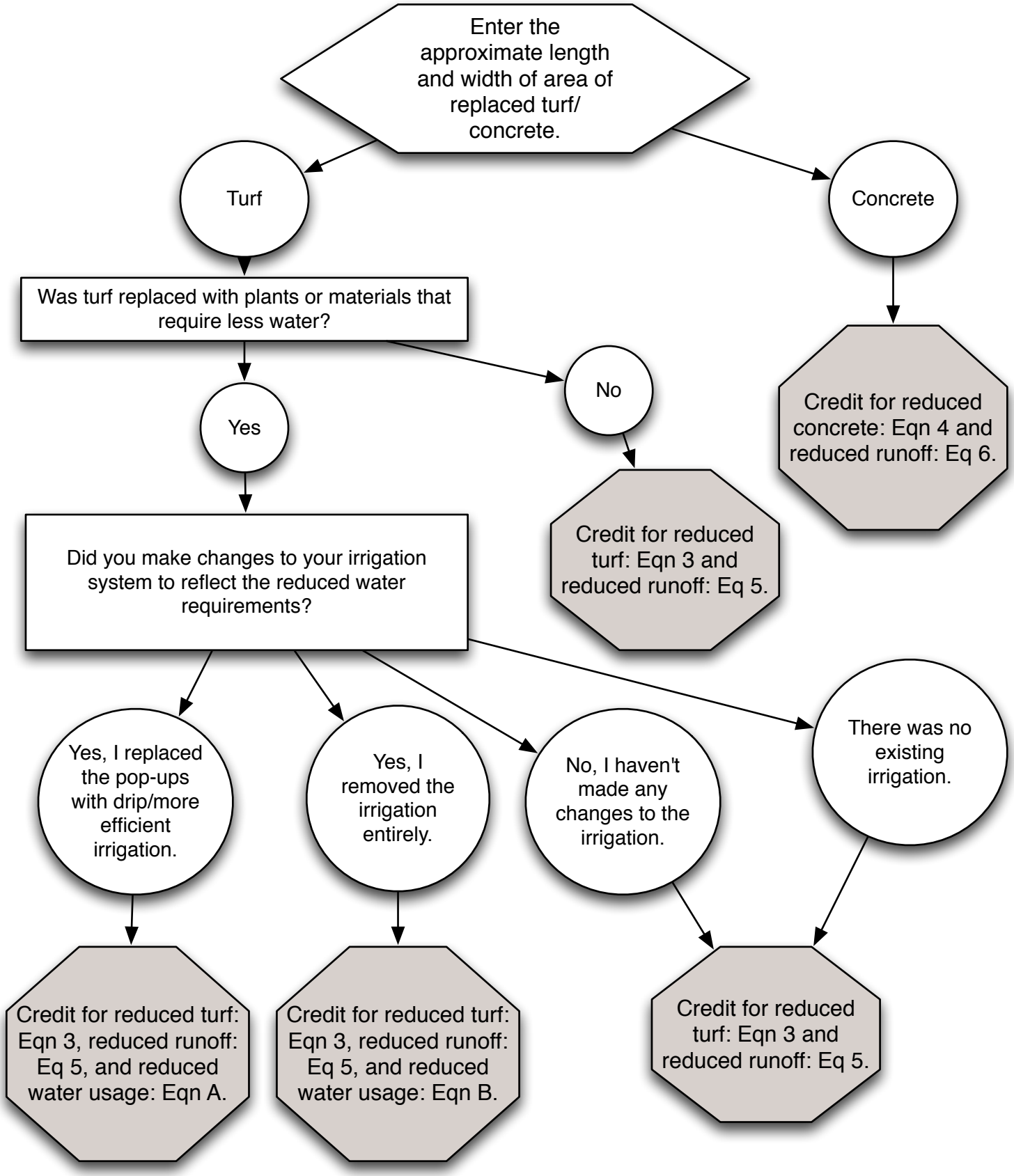
Rain gardens



Rain barrel/cistern/tank



Turf/concrete reduction



Equations

Reduced runoff equations

Equation 1: Roof runoff (gallons) = (*C*) (*P*/12) (7.48) (0.85)

Equation 2: Annual tank capacity (gallons) = If $T < 500$, $T * 7$. else $T * 3.5$, but not to exceed roof runoff as calculated in Eq. 1

(In other words, for tanks less than 500 gallons, multiply the tank size times 7; for tanks bigger than 500 gallons, multiply the tank size times 3.5 , but the total annual tank capacity can't exceed the amount of runoff from the catchment area.)

Equation 3: Turf removed (sq ft): *TR* = *L* * *W* of turf area

Equation 4: Concrete removed (sq ft): *CR* = *L* * *W* of concrete area

Equation 5: Reduction in runoff after turf removal (gallons) = (*TR*) (*P*/12) (7.48) (0.15)

Equation 6: Reduction in runoff after concrete removal (gallons) = (*CR*) (*P*/12) (7.48) (0.75)

Reduced water usage equations

Equation A: Reduced water use due to more efficient irrigation = 0.83 * 17.7 * *RG (*or *TR* or *CR)*

Equation B: Reduced water use due to removed irrigation = 1.75 * 17.7 * *RG (*or *TR* or *CR)*

Equation C: Reduced water use due to presence of tank = same as Equation 2

Variables

P = annual precipitation (inches)
C = catchment area (roof or turf/concrete replacement area) (sq ft)
T = rain barrel/tank/cistern capacity (gallons)
RG = rain garden area (sq ft)
TR = turf replaced (sq ft)
CR = concrete replaced (sq ft)